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with special reference to Juktas and Kophinas.**

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THE TYPOLOGY, FORMS AND FUNCTIONS OF ANIMAL FIGURES
FROM MINOAN PEAK SANCTUARIES
WITH SPECIAL REFERENCE TO JUKTAS AND KOPHINAS

VOLUME I: TEXT

Marika Zeimbekis

A thesis submitted to the University of Bristol in accordance with the requirements
for the degree of Ph.D. in the Faculty of Arts.

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ABSTRACT

This thesis examines the previously unknown assemblages of clay animal figures yielded by the Cretan, Bronze Age sanctuaries of Juktas and Kophinas. The vast majority of the figures are of bovines, but ovicaprids, pigs, agrimia, snakes and birds are also represented.

The empirical portion of this thesis aims to present systematically these assemblages, and enhance our understanding of this artefactual class by situating it within its site-specific and regional (Cretan) context. Thus, chapters I to IV examine the stratigraphic contexts of the figures; quantify the assemblages; establish the difference between animal figurines and figures on the basis of their length distributions; and analyse their decoration, manufacture, form, style and chronology. Bolstered with data established by previous research, the trends emerging from these two sites permit a reconstruction of the history of Cretan animal figuration, which is popular during respectively MM I - LM I and LM III C. As a result, it can be shown that the use of animal figures gains a religious and social relevance during two junctures of the Cretan Bronze Age.

The interpretative part of the thesis aims to analyse the significance of the figures in terms of both their cultic and social relevance. The first step in this interpretative task is to situate the animal figurines and figures within the cultural and historical context of the Aegean. This is done by integrating the terracottas within the Aegean figurational trends of which they were a part. In so doing, we show that they are ritual objects produced under particular social and cultural conditions which, while regionally distinct, reflect broader relationships between figuration and polity (state and non-state societies). We demonstrate that, independently of whether Cretan figuration was externally or internally generated, the island has distinctly local forms of ritual associated with the terracottas it produces.

In chapter VI we focus on this regional context by basing the interpretation of the animal figurines upon their cultic setting. The MM I-LM I votive offering in Crete does not function exclusively as a gift to the divinity but is also a useful indicator of social strategies which project the individual. The symbolic meaning of the bovine figures in particular is linked to conditions which coincide with, or immediately follow, social and political watersheds.

To Mary and Apostolos,
My mother and father.

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My debt is great to Alexandra Karetsou, the excavator of Juktas, for entrusting me with the study and eventual publication of the fine animal figure assemblage she excavated. She has always been willingly to discuss the material with me, and has been a source of practical and moral support. Giorgos Rethemiotakis has generously allowed me to refer to material he excavated at Galatas.

During the last few years, the Iraklion Museum has felt like 'a home from home', thanks to the kind help of those working in the Ephorate, and particularly the Epistemoniki Syllogi, and the Pottery Conservation Workshop, where I spent a total of sixteen months coming to grips with over 7,000 animal figures and fragments. Antonis Papadakis literally taught me to recognize what I was looking at. I learnt a lot from the conservator Kostas Vitorakis with whom I spent many a day trying to find joins in the Juktas material. Tassos Karousos checked the Kophinas material for joinages, and Eliza Kavoulaki undertook the arduous task of distinguishing animal from human figures before I started studying the Kophinas assemblage.

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Author's Declaration

This thesis and the data presented herein are the results of my own original work, except where due acknowledgment and reference had been given. The results presented have not been previously submitted for a higher degree at this or any other University.

A handwritten signature in black ink that reads "M. Zeimbekis". The letters are cursive and fluid, with a prominent initial "M" and a stylized "Z".

Marika Zeimbekis

8-5-1998

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INTRODUCTION

In order to explain the research aims in this thesis, the specific choice of material from the Cretan peak sanctuaries of Juktas and Kophinas, and the use to which this material has been put, it is necessary to start with an overview of what has been established by previous research, and of what is lacking in the study of Bronze Age Cretan animal figuration.

The first point that needs to be made is that, in many respects, the research output related to clay animal figurines and figures from Crete has fallen behind that of their counterparts from other Aegean regions. As a result, not only must the methodological approaches already established be taken into consideration, but it has to be recognized that Cretan animal figuration has been integrated into a chronological and historical framework prior to its systematic examination within its local context.

From a Mycenaean perspective, several assemblages of LH III wheelmade figures and solid figurines from individual locations have been presented systematically. Such sites are the Amyklaion (Demakopoulou 1982) and Epidauros: Apollo Maleatas (Peppas - Papaioannou 1985) on the mainland, and Phylakopi in the Cyclades (Renfrew et al 1985). In addition, synthetic studies have addressed, on a diachronic scale, the question of the typology, form, decoration, style and meaning of the solid figurines (French 1971 and 1981) and the hollow, handformed and wheelmade, LH III and later animal figures (Guggisberg 1996). French's significant contribution is a very effective typological framework of Mycenaean figurines, exemplary in its practical application. Guggisberg's outstanding synthesis provides an invaluable history of published (and previously unpublished) Mycenaean animal figures, and deals systematically with all the available evidence related to continuity from the Bronze to the Iron Age, a question broached earlier by Nicholls (Nicholls 1970). Particularly welcome is Guggisberg's systematic quantification of the figures (including of the range of

species represented), the analysis of their contexts, and the implications these contextual differences have on the interpretation of the figures' function.

Because during the second millennium B.C. animal figuration occurred earlier in Crete than on the mainland, no analysis of mainland and Cycladic material has been considered complete without reference to the published Cretan evidence (French 1971 and 1985; Renfrew 1985; Guggisberg 1996). This mainly consists of the well-known LM I mould-made bull askoid figures from Crete, considered the precursors of the later wheelmade figures found on the mainland. The seminal paper by Nicholls (1970) was the first to discuss the Minoan precedence in the production of figures, as well as the fact that these artefacts were indicative of conceptual and material interaction in the Aegean cultural sphere throughout the Bronze Age. Other lasting contributions by Nicholls, which have influenced the approach in this thesis, are the non-segregation of animal figurines and figures (a principle not followed by Mycenaean scholars), and the realization that these were related to wider phenomena of figuration which also included anthropomorphic representations.

At this point we must turn our attention to Crete, in order to examine the extent of the material evidence and the focus of scholarly preoccupations, some of which have been generated recently by the above-mentioned studies of Mycenaean researchers.

Both the publication record and the specialized discussion of the Cretan material have been rather limited. Some of the earliest Cretan evidence is known to us from the few figures found in burial or settlement sites, namely the few figure portions from EM II Myrtos Phournou Korifi (Warren 1972) and the EM III/MM I - MM II examples of bull (and bird) askoid vessels from the Messara tombs (Xanthoudides 1924; Branigan 1970).

Overlapping with the post-EM III evidence from the above sites is the evidence related to MM I - LM I peak sanctuary figuration. Until very recently, its presentation has been virtually restricted to the excellent article by Myres on the

Petsophas sanctuary (1902-3), and the valuable synthetic accounts of these cult sites by Platon (1951) and Rutkowski (1972, 1986). Despite the selective, non-specialized presentation of clay animal representations, the advantage of these contributions lies in the interpretation of the figurines' use as votives within the specific context of peak sanctuary ritual's religious and social functions. This contextualizing principle (less evident in Mycenaean scholarship until Guggisberg's work) is central to the interpretation of the MM I - LM I material in this thesis. The more recent developments related to peak sanctuary material are the publication by Rutkowski of additional material from Petsophas (Rutkowski 1991), and the early reports on the Atsipadhes peak sanctuary site which respond to the need for systematic quantification of the figurines and the species they represent, both basic prerequisites in any systematic attempt at interpretation (Peatfield 1992; *ArchRep* 1996-7).

Partly contemporary with the peak sanctuary evidence is the handful of fine mould-made askoid bull vessels previously mentioned. These, the best known and most discussed figures from Crete, are dated to LM I, and found primarily in funerary contexts. There have been few final publications of excavations which have included animal terracottas other than those of Myrtos Fournou Korifi (Warren 1972) and the LM II to LM III B evidence from the Unexplored Mansion at Knossos (Higgins 1984). Most of our knowledge of later, post-LM IB figuration has been limited to relatively few examples, either from assemblages which contain few figures like Psychro (Boardman 1961), or from far richer assemblages still not published in their entirety, such as Aghia Triadha (Banti 1943; Kanta 1980).

Within the next few years, our knowledge of animal figuration will have greatly increased with the publication of the peak sanctuaries of Atsipadhes (Peatfield, Morris et al), Juktas and Kophinas (Karetsou et al), and the substantial assemblages at Aghia Triadha (D'Agata) and at Kato Syme (Lebessi, Kanta and Muhly). A first step in the systematic publication of material has been made by Kourou and Karetsou who have brought together, at least on paper, the assemblage from the Patsos cave, scattered in several locations (Kourou and Karetsou 1994). In another paper (Kourou and Karetsou 1997), the same authors

focus on issues regarding the animal figures to which we respond in this thesis: the need for information on pre - LM I bovine figuration; the presentation of the manufacturing techniques associated with figures; and the question of the origins of large scale wheelmade figures.

MM I - LM I peak sanctuaries and LM IIIC open-air sanctuaries provide the most frequent Bronze Age contexts in which Cretan animal figurines and figures have been found, partly because of the nature of the ritual, partly because of the rarity of these figures in settlement and burial contexts. It is the concentration on cult sites that will help us reconstruct a fuller picture of the history and meaning of animal figuration in Crete.

This means that the study of the figurines and figures (definitions are given in chapters II and VI) from the Juktas and Kophinas sanctuaries has two distinct advantages. Firstly, the rich material gives us ample information on the chronological, manufacturing, decorative and stylistic history of this class of artefacts; secondly, light can be shed on the use and meaning of the figures in their best evidenced, cultic, context. In fact the full breadth of the history of clay Cretan animal figuration can receive justice with the systematic study of these sites. The uniqueness of the Juktas sanctuary lies in its contribution of evidence from both MM I - LM I and LM IIIC, while Kophinas has yielded a substantial assemblage of MM III - LM I material. The importance of these sites however also lies in the nature of their contextual evidence: Juktas has yielded practically undisturbed deposits of MM IB - MM IIB, MM IIB - MM IIIA and MM III - LM I, while the exclusive dating of the animal figures from Kophinas to MM III - LM I is also very useful.

The presentation of the Juktas and Kophinas materials has two principal aims. The first is to identify the broad chronological, manufacturing, decorative and stylistic trends which make up the development of Cretan animal figuration, by using this previously unavailable material in combination, and to see how they comply with but also diverge from previous reconstructions of their history. The second purpose of the material is to interpret it within its ritual context. The animal

assemblages have been presented and used with these specific goals in mind. It is necessary to make clear the different ways in which the evidence from both sites has been used.

The detailed presentation of the assemblages is restricted to the Juktas site. Chapter III contains the morphological typology of this site's figurines and Appendix II a selective catalogue of its large figure fragments in chronological order. For the sake of completeness, this catalogue includes the post - Minoan material identified; however its stylistics and interpretation will be treated in detail elsewhere. This catalogue includes the presentation of 8 distinct groups of figure fragments (based on unique combinations of attributes like scale, form, decoration, fabric) and 9 leg types. This division into groups of the figure portions is part of a continuing programme of research related to petrographic studies and seeks to establish manufacturing trends and production modes. These aims can be realized on the strength of the dating, macroscopic examinations of fabrics and identification of manufacturing techniques carried out for the purposes of this thesis.

It is also necessary to describe the purpose of the figurine typology. Despite the lack of publication of entire animal figurine assemblages from peak sanctuaries, from the comparison of the few published examples from other sites (e.g. Atsipadhes and Petsophas), it seems unlikely that the Juktas types will match very closely the form of figurines from other peak sanctuaries. This is the outcome of the localized nature of production of peak sanctuary figurines. Of greater interest will be the comparison of the percentages of species represented in other assemblages which, like the Juktas material, must be based on systematic morphological examination of form.

The Kophinas material has not been catalogued because it is used in this thesis in a supporting capacity. It has proved very useful in exemplifying, alongside the Juktas evidence, the decorative, manufacturing and stylistic trends of Cretan animal figuration in MM III - LM I; and the substantial quantity of the material verifies the existence of trends which were previously virtually unknown. The

evidence pertaining to the Kophinas material is primarily presented in the discussion of these Cretan trends in chapter IV. All the evidence related to the Kophinas material described in this chapter is accompanied by photographs.

Our data base amply serves the aims set out in this thesis; however it is not empirically adequate to permit the establishment of a typology which can be applied to other figurines and figures. Quite simply we do not know enough about the material from some 25 peak sanctuaries and half a dozen LM III C sites with mainly unpublished material. From my personal experience, the MM I - LM I sites have their own morphological characteristics, indicating the strong regional (if not local) nature of figurine and figure production. The LM III C groupings of figures from Juktas indicates to me that there is a far greater circulation of figures in the 12th century, due to different patterns of worship. However, the broad trends established from the combined Juktas and Kophinas evidence will be largely confirmed by the figures from these other sanctuaries.

As Juktas and Kophinas have not yet been published, our first responsibility was to establish their stratigraphic sequences in order to situate the animal figures in their contexts. This task is carried out in chapter I, where the contextual evidence related to the figures is presented alongside each phase. On this basis, it is possible to substantiate stratigraphically in chapter IV the dating of Cretan figures' manufacturing and stylistic trends.

In this study, it has been feasible to study together animal figurines and figures. In so doing, we are respecting the co-existence of these two 'sub-classes' of artefacts in their original place of deposition, a fact which has important possibilities for their interpretation and the relations between their respective histories.

Instead of presenting a preliminary chapter with other researchers' methodological approaches, reconstruction of trends and interpretations, the decision was made to debate these issues in each relevant chapter.

I should like to make a point, by way of an apology, regarding my use of Guggisberg's book (1996). As I do not yet read German, I refer to his English summary and acknowledge the information I derived from his catalogue, tables and figures on manufacturing techniques, armed with a dictionary. I cover ground which he has undoubtedly covered, far more eloquently than I could hope to at this stage of my research, in the discursive part of his work, but I have not been able to give specific references to these portions of his work.

The photographs used in this thesis are by G. Xylouris (Juktas), G. Papadakis (Juktas) and M. Zeimbekis (Juktas and Kophinas); the technical drawings are by T. Howard (figures), K. Astrinaki (figures) and M. Zeimbekis (figures and figurines). Due to the large number of figurines drawn and the very worn condition of their painted decoration (most frequently monochrome), the technical drawings are of their outlines. These drawings serve to exemplify the grouping of these figurines according to shape, since the typology is morphological.

In this thesis, the animal figures are numbered and preceded by the capital letter indicating their site of provenance (e.g. **J45** is from Juktas, **K21** from Kophinas).

CHAPTER I

THE JUKTAS AND KOPHINAS SANCTUARY SEQUENCES AND THE CONTEXTS OF THE ANIMAL FIGURINES AND FIGURES

I.1 METHODOLOGY AND CONTENTS OF CHAPTER

In this chapter the balance between the data included and the data omitted, the descriptive and the interpretative has been dictated by both choice and necessity. By necessity, because the work on the Juktas and Kophinas final publication is still in progress. By choice, because it is not the task of this thesis, concentrating on one category of the sites' artefactual evidence, to prepare the detailed documentation needed to establish the published version of the sites' stratigraphic sequences.

For the purpose of this thesis, the animal figures need to be contextualised stratigraphically and chronologically. Therefore, in this chapter, a preliminary account of the sites' chronological sequences is given. This permits us to associate the animal figurine and figure contexts with the site stratigraphies and their phases of use. Ideally the site sequences should be based on: a) the localised stratigraphic sequences; b) the join patterns of pottery and other artefacts (in the case of peak sanctuaries, primarily animal figures and stone offering tables); c) the typology of pottery and other finds. All three aspects are inter-linked: this thesis will partly supply two of these sources of information (join patterns and typology of artefacts), but in order to accomplish this it makes detailed use of information on local sequences and site phases.

The excavators' descriptive account of the excavations, the establishment of stratigraphic sequences and the subsequent interpretative division of the sites' stratigraphy into successive phases are not yet published in their final form. Nor are detailed accounts of the structures and artefacts yet available for reference in

chronological order and with full stratigraphic back-up. Despite this, Mrs A. Karetsou (excavator Juktas since 1973; co-excavator Kophinas 1990) and Dr G. Rethemiotakis (co-excavator Kophinas 1990) have most generously given me access to the sites' daybooks and find inventories. Without these, the attempt to comprehend the animal figures' contexts would not have been feasible. The daybooks and find inventories are used as supplementary sources of information to the sites' published archaeological reports.

In establishing the Juktas and Kophinas chronological sequences, the starting point has been the primary evidence: the stratigraphic sequences of the sites, and their associated natural and/or architectural features. The Minoan pottery style phases are applied to the site strata in order to date them. Of the artefacts found in these, the pottery defines with greater precision their chronological horizons: its typological classification is established in greater detail than that of other objects.

This chronological outline, while based on the standard pottery style sequence, relies for the sub-division of time on the site strata. These represent a sequence of contexts. The transition from one chronological phase to another reflects differences between contexts particular to the Juktas and Kophinas sites. This chronological scheme is more finely tuned to the sites' stratigraphic evidence than the more general chronological division of time into pre-, old and new palace phases.

Sections 1.2 and 1.3 outline the chronological sequence and the animal figure contexts of Juktas and Kophinas respectively. The following are described: the location of strata, their context, date, natural and/or architectural features, and, summarily, their associated artefacts. The aim of this chapter is threefold. Firstly, it outlines diachronically the use of the sites. Secondly, it situates and dates the contexts of the sites' animal figures. Thirdly, it provides the wider contextual information necessary in interpreting the function of these figures.

Interpretation in this chapter consists of: a) constructing a diachronic outline of the sites' strata; and b) examining the contextual evidence upon which ritual time,

space and action are defined. The peak sanctuary evidence relating to these matters has not always been used critically. Each site's chronological phase is discussed separately in order to avoid, or at least highlight, the dangers of transposing evidence from one phase to the other, and from one sanctuary to another. The possible pitfalls of such problematic interpretations are recorded by acknowledging the inconclusive or fragmentary nature of the archaeological record. In this chapter, the animal figures are treated as one of the components of the sites' strata. On the basis of the contextual information derived from this chapter, it is possible to base stratigraphically the dating of the manufacturing, decorative and stylistic trends of the figures in chapter IV, and to contextualize their ritual use and function in chapter VI.

It has been possible to identify 12 contexts for the Juktas animal figurines and figures, numbered and described as **context 1** to **context 12**. They are referred to thus in the description of the site sequence, and are listed summarily at the end of each phase, or where appropriate. Table 1, at the end of the Juktas site sequence, gives a complete list of these. Matters are much simpler in the case of Kophinas. The figurines and figures from this site are all dated to MM III - LM I, and no further differentiation of contexts has been possible.

I.2 THE JUKTAS SANCTUARY SEQUENCE AND THE CONTEXTS OF THE ANIMAL FIGURINES AND FIGURES

I.2.1 THE SITE DESCRIPTION (plan 1)

The shrine's main Minoan structure, building complex A, is situated on the Juktas mountain's most northern peak, Psili Korfi (height 811m). A massive wall, with a circumference of 735m, encloses the summit and the building at its peak, with the exception of the western edge of the sanctuary complex. There it is interrupted by a sheer cliff rendering construction impossible. Immediately north of the excavated building complex A is an OTE sub-station, the construction of which caused irreparable damage to this part of the sanctuary. Beyond this station, the

peak descends steeply to the north. There, at a distance of about 410m from the main shrine complex, is the northern entrance to the sanctuary enclosure, in the wall. Outside this, on a small level plateau (Isopata), is another structure, building complex B, situated at a height of 730m. This covers an area of more than 380 sq. m. It contained pottery and other objects of a utilitarian nature. In this chapter, discussion is limited to building complex A on the mountain peak, associated with a large quantity of cultic objects.

Building complex A has a N-S orientation and consists of 4 stepped terraces and a row of 5 rooms, descending the eastern slope of the summit. The row of rooms is located between terraces II and III. The smallest terrace I is practically constructed on the edge of the sheer cliff to the west. The existence of terrace IV to the east of terrace III has been attested by soundings, but its dimensions remain unknown.

On terrace I is a stepped altar (pres. length 4.70m; height 0.50m). This was constructed over the deep fissures of the bedrock. The excavation of one of these led to the discovery of a deep chasm, immediately to the north-east of the altar, between terraces I and II, to date excavated to a depth of 10.50m. The altar, the shrine's highest feature, has been virtually built on the lip of the chasm. A ramp along the southern boundary of the terraces provides access to the two upper terraces and the altar.

1.2.2 THE INVESTIGATION OF THE SITE

Human presence in the shrine area is artefactually attested from as early as EM II. It continued uninterrupted throughout the Minoan period. Activity in the shrine is evidenced in post-Minoan times. In contrast to the vast quantities of Minoan artefacts, the Sub-Minoan, Protogeometric and Geometric finds are much sparser. Later objects (Archaic, Classical, Hellenistic, Roman, Byzantine) are even fewer.

The ritual and mythical significance of the Juktas mountain was not eclipsed after the end of the Minoan era. This is attested by its reference as the death place of

Zeus in literary sources from the Classical period onward. This tradition remained alive throughout the Byzantine era, and the travel accounts of western travellers (Buondelmonti, Belon, Pashley, Spratt, Stillman and others) up to Evans' time describe visits to the sacred mountain. The visibility of the imposing Minoan temenos wall and the tumble of stones on the mountain peak no doubt contributed significantly to the uninterrupted interest in the Juktas shrine. Another, unfortunate consequence has been the clandestine digging at the site. Evidence of this was noted by Pashley, and was also recorded later by Evans (*PM I*, 154). A. Karetsou's excavations have also shown evidence of more recent clandestine interest in the site.

Sir A. Evans conducted the first archaeological investigation of the site in 1909 (*PM I*, 152-163). It was the limited nature of the investigation which led to the erroneous identification of part of terraces I and II as a "Casa Sancta". His excavations also revealed the ramp which led to the terraces. Nevertheless, his contribution was significant. By comparing the finds with those from the previously excavated shrine of Petsophas, he recognized that the Juktas structures were part of a peak sanctuary. He also identified and rightly dated the site's early ash layer. Furthermore, he was the originator of the theory that the deity worshipped on the mountain in Minoan times may have been female and was possibly represented on the famous LM I/II signet ring impressions from Knossos.

The afore-mentioned OTE sub-station was constructed in 1952 (*Kr Chron* 1952, 480; *Deltion* 1963: *Chronika* 312) causing irreparable damage to the part of the sanctuary north of the excavated area. Archaeological interest in the site was renewed in 1973. A wealth of objects were found during conservation work carried out in that year. The following year A. Karetsou commenced a programme of systematic excavation.

In the past few centuries Juktas has not just aroused an antiquarian and archaeological interest. It remains a place of worship. The Byzantine church of Aphantis Christos, on the more southern twin peak of Juktas is, to this day, the

focal point of a yearly pilgrimage. On the sixth of August, inhabitants from the local villages gather on the mountain top which dominates the village of Archanes. Visitation of the church extends into the night, when car lights can be seen wending their way along the mountain road to the peak, marked by a large illuminated cross.

I.2.3 THE SITE SEQUENCE AND THE ANIMAL FIGURINES' AND FIGURES' CONTEXTS

A. PHASE I (EM II-MM II)

This earliest period of use is represented by the presence of artefacts in the peak's natural red earth which also filled the site's fissures. A general discussion of this layer is followed by reference to the fissures, including the chasm on terrace I. Finally, the question of the presence of animal figur(in)es in this layer is discussed.

1) The phase I red earth layer

This is the shrine's lowest layer and lies beneath the ash layer, which is later (MM IB-II) in date. It should not be confused with another red earth layer, dated to MM IIB/IIIA, which overlies the ash layer.

a) Description

The naturally red earth, which is characteristic of the region, is found on the surface of the site's bedrock and in its fissures. Its depth ranges from 5 to 25 cms. As would be expected, its presence is not uniform. In areas where the red layer is absent, the ash layer mentioned above sometimes reaches down to the rock (Karetsou 1974, 234; *ibid.*, 239-241). From accounts in the daybooks it is clear that sometimes the ash layer is found alongside the red earth at the same depth. However, the red earth layer is most frequently found beneath the ash stratum. In contrast to the ash layer's plentiful finds, the pottery and particularly the other objects contained in the red earth layer are very sparse.

There is no reference to the naturally red soil having changed colour because of activities carried out in the red earth layer itself, or because of the use of fire in the ash layer above. The excavator would have recognized evidence of such a colour change since it is described in relation to the later (MM IIB/IIIA) red earth layer.

b) Location

Given that it is the local mountain soil, the red earth covers, with predictable interruptions, the whole peak. In the archaeological reports it is said to have been found under terrace I (Karetsou 1978, 249) and under rooms I and II (Karetsou 1978, 235; *ibid.* 239-241). From the daybooks it is clear that it was found under rooms III and IV and terrace III. What remains more problematic is the area of red earth containing artefacts. Some of the relevant areas investigated contained no pottery or artefacts. Judging by the recorded findspots of objects contained in the red earth, it seems most likely that pockets of red earth with finds covered practically the same area as that overlaid by later structures. Further excavation will determine whether finds occurred in the red earth beneath terrace IV. The excavator states that EM II and EM III pottery sherds, representing the earliest use of the site, were found in four locations to date: in the chasm and in the deepest fissures beneath the later altar and rooms II and V (Karetsou *Myc Sem*, 1987).

c) Dating: the pottery evidence

The chronological horizon of the red earth layer's use is based on the dating of the pottery. The earlier archaeological reports ascribe this to MM IA-II. As stated above, the site's earliest pottery, dated by A. Karetsou to EM II and III, occurred in the chasm and in some of the deepest fissures. From the archaeological reports and the daybooks, it is clear that the site's fissures contained either red earth or ashes. Therefore the shrine's EM pottery must originally have been associated with the red earth layer, since it is mostly beneath the ash layer and represents the earliest use of the site. Thus, this stratum's chronological horizon should be amended from MM IA-MM II to EM II-MM II, irrespective of whether the EM sherds were found during excavation in either the red earth or ash layers.

Before we move to matters of context, the pottery evidence of the red earth layer is examined since the dating of its contents hinges on this (unless these are shown to be later inclusions). This is followed by an evaluation of the implications that the re-appraisal of the Early and Middle Minoan pottery sequence may have on the dating of the red earth layer's pottery.

EM II and EM III pottery

According to preliminary observations, this amounts to one hundred or so sherds of both EM II and EM III (Karetsou *Myc Sem* 1987). The presence of EM IIA dark-on-light painted ware ('Koumasa style') (Karetsou, pers. comm. 1994) provides a safe diagnostic feature, and comprises the site's earliest artefactual evidence. This EM II date coincides with the earliest use of the Phourni cemetery at Archanes, the Minoan settlement closest to Juktas¹.

The EM III sherds found in Juktas have not yet been described. Small sheep bells were found in the site's fissures (Karetsou, *Mycenae Seminar*, The Institute of Archaeology, London, May 1986; pers. comm. 1994) but these could alternatively be dated to up to MM II (*ABAC* 18-19; Betancourt 1985, 76-77).

'MM IA-MM II' pottery

It should be specified that when the location of 'MM IA' pottery is not stated in the archaeological reports, its presence in the red earth layer is implied since A. Karetsou associates its primary use with this layer. Inclusions of 'MM IA' in the ash layer above (or more rarely alongside) the red earth layer are always described as such by the excavator. In all cases when pottery is labeled pre-palatial in the archaeological reports it appears that a 'MM IA' rather than an earlier date is implied.

¹The basal layer of round tomb E contained a clear assemblage of EM II material (Sakellarakis 1975, 298, 303-4, 307 and pl. 247E; *ABAC* 15). The presence of sherds possibly dated to EM IIA should be noted: a pyxis in fine grey ware with pointillé and incised decoration (Sakellarakis 1975, 298, 303, pl. 247E); and a dark on light painted sherd with hatched pattern (*ibid.*, 303-4).

The red earth layer beneath room II is reported to include MM IB, MM IIA and, more generally, MM II pottery (Karetsou 1978, 239-241). Some of the pottery in the red earth layer under terrace I is dated to MM IB and to the pre-palatial (i.e. 'MM IA') period (Karetsou 1978, 247). In other references, where the layer is not specified, pottery found on the rock surface and in its fissures is reported to date to 'MM IA-B' (e.g. Karetsou 1980, 347 under room V); or to include pre-palatial pottery (Karetsou 1984, 111-112). The rock fissures in an unspecified location are reported to contain 'MM IA' dark ware goblets and tumblers of unspecified date (Karetsou 1974, 238).

Photographs of the goblets referred to above are reproduced (Karetsou 1974, 238 and pl.179γ), but since their feet are reconstructed their date is open to debate. From the ceramic content of the red earth beneath room II the following pottery is described (Karetsou 1978, 239-241): a 'MM IA' carinated one-handled cup with white and orange bands (ht 4.6cms; Karetsou 1978, fig. 4.2, pl. 162ε); and 'typical MMIB' polychrome tumblers with horizontal lines, not illustrated. It would appear that the following were also found in the same location: goblets like those found at Gournes decorated with barbotine, and white horizontal and vertical lines on a dark background; and various other shapes and decorations reminiscent, according to the excavator, of 'MM IA' (Karetsou 1978, 241). Presumably from the same context comes part of a "pre-palatial" jug with banded decoration (ibid.).

The date of the red earth layer's contents in the light of the revised Knossian sequence

We must await the Juktas final publication for the diagnostic features attributed by the excavator to the EM and MM pottery styles of the red earth layer. However, because the preliminary pottery sequence at Juktas was established before the re-appraisal of Evans' EM and MM pottery sequence at Knossos, it is most likely that this will be modified in the final publication.

This revision of the Knossian pottery sequence has been carried out primarily by Hood, Andreou, MacGillivray, and Momigliano. Their work has focused

principally on the re-definition of 'MM IA', as established by Evans, through the examination of Knossian deposits. Thus deposits originally ascribed to MM IA have been redated to either EM III or MM IB. Hood's Royal Road excavations resulted in the further sub-division of traditional 'MM IA'. He identified early, pre-polychrome deposits of MM IA, now re-defined as EM III (Momigliano 1991, 152-3, 243), which he distinguished from Evans' 'MM IA' deposits. Following Hood's work, Andreou redated to EM III deposits excavated and ascribed to 'MM IA' by Evans. He also commented on the difficulty in ascribing not just vases but whole deposits to either EM III or MM IA (Momigliano 1992, 152). While Hood and Andreou have identified certain 'MM IA' deposits with an earlier, EM III, pottery style, MacGillivray has ascribed to MM IB a different set of deposits traditionally dated to MMIA. He had initially ascribed these deposits to MMIIA (Momigliano 1991, 167-175; footnote 7, 172; 212-216, 267) but gave up this date in favour of MMIB (MacGillivray 1994, 46-9 'new' MM IB; Cadogan et al 1993; Manning 1994, 32-33).

On the combined basis of the above results, Momigliano re-examined in detail further 'MM IA' deposits excavated by Evans. Her conclusions agree with the previous scholars' re-definition of MM IA. She has identified at least two groups of deposits (Momigliano 1992, 153, 242-245, 267-269; Dickinson 1994, 12). One is identical with EM III; the other with McGillivray's former MM IIA and current MM IB. Momigliano concluded that, should the re-assignment to EM III be accepted, no deposits from Evans' excavations illustrate the MM IA ceramic phase (Momigliano 1992, 243). The above data is being taken into consideration in recent attempts to integrate other Knossian deposits (some about to be published) into a local ceramic sequence (Cadogan et al 1993). If accepted, the above reclassification results in a different sequence of phases from that envisaged by Evans (Cadogan et al 1993, 21; Dickinson 1994, 12). The traditional nomenclature is retained and the 'MM IA' and 'MM IB' phases are renamed EM III/MM IA and MM IB/II respectively.

On the basis of the restatement of the Knossian sequence, it is necessary to hypothesize on changes in the definition of the red earth's pottery styles. The following comments are open to revision since they precede the final publication.

In the archaeological reports, the red earth layer was dated to MM IA-II; the ash layer above it to MM IB-II. The subsequent discovery by the excavator of EM II and EM III sherds in the site indicates an older chronological horizon for the red earth layer than originally thought in the archaeological reports, independently of the apparently precarious status of 'MM IA'. Therefore, the artefactual combines with the stratigraphic evidence in indicating that the red earth layer is earlier than the ash stratum.

It seems most likely that at least some of the red earth layer's 'MM IA' pottery can be redefined as EM III. The implication is that the red earth layer probably contained a greater quantity of EM III pottery than previously thought. The redefinition of some of the 'MM IA' pottery as MM IB/II is also possible. Perhaps since the red earth layer is overlaid by a later 'MM IB-II' deposit, it may eventually be possible to define more closely the red earth layer's later pottery style (MM IB/IIA, rather than MM IB/IIA-IIB?). As the quantity of sherds at Juktas attributed to traditional 'MM IA' has not yet been given, the number and percentage of stylistically redefined sherds remains unknown.

Following the new reclassification of the Knossian sequence, all finds from the red earth layer are here ascribed to a chronological horizon which spans EM II, EM III/MM IA, and MM IB/II(IIA?) with the exception of incursions from other strata.

d) The red earth layer's contextual evidence

At this point, the matter of the movement of artefacts from other layers to the red earth stratum and *vice versa* must be addressed. In accounts in the reports and daybooks, it would appear that the presence of later objects in the site's lowest layers occurred in places (Karetsou 1980, 347: in room V contamination of floral and marine style sherds in ash or red earth layer).

The mixture of objects between the red earth layer and the stratigraphically closer ash layer is also believed to have occurred. The finding in the ash layer of sparse 'MM IA' sherds (or at least pottery styles believed to correspond with the red earth layer) (Karetsou 1978, 247) could be plausibly explained by the occasional upward movement of sherds to the overlying layer. But the re-definition of 'MM IA' as MM IB-II should also be remembered.

The excavator believes that the presence of objects other than pottery in the red earth layer is due to the downward movement of artefacts from the ash layer (Karetsou 1978, 249). However it would also appear that there were *loci* in the red earth which remained undisturbed (e.g. Karetsou 1978, 239: under room II). This is also inferred from (admittedly preliminary) observations in the daybooks.

Therefore, the possibility that objects other than pottery, including animal figur(in)es, were originally used in the red earth layer, and dated to sometime in EM II-MM II, cannot be discounted. The stratum's ceramic study may well throw light on this matter. In the meantime, it is believed that there are sufficient grounds to follow two premises when examining the red earth layer's contents : a) at least some of the reported EM pottery may well have been found in its original, red earth layer of use; b) other artefacts found in the red earth layer may originally have been used in that stratum.

2) The chasm and the site's other fissures

During the site's phase I use, the fissures in the red earth layer were probably more exposed than in subsequent periods since they were not filled in or concealed by the ashes and objects which filled them during the site's subsequent period of use. The chasm obviously remained visible and accessible for much longer, due to its significant size (max. w.:1.80m) (Karetsou 1974, 233). This is evidenced by the chronological range of the pottery it contained.

The presence of EM II-MM II pottery in the site's fissures (including the chasm) could be interpreted in two different ways. Its presence could be due to random site formation or clearing operations, in which case it would have eventually found its way into the fissures. Alternatively, it could have been placed in the fissures as part of a ritual activity which hints at the special, liminal, significance to the site's fissures. While there is substantial proof of the importance of the use of the fissures in subsequent phase II, their significance in pre-MM IB remains unclear. We certainly cannot discount the possibility that the deposition of pottery in them was deliberate.

As already mentioned, EM sherds were found in the lower layers of the chasm and deep in the fissures immediately to the south over which the altar of deposition was later to be constructed. In view of the later cultic significance of this area, which served as a ritual focus, the possible use of the chasm and its vicinity at the outset of the site's use is very important. However, it has to be said that, according to E. Banou who is studying the chasm's pottery, the deposition of the early pottery, including some dated to MM IA-MM II (Karetsou 1974, 234), cannot be ascribed with certainty to ritual activity.

The whole question of the nature of the use of peak sanctuaries during this early date remains problematic and, because of the lack of clear deposits, hinges primarily on the pottery finds. In Juktas at least, the study of the pottery types, and its relatively small quantity, will probably show that human presence on the site from EM II onwards was fulfilling ritual rather than practical needs.

THE PRESENCE OF ANIMAL FIGUR(IN)ES IN THE PHASE I RED EARTH LAYER

The excavation daybooks and figur(in)e labels were studied in order to identify the areas of the red earth layer containing animal figur(in)es. Clay votives were not found in the lower layers of the chasm, and, apart from one human figurine portion, the red earth layer underneath room II contained only pottery. That under room IV contained three animal figurines, two miniature animal heads and clay balls, however this density of small finds is not typical of *loci* within the red earth,

and these objects are probably associated with the immediately overlying MM IB - MM IIB (phase II) ash layer which itself contained MM III - LM I pottery incursions.

The red earth layer beneath terrace III contained pottery. One *locus* contained a votive human head. In another location, beside the phase II ash layer, were found two quadruped figurines, a snake figurine and a miniature animal head. However both these layers were contaminated, so the figurines need not relate to the original use of the red earth layer. They contained respectively the fragment of a stone offering table with a Linear A inscription, and a ripple ware sherd.

On the basis of the above evidence, it is not easy to make a case for the original deposition in the red earth layer of small finds, including animal figurines.

B. PHASE II (MM IB- MM IIB)

Three sources of evidence relate to this period: the ash layer; the chasm which may have been 'used' from as early as phase I; architectural evidence attributed to this phase II: an early row of rooms, an early altar, a wall delimiting the chasm and possibly part of an early retaining wall. Due to chronological and contextual uncertainties surrounding the architectural evidence, this will be discussed after the presentation of the phase III reddish earth layer.

1) The phase II ash layer

In order to avoid confusion, it is necessary to point out that this layer, overlying the phase I red earth stratum, is found beneath the terraces and rooms, and is stratigraphically distinct from the MM III-LM I ash layer. The latter is found above the terraces.

a) Description

The ash layer contained pottery and large quantities of small scale clay artefacts interpreted as votives. The latter consisted of animal and human figurines, votive limbs, clay balls, miniature skeuomorphs, miniature representations of fruit and flowers. The ash layer has been associated with activities related to the use of fire.

The layer's earth content has been described as follows: a grey ash stratum (*PM I*, 157); dark earth and ashes (Karetsou 1974, 232-233); black burnt earth (Karetsou 1978, 235-236 and 239); burnt earth and plenty of ashes (Karetsou 1978, 247). It contained a large quantity of bones (Karetsou 1978, 258 and 247) as too did the site's other layers. Although ashes were frequently referred to, no specific mention is made in the archaeological reports to the presence of carbonized matter. The earth is described once as fatty. The discussion of possible activities associated with the ash layer takes place in chapter VI.

b) Location

The stratigraphic relationship of the ash layer with the red earth stratum has been discussed above: it frequently overlay the red earth layer but, in some loci, it was immediately above the bedrock. The ash layer has been found beneath terraces I and II (**context 5**) (Karetsou 1974, 232 and 234; 1978, 247-249; 1985, 84; 1988, 163); beneath terrace III (Karetsou 1981, 405); and beneath the row of rooms (**context 7**). As terrace IV has hardly been excavated, it is not known whether the ash layer existed underneath this as well. So the ash layer existed in all areas covered by the later shrine structures that have been excavated to a sufficient depth and, not improbably, extended to the other parts not yet investigated. The depth of the ash layer underneath terraces I and II varied from 0.20-0.60m (Karetsou 1985, 84; 1988, 163).

To the north of the altar a layer containing ash is reported to have been only 0.05-0.08m deep (**context 2**). This area had been excavated previously by Evans. This, along with the site's erosion, explains its shallow depth and the absence of other layers above it. To the south-east of room I the ash is reported to have a depth of 0.20-0.25m (Karetsou 1980, 342). However, in these last two instances it is not known whether the ash layer also contains ashes from the later phase IV ash layer.

c) Context and date

Evans' dating of the ash layer to MM I-II (*PM I*, 157) has been confirmed by the excavations carried out by A. Karetsou, who has dated it more specifically to MM IB-II. The pottery from two undisturbed areas of the ash layer is described in the

archaeological reports. In one location, under terrace I (Karetsou 1978, 247-249), it contained primarily footless cups and tumblers with monochrome or other painted decoration (ibid., figs 11.3 and 4). Open spouted jugs are also well represented. Fragments of pithoi and cooking pots are fewer. Two-handled, skyphoid vessels with carinated shoulders are mentioned. The other location where the ash layer was found undisturbed was beneath the area between terraces I and II (Karetsou 1988, 163). This yielded Kamares type vessels, 'MM IB' vessels decorated in polychrome and barbotine, and eggshell thin cups with undulating rims. Similar vessels are reported to have been found at the foundation level of terrace I (Karetsou 1985, 85) although the ash layer is not specifically mentioned.

It would therefore appear that the ash layer was practically undisturbed in areas underneath terraces I and II (**context 5**) (Karetsou 1978, 341; 1985, 84). It was more disturbed under terrace III since MM III material had slipped into it from above (Karetsou 1984, 112).

The ash layer was most contaminated under the row of rooms still visible today (**context 7**).

Unlike the ash layer beneath the terraces, which remained practically sealed, that underneath the present remains of the row of rooms was disturbed during the construction of two successive building phases. The wall foundations of the older rooms were sunk into the ash layer (Karetsou 1978, 241) while the construction of the later row of rooms (comprising most of the rooms' remains visible today) seems to have resulted in the admixture of later pottery into the ash layer under the eastern part of at least rooms I (Karetsou 1978, 237 fig.5) and II (Karetsou 1978, 239 and fig.7). The intrusions include sherds decorated with spirals with solid painted circles (figs 7.3 and 4) and plant motifs (fig. 7.5). The absence of the MM IB-II phase II ash layer from underneath rooms I and II, with the exception of a strip along their western part (width 1.50m; depth 0.40-0.45m), is probably due to its removal during the preparation for the construction of the early row of rooms or the laying of their floors. In the western part of rooms I and II the bedrock is only

0.30-0.52m and 0.30-0.35m beneath the surviving floors (Karetsou 1978, 235 and 238). The deposits underneath the rooms are discussed further in relation to the stratigraphy of the rows of rooms dated respectively to phases II and IV.

2) The chasm

As already mentioned, the chasm's lower strata included MM IA-MM II pottery (Karetsou 1974, 234). While these strata also contained differently dated material, their MM IA-MM II pottery distinguishes them from the overlying mixed layers which included MM II and MM III material. Some of the material in the chasm's lowest layers must have been contemporary with the use of the red earth layer. Since these lower strata are not described as containing exclusively MM IA-MM II, it is unlikely that the period of use associated with the red earth layer is represented by a stratigraphically distinct layer. Therefore some of the associated material of the lowest layers is probably dated to the later use of the site, perhaps mostly to phase II (MM IB-MM IIB). It is not known whether these layers also contained the EM II and EM III sherds, or whether this earlier material was found lower in the chasm, subsequent to the writing of the reports.

In contrast to the plentiful votive offerings associated with the open-air use of the ash layer, it would appear that the chasm contained far fewer artefacts of this kind. In addition, there are no references to an ashy deposit in the chasm. This combined evidence means that if the chasm did have a ritual use it was not the same as that of the fissures.

THE PHASE II ANIMAL FIGUR(IN)E CONTEXTS

As said previously, no figur(in)es were found in the lower layers of the chasm.

Context 5: MM IB - MM II B

The animal figur(in)es related to this context are found in the ash layer beneath and between terraces I and II. This layer overlies or is beside the EM II - MM II red earth layer of phase I, and underlies the MM IIB - MM IIIA reddish earth layer of phase III (**context 6**).

No other virtually uncontaminated phase II ash layer contexts exist. Some material related to this early ash layer is included in mixed contexts containing post-phase II material described further below. These are the mixed layers of **context 7** beneath the rooms, the layers overlying terraces I and II (**context 2**) with a MM III - LM I *terminus post quem*, the more heavily mixed layers to the north and the south of the row of rooms (**contexts 9 and 10**) and the upper levels of terrace III (**context 12**). Finally, some material from the phase II ash layer may be mixed, in certain *loci*, with the MM III - LM I material above terrace III related to the use of the phase II ash layer (**context 1**).

C. PHASE III (MMIIB-III A)

1) The phase III reddish earth

It should be noted that this stratum rests on the MM IB-MM II ash layer of phase II. It is different from the EM II-MM II red earth layer found immediately above the bedrock.

a) Description

The layer was first discovered by Evans who reported its position above the ash layer and described it as "a reddish stratum of burnt earth containing sherds of the MM III period and surrounding the foundations of a rectangular building of ashlar masonry with outer terrace walls of rougher construction" (*PM I*, 157), later identified as terraces I and II (**context 6**). Its presence in the same area was confirmed by A. Karetsou in 1974 (Karetsou 1974, 157). Following Evans, she referred to it as a red, burnt layer of MM III date. The same layer beneath terrace II is described more fully elsewhere as a stratum of reddish earth with many stones, few animal bones and plenty of pottery, mainly of MM III date (Karetsou 1985, 84). Presumably this same layer, above the ash layer and beneath terrace I, is described in an earlier report (Karetsou 1978, 247). Its contents do not differ from those given above: many stones of varying size, and plenty of pottery dated to the

old palace and early new palace periods. However it is described as dark brown, without any reference to burning.

Two possible inconsistencies emerge from the above four descriptions of this layer. First, in one out of four instances, the earth is described as dark brown rather than red. Secondly, in one out of two references, the red earth is not described by A. Karetsou as burnt. It is unknown whether this is due to an omission or not. If the red earth was indeed burnt, reasons for this are not suggested. Since this layer is found above the ash stratum, its burning was associated with activities related to itself rather than the underlying layer.

The reddish earth differed from the ash layer beneath it in several ways: it did not contain ashes and it had a different colour; it contained few animal bones; it included many stones which are not referred to in any description of the ash layer; in comparing it with the ash layer, the excavator reports it to have contained fewer small finds, and it is intimated that this included miniature vessels. This is also implied in Evans' description of the 'votive relics' where, although he refers to their existence in the red earth layer, it would appear that he believed them to be more frequent in the ash layer (*PM I*, 158-159). He also suggests that the reddish layer contained larger animal figures than the ash layer.

The interpretation of the use of the red earth layer and the ash stratum beneath it would benefit from the comparison of their contents. There is a marked diminution of bones in the red earth layer overlying the ash layer. Although its small finds are said to be fewer, judging by the 1985 find inventories of the red earth layer and the ash layer immediately beneath it, its number of figurines is substantial. We shall see that animal figurines are present in the red earth layer. The proportion of animal figure fragments is far smaller than that of the figurines and their numbers are hardly more plentiful than those found in the MM IB-MM II ash layer.

Three points emerge from the above observations. Firstly, the ashes and dark burnt earth of the ash layer may be linked primarily with the animal bones rather

than the other objects included: ritual practices continuing to use substantial numbers of other objects but hardly any animals or animal remains may have been carried out in the red earth layer without producing ashes or dark burnt earth.

Secondly, we must await further information regarding the possible burning of the red earth layer in order to confirm this practice. It is certain that, should burning activities have occurred in the red earth layer, they produced different material effects from those of the ash stratum.

Thirdly, the presence of the many stones in the red earth layer must be accounted for. It is most likely that these are related to secondary processes rather than to the primary use of the stratum. They may represent the destruction of structures and perhaps even the subsequent preparation of the area for the construction of the phase IV terraces I and II visible today. The evidence in the reddish layer of secondary, rather than just primary, level activities and processes may well challenge the validity of comparing its contents with those of the ash layer. This matter introduces the question of the extent of the reddish layer's location since the preliminary information only describes its presence beneath terraces I and II (**context 6**).

b) Location

From the preliminary documentation, it cannot be ascertained with certainty whether the red earth layer was also located beneath the row of rooms and terrace III. Of the relevant layers described in some detail by the excavator, none fits the description of the red earth stratum. In more summary reports, the layers beneath the rooms and terrace III are not described (Karetsou 1984, 112-113 and 115). In any case, if the reddish layer existed beneath the second row of rooms (assuming it did not serve exclusively as a fill), it may have been removed prior to their construction, as was the case with the ash layer in places. It could be significant that outside the south-eastern corner of the row of rooms, the ash layer, which includes objects dated to both the old and new palace periods, does not appear to be interrupted by a stratum of reddish earth (Karetsou 1980, 342). If the red

earth layer is shown to be present only beneath structures, the possibility that it comprised a fill gains credence. However, if it is shown to be present in areas of open-air activity with no structures (irrespective of whether it also contains debris), the likelihood is greater that it represents the open-air use of the shrine after the use of the MM IB-MM II ash layer of phase II.

Either way, it is significant that under the later terraces I and II, the reddish layer was formed after the MM IB-MM II ash layer there fell out of use.

c) Date

This layer has been varyingly dated to MM III (*PM I*, 157; Karetsou 1974, 234); the 'old palace' and the beginning of the 'new palace' periods (Karetsou 1978, 247); mainly MM II (Karetsou 1985, 84). It seems most likely that the pottery should be ascribed to a MM IIB-MM IIIA horizon because: a) the initial reference to MM III pottery by the excavator cannot be discounted prior to the final publication of the pottery; b) there are difficulties in establishing whether or in what way MM IIIA differs from MM IIB (*ABAC* 54, 57; Dickinson 1994, 12).

It is noteworthy that the 1985 find inventory of the reddish earth layer contains a few sherds of barbotine ware which, as a rule, does not appear to post-date MM IIA (*ABAC* 51: Phaistos up to MM IB; Betancourt 1985, 83-84: MM IB-MM IIA). Therefore it must be assumed that these are intrusions, probably from the underlying MM IB-MM IIB ash layer. Their small number does not undermine the dating of the reddish layer to MM IIB-MM IIIA; nor does the presence of isolated MM IB sherds necessitate the interpretation of the reddish layer as a mixed fill providing little primary evidence.

The dating of the red earth layer to MM IIB-MM IIIA is further supported by the chronological evidence yielded by the overlying terraces: the preliminary dating of the pottery contained in the northern part of the fill of terrace I to MMII/IIIA (Karetsou 1974, 234); and the dating of the terraces' construction to MMIIIA.

THE PHASE III ANIMAL FIGUR(IN)E CONTEXT

Context 6: MM IIB - MM IIIA

The animal figur(in)es related to this context are found in the reddish earth layer beneath and between terraces I and II, sealed between the underlying phase II ash layer (**context 5**), and the overlying fill of these terraces (**context 3**).

STRUCTURES CONTEMPORARY WITH THE USE OF THE PHASE II (MM IB-MM II) ASH LAYER, OF WHICH SOME MAY ALSO BE CONTEMPORARY WITH THE PHASE III (MM IIB-MM IIIA) REDDISH EARTH STRATA

The following structures are discussed below: the first row of rooms; walls possibly related to terraces earlier than those visible today; a wall delimiting the chasm; an early altar. These structures survive in a fragmentary state and were replaced by a more elaborate MM IIB/MM IIIA building scheme whose remains are primarily visible today. It should be stressed that prior to the final publication, it is not possible to determine with certainty their date of construction, chronological inter-relations, and association with the ash and reddish earth layers. It is difficult to come to definitive conclusions before clarifying the nature of the phase III reddish earth layer.

The phase II (and phase III?) row of rooms

a) Description

This row of rooms, the earliest on the site, is located in the same approximate area and has the same N-S orientation as the overlying later row of rooms, i.e. between the later terraces II and III. The later structure's common eastern wall was constructed over the first rooms' corresponding wall which served as its foundation. It would appear that the old rooms' entire length (l. of eastern wall 23.90m: Karetsou 1981, 408) was a little shorter than that of the overlying later walls. The northern wall of the early complex, which probably included an entrance, was 0.40-0.50m further north (Karetsou 1980, 348-9; 1981, 405-8).

However it seems that the early complex may not have extended as far south as its later counterpart but stopped short of later room I (?). It is also narrower on its western side: part of its western wall is contained within later rooms II to V.

The location and alignment of the old rooms' northern wall coincides with that of an overlying neopalatial wall, parallel and to the immediate north of the later row of rooms (Karetsou 1980, 348-9; 1981, 407-8). The latter extends eastwards forming the northern boundary of the later structures of terrace III. I am unsure as to whether the visible northern boundary of this later terrace encompasses earlier material. The existence of an early wall in this outdoor area would be significant. The possible existence of such early walls associated with open air structures is discussed below.

b) Dating

The surviving walls of the early row of rooms, underlying those of the better preserved later row of rooms, were investigated from 1978 onwards. In the relevant reports they are described by the excavator as belonging to the 'old palace' period. Thus, in traditional ceramic terms, their construction should be dated to sometime in MM IB-MM IIB. No evidence survives of the use of these rooms, replaced by another row of rooms which were constructed as part of the elaborate building programme of phase IV.

Strata beneath the foundations of the early row of rooms

Three references are made to the layers beneath the later rooms on which the surviving lower courses of three portions of early walls were founded (**context 7**). Beneath room II, part of the western wall of the early complex (surv. ht. 0.30m) was located above two consecutive layers of mostly MM II date which also contained MM IB sherds (Karetsou 1984, 115). Beneath room III part of a wall (surv. ht. 0.40m), which is the northern continuation of the previously mentioned wall in room II, was found beneath a layer containing mostly old palace sherds (Karetsou 1978, 245-246). Beneath room II, the foundation of a dividing wall with E-W orientation was found on the site's lowest, EM IIA-MM IIB red earth, layer which

covered the bedrock. The wall's surviving upper part had been covered by the MM IB-II ash layer (Karetsou 1978, 241).

Of the above strata, the site's lowest EM IIA-MM IIB red earth layer does not provide a reliable *terminus post quem* for the first rooms' foundation: the wall in room II most likely rests on this stratum because the overlying layers were cut into prior to its foundation. As seen, the other two surviving parts of contemporary walls were constructed over later strata containing: a) MM IB-MM II and b) mostly old palace sherds, i.e. MM IB-MM II (in the latter case, it is plausible that MM IIIA material was included; alternatively, pre- rather than post MM IB-II sherds may have been present).

Even if some of these layers were shown to represent fill(s), the rooms' construction did not occur during the earliest use of the ash layer in MM IB: this is evidenced by the extensive presence beneath the rooms of the 'old palace' ash layer, which, at least in some instances, can be described as *in situ*. The early rooms' construction obviously pre-dated that of the later, phase IV, row of rooms in MM III. In referring to the date of one of the walls beneath room II, the excavator favours a MM II foundation date (Karetsou 1984, 115). It cannot be specified yet whether the rooms were in use with the ash layer and/or the later reddish earth stratum, both of which were contemporary with MM IIB. If the period of use of the first row of rooms was contemporary with the ash layer, it most likely extended into the use of the overlying reddish earth layer, provided the latter was more than just a fill. In either case, the period of use of the first rooms was short-lived since the construction of the later row of rooms occurred in MM III, and, in any case, the MM III period was a short one (ABAC 63). If the stones contained in the reddish earth layer were related to destroyed structures, the possibility that these belonged to this early row of rooms must be considered.

The destruction date of the row of rooms

The first rooms' date of destruction in MM IIB is corroborated by: a) possibly the large number of stones found in the reddish earth layer above terraces I and II; b)

the construction date of the succeeding building scheme in MM III; d) the archaeological evidence from other sites. This MM IIB destruction date is not contradicted by the stylistic distribution of the pottery contained in the reddish earth layer.

The rooms' collapse during this period may well point to seismic events, whose dramatic effects were identified by Evans in the palace of Knossos (*PM II.i*, 43, 348; *PM III*, 12, 14; MacGillivray 1994, 48). The presence of many stones in the reddish layer could reflect the collapse of the early rooms and other structures, and maybe even the preparation of the site's open areas for the erection of the succeeding building phase.

THE PHASE II (AND III?) ANIMAL FIGUR(IN)E CONTEXT UNDERLYING THE ROW OF ROOMS

Context 7: Mixed MM I - LM I material with some LM IIIC intrusions.

We have included in this context the phase II ash layer beneath the rooms which was mixed with deposits related to the construction of two consecutive rows of rooms, the earliest described immediately above and dated to phase II.

The nature and extent of other structures possibly contemporary with the early, phase II, row of rooms must be addressed. The following structures are believed by the excavator to pre-date the site's phase IV MM III architectural programme. No information is yet available regarding the layers on which they were founded, or those contemporary with their use. What remains problematic is the question of their contemporaneity and, by extension, their chronological associations with the phase II row of rooms.

The phase II (and phase III?) wall in the area of the chasm

The hypothesis that an early structure of a MMII or early MMIII date delimiting the area of the chasm must have existed (Karetsou 1978, 251) was verified, according to the excavator, with the deep investigation of this area in 1985 (Karetsou 1985, 83-84). A right-angled wall bordered the southern and eastern edges of the

chasm. The eastern wall (surv. l.2m; w.0.55m) is described as an extension of the foundation of the eastern retaining wall of terrace I. Its depth in relation to the foundation of terrace I is not reported. However it would appear to be lower, and the implication is that it predates the terrace wall. Perhaps its more cursory construction would reinforce this possibility.

The exact location of the wall bordering the chasm to the south is not given. However, I assume this could be aligned underneath the northern wall of the presumably (?) later terrace wall I. It would have served eventually as part of its foundation.

A possible phase II (and phase III?) early altar?

This is the structure about which I have the least information other than that it is said to have existed in the same area of the later structure (Karetsou, Mycenaean Seminar, The Institute of Archaeology, London, May 1986).

A phase II (and phase III?) wall to the north of terrace I

A. Karetsou has informed me of the discovery of this MM II retaining wall. I do not know if this coincides with the (later?) MM IIB/MM IIIA retaining wall in the same general location (Karetsou 1988, 161-2). It may be that this other wall is later and coincides with the structure of the site's second building scheme in MM IIB/IIIA. On this issue, it will be important to define, if possible, the association of the northern wall of the early rooms with what was to become the northern boundary of terrace III.

The possibility cannot be discounted that the above-mentioned structures were built as part of a concerted building scheme. In any case, it is more than likely that their use overlapped. Thus the architectural definition of both indoor and outdoor space, and the focal device of the altar, characteristic of the later, more elaborate building scheme probably already existed, in some form, during the old palace period. The lay-out and extent of this early scheme remain problematic.

D. PHASE IV (MM IIIA-LM IB)

The beginning of this phase follows the destruction of the site in MM IIB. It ends with another destruction in LM IB, evidence of which survives in the row of rooms dated to this phase. As is indicated below, this period may be subject to further sub-division in the rooms.

The following sources of evidence are discussed: 1) the phase IV terraces and altar and their construction; 2) the phase IV ash layer and other possible layers related to the use of the above mentioned terraces and adjacent open air-areas during MM IIIA-LM IB; 3) the construction and use of the phase IV row of rooms. Most of the architectural features surviving to this day are dated to this phase of use.

1) The phase IV terraces

a) Location

The four stepped terraces descending the mountain peak with a N-S orientation are still visible today. The row of rooms is situated between terraces II and III, abutting the retaining wall of terrace II to its west. Terrace III is immediately to the east of these rooms and adjoining this, further east, is terrace IV, as yet not fully excavated.

b) Description

Terraces I and II stand on a uniform substructure of stone fill (**context 3**) and cover an area of approximately 135 sq. m. (Karetsou 1984, 112). Terrace III, constructed in the same manner (Karetsou 1980, 339; 1981 405), covers 110 sq. m. (Karetsou 1984, 112). The partially excavated terrace IV is probably about 25m in length and 4m in width on its northern side.

A stone bench runs along the outer wall of the row of rooms, on the western side of terrace III (Karetsou 1978, fig 1, section Γ-Γ'; 1979, 280; 1980, 341, 343; pl. ΙΔ, fig.

1, pls. 205f, 206g; 1981a, 145). This has a width of 0.35-0.48m (Karetsou 1980, 341). It has been formed by the junction of the external eastern wall of the second palace period rooms with its broader foundation course (width 1.40m). The latter originally functioned as the foundation of the external wall of the old palace rooms. The concentration of objects on and beside this bench (**context 1**) indicates that it served as a bench of deposition, rather than as a bench for sitting on (Karetsou 1979, 280; 1980, 343).

The eastern retaining walls of terraces I and II rose above the upper surface of these structures, thus both supporting and enclosing them. The retaining wall of terrace II was particularly high. This probably provided a walled backdrop for the row of rooms adjoining it to the east: its NE corner still survives to a height of 2.20m (Karetsou 1974, 230). The terrace I retaining wall survives to a height of 1m (Karetsou 1974, 231) and that of terrace III to a height of 1.20m (Karetsou 1981, 405). The crowning of at least two of the terraces' retaining walls with stone horns of consecration is indicated by the location in which their fragments were found. Half of a set of horns of consecration (calculated original ht: 0.80m) and fragments of at least 4 smaller ones were found in front of the retaining wall of terrace II above the rubble of the rooms' collapsed walls (Karetsou 1974, 231; 1975, 330). On terrace III, alongside the rooms' eastern wall, were found thirty fragments of horns of consecration whose height has been estimated at 1-1.30m (Karetsou 1980, 341). They include the possible base of a fragment of horns of consecration (Karetsou 1981, 405, fig. 2). These fragmented horns of consecration are referred to by D'Agata (D'Agata 1992, 254 and footnote 18).

c) Construction date

Initially, following Evans, a MM III (Karetsou 1974, 231) and MM III/LM I (Karetsou 1975, 342) date was favoured. In 1984, it was stated that the terraces had not been constructed before MM III (Karetsou 1984, 112). In post-1984 reports (after further excavations) an earlier horizon is preferred: MM II (Karetsou 1985, 84); and MM II/III (Karetsou 1988, 162). In establishing the construction date of the terraces, the date of the pottery in their stone fill (**context 3**), and in the layers underlying and overlying these fills must be taken into consideration.

Terraces I and II were constructed above the MM IIB-MM IIIA reddish earth layer (phase III) which overlay the MM IB/MM IIB first palace period ash layer (phase II). It is not known whether this reddish layer was also present under the fill of terrace III; however there is no reason to doubt the simultaneous construction of this third terrace. The majority of the pottery sherds contained in the make-up of the northern part of the fill of terrace I is dated to MM I-II (Karetsou 1981a, 145). However the preliminary dating of some of the pottery contained in the make-up of the fill of the southern part of terrace II to MM IIB - IIIA (Karetsou 1974, 234) should not be discounted. The make-up of the fill of terrace III is also said to contain MM III sherds (Karetsou 1984, 112). Their presence there is ascribed to the slipping through of material from the second palace ash layer overlying the terrace structure.

On the basis of: a) the inclusion in the terrace fill of pottery possibly ascribable to MM IIIA; a) the dating of the phase III reddish layer (underlying terraces I and II) to MM IIB-MM IIIA; and b) the inclusion in the make-up of the terrace fills of pottery possibly ascribable to MM IIIA, the construction of the terraces should be assigned, in terms of the Minoan relative pottery sequence, to MM IIIA.

The construction of the terraces followed the MM IIB destruction of the first palace period shrine complex by earthquake. In view of this, the existence in the fill of sherds with certain elements stylistically associated with the subsequent 'first neopalatial' phase is hardly surprising and need not be exclusively ascribable to slippage from overlying layers. Similarly, the continued presence above the structures of the terraces of some material of MM IIB style need not be surprising.

2) The phase IV ash layer and other possible strata

a) Introduction

These layers were all found in the shrine's areas of outdoor activity, principally above the three terraces excavated fully so far, to their south and also their north.

The ash layer should not be confused with the earlier MM IB-IIIB ash layer of phase II, which was found primarily beneath the terrace fills (**context 5**: under terraces I and II) and the old palace room foundations (**context 7**). To the south of the terrace complex, where there are no structures, the 'second palace' period ash layer rested directly on the 'old palace' ash layer.

b) Nomenclature and description

The phase IV ash layer

When this stratum is referred to in the archaeological reports (Karetsou 1977, 420; 1984, 113; 1985, 86), it is described as "pyra", the term also consistently associated with the phase II ash layer. Its nature and contents were, in essence, the same as those of the earlier (phase II) ash layer. However, there is a marked increase in prestigious artefacts like stone tables of offerings. This layer also contained ashes and animal bones (according to the excavator, plentiful bones appeared in all the layers of the shrine: Karetsou 1978, 258).

We must await the final publication for a detailed comparison of the two ash layers' artefactual contents. However, it is clear that clay votive objects continued to appear. The largest number of animal figurines yielded by the site was found in its phase IV ash layer, and there is also a marked increase in figure portions.

The distinction between the phase IV ash layer and other possible contemporary layers

This distinction is based on lack of information rather than on positive evidence, and may eventually prove to be unnecessary. While there are plentiful references in the archaeological reports to the second palace period ash layer above terrace III (**context 1**), the **description** of an ash layer so dated above terraces I and II (**context 2**) is lacking. On occasions when the strata containing loci of MM III/LM I are mentioned, they are not referred to as "pyra", nor are they described in detail. In some instances when a "pyra" is mentioned it appears to be dated to the old palace period: this layer had remained uncovered because the western and northern parts of terraces I and II do not have a stone sub-structure which would

seal the underlying old ash layer and separate it from the overlying new palace period layers; the rock in these areas was not so steep as to necessitate levelling with a stone fill. Thus the poros kernos and the cache of bronze double axes, on terrace I to the south of the second palace period altar were found in the old palace period ash layer (Karetsou 1974, 232-3; 1981a, 145-6 and figs. 11, 13-14) and had not been covered by the stone fill of terrace I. Consequently, in cases when an ash layer is related to terraces I and II but not dated, the possibility that it is a first palace period stratum cannot be discounted.

In conclusion, since the presence of a second palace period ash layer above terraces I and II (**context 2**) is not specified in the archaeological reports, its existence can, at this point, be neither proved nor discounted (I have not been able to consult the relevant day books). This reservation also takes account of the lack of reference by Evans to a second palace period ash layer in the area of terraces I and II (*PM I*, particularly 157-159). Yet this absence of information should perhaps also be treated with caution since, in his summary report, he does not refer to any post-MM III material whatsoever. It should be stressed that this distinction between the second palace period ash layer and other possible contemporary strata does not, in any way, undermine the plentiful evidence of the *in situ* presence of a substantial second palace period ash layer above terrace III, described below. Such an ash layer may be shown to be located above terraces I and II as well.

c) Context of the phase IV ash layer and other outdoor areas containing MMIII/LMI material

The activities and processes which have modified the contextual evidence of the layers above the terraces and to their south are: the movement of deposits down the peak's steep slope, affecting particularly the contextual evidence of terraces I and II; the destruction in 1952 of the northern part of terrace III (and adjacent areas) in preparation for the construction of the sub-station; the removal during Evans' excavations of deposits from the area of terraces I and II, including those above and to the south of the surviving altar further north which he did not reveal;

clandestine digging in the area of terrace I which occurred prior to Evans' excavation (*PM I*, 157, fig. 114).

In comparison with the first palace period ash stratum, the stratigraphy of the second palace ash layer (and other possible contemporary strata) over or adjacent to these structures is more confusing since these layers were not sealed in by overlying structures. Firstly, their location and position are such that admixtures with later (and at times earlier) material are greater; secondly, a smaller proportion of the MM III/LM I material has survived in its (primary or secondary) position within these layers.

The admixture of variously dated artefacts varies from location to location. Apart from MM III/LM I, the material in the relevant layers includes LM II and substantial quantities of LM III artefacts, as well as Geometric, Archaic, even some Roman and Venetian objects. The commencement in MM IIIA of the formation of strata including an ash layer above the second palace terraces is attested with certainty. However the presence of later material renders problematic the establishment of their lowest chronological limits.

An attempt is made to differentiate between clear and mixed layers containing MM III/LM I pottery follows. In this thesis, the layers of terraces (I and II) containing MM I - LM I material have been named **context 2**; those identified as containing later intrusions have been named **context 4**.

The phase IV terrace I (including the chasm)

This is the location of the altar (discussed in greater detail below) and the chasm over part of the edge of which it is founded. The upper layers of terrace I seem to have been removed by the variety of processes noted above. The most denuded areas are the westernmost and northernmost parts of the terrace. In trench Γ (to the north of the altar) the depth of the surviving deposit, consisting mainly of an ash layer of unspecified date, is only 5-8 cms (Karetsou 1974, 233). The depth of strata in the southern and eastern areas of terrace I is more substantial, although these have also been depleted. Thus the kernos and hoard of bronze double axes

mentioned previously were found in a pit measuring 0.40x0.85m containing the old palace ash layer. This was located between the altar and the southern retaining wall of terrace I (Karetsou 1974, 232-3; 1981a, 145-6 and figs 11, 13-14).

The chasm's middle and upper levels contained mixed layers which included MMII-MMIII material (Karetsou 1974, 234). No reference is made to these layers containing ashes. Although the chronological range of their material is not specified, they most likely included LM I and later material. It is clear that a pure MM III/LM I stratum was not identified in the chasm. Around the mouth of the chasm were mixed layers which contained LM III material (Karetsou 1974, 234) (**context 4**). Reference is also made to a few surface finds of Geometric sherds on terrace I (Karetsou 1974, 238, footnote 5).

The material from above terrace I discussed in greater detail in relation to its provenance is that of MM III/LM I found on and in the vicinity of the altar. Although material of this date must have been found elsewhere over terrace I, this is not specified. The objects found on or close to the altar's step include: offering tables inscribed in linear A, votive bronze statuettes of worshippers, clay figurines and many other votives (Karetsou 1974, 232 and pls. 175a,δ; 1978, 258; 1981a, 146 and fig. 15). According to the excavator, these objects' position is not fortuitous and indicates its function as an altar of deposition (Karetsou 1974, 232; 1981a, 145-146). If this is the case, these objects must originally have been protected by overlying layers which had been partly removed by Evans' investigation and by the gradual movement of material down the slope. However, the admixture of variously dated objects found close by (e.g. around the chasm's mouth) should not be forgotten. In view of the association of the use of the altar with material of MM III/LM I date, the question of whether or not these objects were initially found in an ash layer is of paramount importance. As indicated above, this question still remains unanswered.

The phase IV period altar (context 2)

a) Description

This is located along the western part of terrace I (at the shrine's highest point), and is described by the excavator as a low, stepped structure (Karetsou 1974, 231; 1975, 331). The surviving altar's form was clarified in 1978 with the deeper investigation of the area. Its eastern step (width 0.20-0.30m) is 1.50m long (Karetsou 1978, 252-253; pl. 166β) while its western side survives less due to erosion and its upslope position. If the excavator's earlier calculations of the altar's original dimensions are valid, then the surviving stepped area represents only the southernmost part of the structure. These calculations attempted to correlate the structural features on Evans' sketch plan of his architectural findings with the architectural features present today (*PM I*, 157, fig. 114; Karetsou 1976, 417, footnote 3 and plan IΔ; 1981a, 141, fig. 4). Upon this basis, it was believed that three fragments of walls, no longer surviving, drawn by Evans may originally have been part of the altar. According to the excavator's estimations, the altar had a substantial length of 11.25m, a width of 3.40m and a height of 0.45m (Karetsou 1974, 231). It has been suggested that its eastern step ran along the length of these 11.25m, and that the slabs still surviving to the north (covering an area of 3.10x3.85m) comprised the northernmost part of the altar. It remains to be seen whether the early calculations of the altar's dimensions are valid, or whether the 1978 investigation of the altar's remains necessitate a re-consideration of its initial form. To date, the latter possibility seems more likely since the excavator does not allude to her earlier calculations.

b) Context and date

The altar rests partly on the old palace ash layer, and partly on the natural bedrock. The southern part of the altar, into which is built an old palace offering table (l.1.56m, w.0.37m, ht 0.08m), is reported to rest on the old palace ash layer (Karetsou 1974, 232). This stratum provides a *terminus post quem* for the construction of the altar. In this area the structure rests directly on the old palace ash layer and not on the MM IIB - MM IIIA reddish layer of phase III which usually overlay the old palace ash layer beneath terraces I and II. This indicates that either

the reddish layer had never existed in this area of the altar, or that it had been removed prior to the construction of the altar.

The westernmost part of the altar was built directly on the bedrock (Karetsou 1974, 231). As already explained, in this more level part of the bedrock there is no need for a terrace stone sub-fill. If the MM III/LM I material on and around the altar is *in situ*, it attests directly to the terrace's use from the MM III period, and indirectly to the contemporaneity of its construction with the terraces. Although it should be remembered that, a few feet further north, the fill around the mouth of the chasm was mixed, this does not necessarily undermine the hypothesis that the altar was constructed in MM IIIA.

c) Function

As already explained, the excavator's opinion is that the display on this structure of MM III/LM I objects (many of them prestigious) indicates that this served as an altar of deposition and display rather than as a sacrificial altar. As discussed above, the question of whether this material was found in an ash layer still needs to be resolved.

The phase IV terrace II

Geometric sherds were found in the deposit above the fill of the contaminated, northern part of terrace II (**context 4**) (Karetsou 1974, 238 footnote 5). The date of the other contents is not provided, but these must have included MM III/LM I material. Surface finds of Geometric shreds were also recorded (*ibid.*).

The phase IV terrace III

In contrast to terraces I and II, a significant concentration over terrace III of LM II and especially LM IIIA2-B pottery has been noted (**context 12**) (Karetsou 1976, 417; 1979, 280-281; 1980, 343). Although plausible, the excavator does not automatically ascribe this to a shift or focusing of activity to terrace III in later times, since the accumulation of material could conceivably be due to formation processes (Karetsou 1979, 281).

Underlying the layers containing later material is a thick ash layer (**context 1**). Its depth ranges from 0.40 to 0.64m (Karetsou 1980, 341; 1985, 86). It would appear to cover the terrace, judging by its findspots on and beside the bench along the outer wall of the row of rooms, and in the central and northern parts of the terrace (respectively Karetsou 1980, 339-341 and 1984, 113). Apart from pottery the ash layer contained hundreds of objects. Its plentiful pottery, while representing both the old and new palace periods (Karetsou 1977, 419-420; 1979, 280), is mainly dated to MM IIIB-LM I (Karetsou 1980, 341; 1985, 86).

Predictably, there is no pure stratification of MM III-LM I under post-LM I material on terrace III. However, from preliminary accounts, a convincing case can be made for the far greater concentration of MM III-LM I material in the lower strata above the terrace structure. When referring in general to the layers overlying the fill of terrace III, the excavator dates them to MM III-LM I (Karetsou 1984, 113). Above these layers are the strata containing a mixture of LM II and LM IIIA2-B with MM III/LM I. This mix is exemplified by the presence in the same upper layer of champagne cups with ripple ware sherds (Karetsou 1980, 343).

The presence in the MM IIIA-LM I ash layer above terrace III of material ascribed to the old palace period can perhaps be explained on three counts: firstly, it is not always easy to distinguish between MM IIIB and MM III pottery (Karetsou 1981a, 54, 57); secondly, it is likely that some typological categories and stylistic characteristics of artefacts more resistant to change than pottery continued to be manufactured during the following pottery phase; thirdly, the phase II ash layer underlies terrace III whose stone fill may not in places have separated completely the MM I-II and MM III-LM I strata.

Other loci containing MM III - LM I (phase IV) material

The area immediately to the south of terrace III (**context 10** discussed later), outside the south-western corner of room I, also comprises part of the same phase IV ash layer which lies over earlier 'old palace' material. The mixture of

material is only to be expected here since there is no structure separating the respective assemblages (Karetsou 1980, 342).

There are other loci which contained a greater admixture of displaced material, including plentiful MM III/LM I objects (**contexts 8, 9, 11** discussed later). Thus the debris covering the row of rooms had tumbled down eastwards from the adjoining terraces to the west (Karetsou 1975, 331, 335-339; 1976, 410).

Conclusions

Despite the admixture of material, loci survived which contained evidence of clearer MM III/LM I material over terraces I and II (**context 2**) and III (**context 1**), and to the immediate south of terrace III, where the admixture was greater (**context 10**). Of these, it remains uncertain whether the terrace I material was contained in an ash layer. The elucidation of this matter is of paramount importance since the material in question has been linked with the shrine's phase IV altar.

THE PHASE IV ANIMAL FIGUR(IN)E CONTEXTS RELATED TO THE USE OF THE TERRACES

Context 1: MM III - LM I

The animal figur(in)es found in this context, overlying terrace III, have been dated by the excavator to MM III - LM I in both the preliminary reports and the day books. Most of the artefacts were found in the western part of terrace: on, over or beside the bench of deposition running along the outer wall of the phase IV row of rooms. Overlying this context are layers containing LM III material (**context 12**). There are probably some *loci* in **context 1** that contain material associated with the MM IB - MM IIB phase II ash layer underlying terrace III. This admixture could have occurred in areas where there is no stone fill separating the two ash layers.

Context 2: MM I to LM I

This context relates to terraces I and II and includes the area of the altar. It has not been possible to distinguish MM I - MM II from MM III- LM I contexts in this area on the basis of the archaeological reports, the day books or the animal figur(in)es' contexts.

Context 3: MM IIIA *terminus ante quem*

Very few animal figur(in)es have been yielded by the fill of terraces I and II, constructed early in MM III. Some material, related to the MM III - LM I (phase IV) use of the terraces could have slipped into it the fill.

Context 4: Mixed; MM I - LM I and later

It has been possible to identify from the day books the deposits of terraces I and II containing post - LM IB material, and the animal figur(in)es from these have been assigned to this separate, mixed, context.

3) The phase IV row of rooms

Introduction

This section covers the length of time from the second palace rooms' construction up to LM IB, when a destruction befell them. As will be seen below, this timespan partly, if not fully, coincides with the use up to LM IB of the phase IV ash layer above the second palace period terraces and to their south. It should here be clarified that the excavator believes that the rooms did not fall out of use after this LM IB destruction. Their subsequent form and use is dealt with in the description of the subsequent use of the sanctuary.

Below are outlined: a) the architectural evidence; b) the relevant stratigraphic evidence; c) the preliminary sub-phasing of the use and form of the rooms up to LM IB. While important in understanding the site sequence, it must be said that there is hardly any evidence of the use of figur(in)es related to these phase IV rooms. During this phase, the main contexts of the figur(in)es are those described above in relation to open-air activity (**contexts 1 to 4**, and especially **context 1**). While the description of the rooms' stratigraphy is useful in understanding better the figur(in)es' **context 7**, underlying the rooms' floors, the evidence it provides is of secondary significance since these strata have been disturbed.

The presentation and interpretation of the surviving evidence is open to revision since it is based on preliminary reports. Not surprisingly, it is incomplete. The continuous use of the rooms over an extended length of time (punctuated by destructions and alterations) resulted in the modification or removal of part of the stratigraphic evidence. In addition, the rooms were damaged at different points in time after their falling out of use. Thus two pits dug into room III contained Geometric pottery (Karetsou 1975, 333; 1976, 413-414). Also the dynamiting in 1952 which preceded the construction of the sub-station damaged the area to the north and west of rooms IV and V (Karetsou 1979, 281; 1980, 347 and 349).

a) The architectural evidence

Apart from the event of the construction of the second palace period row of rooms, the relevant architectural evidence consists of the modifications effected to the row of rooms subsequent to their building. These entail the erection of wall $\gamma-\gamma'$ which subdivided an earlier, larger room into rooms III and IV (Karetsou 1978, 243); the strengthening of the outer, eastern wall of rooms III and IV (Karetsou 1978, 243); and the blocking of the doorway between rooms IV and V (Karetsou 1978, 246). To these changes should be added the falling out of use of room V after LMIB (Karetsou, Mycenaean Seminar, The Institute of Archaeology, May 1986; also less specific: Karetsou 1979, 281).

When originally constructed, the complex consisted of four rooms. From a structural and functional viewpoint, the most major alteration was the increase of rooms from four to five. Before its subdivision into rooms III and IV, the earlier larger room must have exceeded 50 sq.m. in size (Karetsou 1978, 243). Following this alteration, the internal dimensions of the rooms are: room I 6.30x3.10m (Karetsou 1978, 233); room II 5.70x4m (Karetsou 1978, 238); room III 6.20x2.90m (Karetsou 1978, 241); room IV 5.70x4m (Karetsou 1978, 246); room V 3x3.30m (Karetsou *ibid*). It remains uncertain from the preliminary reports whether the evidence points to the existence of a sixth room, to the west of room V (Karetsou 1980, 349; 1981a, 141), or to the western extension of room V (Karetsou 1988, 161). This area has been badly damaged by the dynamiting further north in

preparation for the construction of the sub-station mentioned above (Karetsou 1980, 349; 1981a, 141).

Of these alterations, the blocking of the door between rooms IV and V, and the falling out of use of room V are obviously later events. However the dating and sequential order of the other modifications are more problematic. These questions are discussed in the section on the rooms' phasing after the relevant stratigraphic evidence has been outlined.

b) The stratigraphic evidence up to LM IB

The following are examined below: 1) the rooms' interior stratigraphy based on a study of the layers beneath, on and above the rooms' floors; 2) the stratigraphy beneath the rooms' walls; 3) the stratigraphic evidence related to the construction of wall γ - γ' subdividing rooms III and IV. The evidence is presented, firstly, in order to assess the chronological and spatial context of the site's finds; and secondly, to understand the architectural and functional history of the rooms.

1) The rooms' interior stratigraphy

The rooms' floors

The discovery in all the rooms of (contemporary) fragmentary floors of clay which included *lepidochoma* is significant since it provides stratified evidence. Strips of these floors have survived mostly along the western parts of the rooms. The recorded dimensions of these strips are: room I 0.90x1.50m (Karetsou 1976, 410; 1978, 233); room II 4x1.50m (Karetsou 1978, 238); room III less than half of the original floor (Karetsou 1976, 413); room IV 1.05x3.05 (Karetsou 1976, 414). The surviving dimensions of the floor of the more disturbed room V are not specified, probably because it is less well preserved. The floor of room III is less uniformly preserved because of the cutting into it of the two pits mentioned above including Late Geometric material (Karetsou 1975, 333; 1976, 413-414). The remainder of the floors were destroyed by fallen debris. On and above the floors were found contemporary deposits associated with a destructive event accompanied by fire

which occurred in LMIB. The underlying layers provide a *terminus post quem* in LM IA for the foundation of the floors above them. Beneath the floor of room III was also found what may plausibly be identified as the remains of a hard kouskouras floor (w. 15-20 cms). This is dated by the excavator to the 'first neopalatial' phase (Karetsou 1978, 243), thus giving it a pre-LM IA date.

Strata beneath the floors (context 7)

The information described below derives from the sections underneath the intact western parts of the floors, and from the excavation of the strata in the rest of the rooms where the floors were destroyed by fallen debris. The phase IV strata beneath the floors overlie the phase II layers associated with the first palace rooms. As already discussed, there is no evidence of phase III layers overlying these phase II strata.

The remains of the early row of rooms were, at least in places, covered by the MM IB-MM II ash layer of phase II. Unlike beneath terraces I and II (excepting their westernmost and northernmost parts where they are not sealed in by a stone sub-structure), the MM IB-MM II ash layer under the rooms was contaminated with MM III/LM IA material related to the use of the same area during phase IV (context 7).

Therefore the phase IV layers above phase II strata and beneath the rooms' LM IA floors are the following: in room I layers ϵ and γ (Karetsou 1976, 411; 1978, 215, 235 and 238); in room II layers ϵ and γ (Karetsou 1976 413; 1978, 238-9); in room III the yellowish layer reminiscent of layers ϵ in rooms I and II (Karetsou 1978, 245); in room IV three layers numbered 1 (reminiscent of layers ϵ in rooms I and II), 2 (reminiscent of layers γ in rooms I and II) and 1α (Karetsou 1980, figs 3 and 4, 344 and 345). Although the phase II ash layer δ beneath these layers contains MM III/LM I sherds these are incursions from the overlying strata.

The stratigraphy underneath the five rooms' floors cannot be expected to be identical. Yet, a considerable degree of uniformity is shared by the relevant strata:

layer ζ in rooms I and II, ranging from 0.35-0.52m in depth, was yellowish/brown and contained many sherds (mostly from conical cups) and many large and small stones. The excavator reports the presence under the destroyed floors of rooms I and II of plaster fragments and a few scraps of charcoal among stones (Karetsou 1978, 238). These were most likely contained in layer ζ . In the central and eastern parts of rooms I and II, under layer ζ , was the reddish layer γ packed with sherds. On the basis of preliminary reports, there would also appear to be correspondences in colour and/or density of contents between strata ζ and γ in rooms I and II and the (less fully described) layers of rooms III and IV described above. It is likely that the areas between the floors of the rooms I, II and IV and the old palace period ash layer may have had in common the presence of two successive layers: the uppermost (ζ or its equivalents) containing more stones, the lowest (γ or its equivalent) packed with sherds. Of the layers beneath the floor of room III, only the possible equivalent to layer ζ is described (Karetsou 1978, 245; 1980, 345). Under the floor of room IV was a limited layer of black earth (1α), not present in the other rooms, about which no further information is given.

From the density of broken sherds it seems most likely that γ was a fill. The presence in the overlying layer ζ of many stones (most likely from walls) may point to a fill associated with a destructive event. Neither of the two layers provides any primary evidence of the use of the second row of rooms at an early stage. If the discovery of the part of an earlier second palace period floor (described above) is valid, it may be an indication of further stratification although this would probably not permit any finer chronological definition of the material contained in the relevant layers. From accounts in the archaeological reports and diaries and from the trench sections provided, it has not been possible to determine its position in relation to the layers beneath the LM IA floors discussed above.

The descriptions and illustrations of pottery related to specific strata under the rooms' floors concentrate on layer ζ , and on the MM III and LM I intrusions in the old palace period ash layer δ . None of the pottery discussed is specified as being from layer γ . The pottery found in layer ζ of room I (Karetsou 1978, 235) mostly included fragments of handleless, conical and hemispherical, cups. One-handed

cups were far fewer (see Karetsou 1978, 236, fig. 4) (In general, the conical cups from the rooms' fills amounted to hundreds (Karetsou 1978, 252)). Other vessel types represented are pithoi with rope decoration and incised patterns, and cooking pots.

The significant proportion of sherds from dark ground wares in layer ϵ (Karetsou 1978, 235) must indicate that MM III is represented along with later phases in which such wares retain a hold (MM III/LM I: *ABAC* 61; Warren 1991, 331; LM IA: *ABAC*, 72). Of the seven sherds illustrated from layer ϵ of room I (Karetsou 1978, fig. 5 sherds 1-7), five are from vessels in white on dark. Of these two are from straight-sided cups (fig. 5.4 and 5.7). Their decoration of horizontal and diagonal bands(?) is frequently characteristic of MM III (*ABAC* 58, Betancourt 1985, 109) but also attested in the transitional MM IIIB/LM IA. The inclusion in the same layer of a fragment decorated in foliate band is noteworthy (Karetsou 1978, 237, fig. 5.1). This motif, which would here appear to be painted in (lustrous?) red on a light (buff?) background, commences in MM IIIB/LM IA (*ABAC* 61).

Second palace period wares are also represented by incursions into the old palace ash layer δ (context 7). These include solid center spirals (Karetsou 1978, 237, fig. 5.12; 240, 7.4) which also first make their appearance during the transitional MM IIIB/LM IA (*ABAC* 61, 63; Warren 1991, 331). Also included are fragments of tortoiseshell ripple ware (Karetsou 1978, 237, fig. 5.14 and 7.6-7), a hallmark of MM III (*ABAC*, 57-58, Betancourt 1985, 113) which continues into MM III/LM I (*ABAC* 62; Warren 1991, 331) but also to a lesser extent LM IA (*ABAC* 74). While the plant style is not included among the few illustrated sherds of layer ϵ , two such fragments are represented among the pottery from the old ash layer (Karetsou 1978, 240, fig. 7.3 and 5). This motif is a hallmark of LM IA (*ABAC* 61 and 74).

Other pottery from the more disturbed fill of room V, whose provenance is not further specified, could have been found either above or under the floors. This includes hemispherical cups (Karetsou 1978, 253-4; figs 4.3-5, pl. 167a); one-handed monochrome cups, presumably examples of dark wares (Karetsou 1978,

253 and figs 13.2-3); a tall footed bowl with everted rim (Karetsou 1978, 253 and fig. 13.1); everted rim bowls with "sacred knot lugs" whose decoration is not described, paralleled at Vathypetro according to the excavator (Karetsou 1976, 415; 1978, 253; fig.13.1 and pl.167γ; Marinatos 1952, 601 and fig.II). Similar vessels, but with different lugs, were found in the MM III Acropolis deposits (ABAC, 58), and with similar lugs in the MM IIIB/LM IA Stratigraphic Museum Deposits (Warren 1991, 330 and fig. 8.J). Juglets dated to MM III/LM IA on the basis of comparisons with Mallia, Knossos, Phaistos and Aghia Pelaghia are also mentioned (Karetsou 1978, 255). Although the exact provenance of the above pottery from room V is not specified, its chronological range does not, in any way, contradict that of the pottery specified as coming from beneath the rooms' floors.

In conclusion, the strata which lie above the old palace ash layer and below the rooms' floors are fills of redeposited material associated with the foundation and possibly the early use of the second palace period row of rooms. These deposits do not have a tight stratigraphic position. This is evidenced by the presence in the lower old palace ash layer δ of sherds of plant style, and by the presence in level í, above layer γ, of both MM III and LM IA pottery. The deposits are assigned to a chronological horizon of MM III(A?) to LM IA. While this whole chronological range is covered by the material, it was most likely never represented in a sequential order by the deposits. Therefore stylistic criteria are needed for the finer dating of these fills' pottery and other objects. The absence from the layers beneath the floors of rooms I to IV of styles characteristic of LM IB is noteworthy. The only exception occurs in the more disturbed room V where LM IB pottery, most likely from strata above the room's floor is found in the layers immediately above the bedrock. The latest pottery in the less contaminated areas provides a *terminus post quem* in LM IA for the laying of the floors.

To the ceramic evidence of material beneath the rooms' floors should be added the discovery of a LM IA sealstone representing a bull head with a star between its horns found beneath the level of the (destroyed) floor, in a sounding alongside the northern wall of room II (Karetsou 1975, 335 and 338; 1976, 408-410 and footnote

1). A similar sealstone from the fill of room III was accidentally illustrated in its place in Karetsou 1975, pl. 263f.

The strata above the rooms' floors

Evidence of a destructive event occurring in LMIB is evidenced by the collapsed debris above an ash layer covering the rooms' floors.

Deposits on the floors

The surviving floors were covered with a layer of ash ranging in depth from 10 to 25 cms (Karetsou 1975, 334). According to the excavator this layer contained in places greasy soil indicating the presence of liquids (ibid.). Perhaps this coincides with the black soil covering the surviving floor and the central part of room III (Karetsou 1978, 242). The ash layer contained a large number of conical cups in all the rooms. Bones of caprid, bird and other species, including a caprid head, (ibid., and Karetsou 1976, 410 and 413) were found in room I, and burnt pulses and fruits in room III (Karetsou 1976, 413). Although some of its contents are the same (e.g. ashes and bones), this layer of ash is different from the site's outdoor old and new palace ash layers. It does not seem to contain the plethora of categories of votive objects found in the outdoor ash strata. In considering the formation of the rooms' layer of ash, the deposit of the, apparently contemporary, overlying layers should be taken into account.

Deposits overlying the floors' ash strata

Above the floors' ash layers were deposits containing stones from walls mixed with kouskouras and fragments of coloured wall plaster (Karetsou 1975, 334; 1978, 242). In room III the debris also included a thick layer of red baked clay perhaps from mudbricks (Karetsou 1975, 334; 1976, 413 and footnote 2; 1978, 241-2). The excavator suggests that this could be from the frame of the door between rooms II and III (Karetsou 1976, 413 and footnote 2). Stacks of dozens of

cups, both whole and broken, were also found in certain areas above the floor level: in the doorway between rooms I and II (Karetsou 1976, 411) and all over room V but particularly along the room's western wall (Karetsou 1978, 246; 1979, 281; 1980, 347). Their concentration along the western wall of room V could indicate that they once stood on a shelf. In the preliminary reports the excavator notes the absence of adequate evidence to substantiate the existence of an upper floor (Karetsou 1976, 410) from which such material could have fallen, so presumably this debris comes from the interior of the rooms and possibly also their roof.

The nature of the deposits on and above the floors

The presence of the ash layer and the greasiness of the soil found in this stratum need to be explained. Were they caused during the destruction, or could they (at least partly) be related to the use of the rooms prior to this catastrophic event? The burning of the pulses found in the ash layer, and the presence of ashes in the debris overlying the floor deposits could support the hypothesis that they were caused by a destructive event accompanied by fire. The greasiness of the soil in places is ascribed by the excavator to 'liquid offerings' (Karetsou 1975, 334). However, it is not specified whether the practice of libation or the spillage during the destruction of stored liquids are implied. It will be useful to know the quantity, storage capacity and types of vessels other than conical cups represented in the rooms' destruction deposits. On balance, the preliminary evidence could indicate that the ash layer is related to the destruction of the rooms.

Date of the destruction deposit

The material both on and above the rooms' floors is contemporary and dated to the 'second neopalatial phase' (Karetsou 1976, 410). A more specific chronological definition is problematic, particularly since (prior to the study of the material) a definitive date is not offered in the preliminary reports. Some material has been described as LM IA: the lower part of a pithos in red clay with a rope pattern, found *in situ* in room I (Karetsou 1975, 334); and the stacks of conical

cups in room V (Karetsou 1979, 281). When referring to the pottery of the room V deposits (without specifying whether these are exclusively associated with the destruction) A. Karetsou dates it to 'MM III and mostly LM' (Karetsou 1978, 246); MM III-LM IA (Karetsou 1978, 255); and MM IIIB-LM IA-B (Karetsou 1979, 281). In the last reference, LM IA conical cups and sherds of fine LM IB Marine and Floral Styles and LMII Palace Style vessels are mentioned (Karetsou 1979, figs 163a and β). These need not have all been found in the same layers. Should a date in LM IA be accepted for the destruction, the LM IB material would relate to the continued use of the rooms into LM IB. However it is not impossible that the LM IA date ascribed to the pithos in room I and maybe the conical cups could be revised to LM IB. LM IB witnesses a continuation of LMIA (ABAC 78) and it is not easy to distinguish between LM IA and LM IB in more common coarse wares without knowing the deposits' other pottery contents (Betancourt 1985, 124). The falling out of use of room V whose latest pottery dates to LMIB (and a few sherds of LM II) pottery provides a further argument in favour of the occurrence of the rooms' destructive event in LM IB. It is noteworthy that no animal figur(in)es, or other clay votives, were found in the rooms' destruction deposits, very likely attesting to the exclusive outdoor use of these votive artefacts.

Date of the rooms' floors

As already stated, the layers beneath the floors establish a *terminus post quem* of LM IA for the foundation of the floors. A *terminus ante quem* is provided by the LM IB deposits resting on them. However on the basis of preliminary reports, it is unknown whether the floors were laid in LM IA or in LM IB.

2) The stratigraphy beneath the rooms' walls

The entire eastern wall of the building complex is founded directly on the underlying, wider foundation of its 'old palace' period counterpart with no intervening stratum. The western parts of the southern wall αα' of room I, the cross wall ιι' dividing rooms I and II, and the northern wall εε' of room V were founded on

the bedrock, on occasions above or buttressed by a fill of small stones (respectively walls $\alpha\alpha'$ and $\acute{\iota}\acute{\iota}'$: Karetsou 1975, 332-3; wall $\epsilon\epsilon'$ of room V: Karetsou 1980, 349). The remainder of the northern wall $\epsilon\epsilon'$ of room V was founded on a fill of yellowish earth containing many sherds (layer IV in Karetsou 1980, 346, fig. 5). The western wall of room V again rests mostly on the same layer, partly on a MM I - MM II(?) brown/black layer containing few sherds and stones (ibid., fig. 5, layer V). These deposits are not dated nor are their contents described. Therefore the date of the yellowish layer which may well have served as a fill in preparation of the new palace walls' foundation is not known.

3) Stratigraphic evidence related to wall $\gamma\gamma'$

Context and stratigraphy

The wall between rooms III and IV is the only one in the row of rooms constructed over one of the LMI floors. The other walls had been erected at an earlier date. Integrated into this wall is the base and krepis of the column which originally supported the roof of a much larger room prior to the sub-division into rooms III and IV (Karetsou 1978, 243, pls. 160 γ and 164 $\acute{\iota}$). This column base is visible in the southern face of wall $\gamma\gamma'$ in room III. It would appear that it had not been removed from its original position and was therefore integrated into wall $\gamma\gamma'$ as it stood, *in situ*. This would account for its lower level than that of the foundation course of wall $\gamma\gamma'$. According to the day books, the floor (now destroyed in this part of room III) was founded at the level of the lower part of the column base and lay above its krepis. Since the floor did not cover the column base, it was lain around it.

Dating

Since wall $\gamma\gamma'$ rests on the LM I floor, the latest deposits underlying this floor provide a *terminus post quem* in LM IA for its construction. The lack of a deposit between wall $\gamma\gamma'$ and the LM I floor indicates either that this had been removed or

that it never existed. In the former case, the construction of the wall would post-date the laying of the floor; in the latter, they would have been constructed during the same time. In the archaeological reports, a second palace period date is favoured for the construction of wall $\gamma\gamma'$ (Karetsou 1978, 243), indicating a *terminus ante quem* of no later than LM IB. If the destruction over the floors occurred in LM IB (which is the most likely), then the construction of the wall occurred sometime in LM IA or LM IB prior to the destruction. As is only to be expected, the preliminary reports do not give the stratigraphic basis for this date. It should be noted, however, that in the Mycenaean Seminar the excavator proposes an alternative date of LM IIIA1/2 (Karetsou, Mycenaean Seminar, The Institute of Archaeology, London, May 1986). A definitive date cannot yet be provided for the construction of wall $\gamma\gamma'$.

The (apparently *in situ*) column base must have originally stood on an earlier floor, maybe even the one dated to the 'first second palace' phase whose fragments are believed to survive in room III. The deposits beneath the column base integrated into wall $\gamma\gamma'$ could be of particular interest in the dating of the second palace rooms' foundation. On the basis of the reports and diaries, little can yet be said with certainty about their date and contents, and whether they correspond with the layers underlying the floors specified above. However it may be significant that the brown layer uncovered in the vicinity of the column base after it was revealed is described in the day books as resting directly on the rock surface and containing few sherds. Although this layer does not correspond fully with the old palace layers described in previous sections, its location above the rock could indicate that the column base overlay old rather than new palace layers. This in itself can only provide a *terminus post quem* rather than a definitive date for the beginning of the first second palace phase of the rooms.

c) *Sub-phasing of the second row of rooms*

The construction date of the rooms

In early reports, this is dated to 'MMIII/LMI' and 'the beginning of LMI' (Karetsou 1976, 418; 1977, 419). This late dating is based only on the then excavated

stratigraphic evidence associated with the final use and destruction deposits of the second neopalatial phase of the rooms (Karetsou 1975, 335, 342; 1976, 411). The MM III/LM I deposits and old palace rooms underlying the LMI floors were not to be fully revealed until the 1978 and the 1980 excavation seasons. This late date is countered in later reports by the assertion that room V was built 'at the end of the old palace period-beginning of the new palace period' (Karetsou 1979, 419) indicating most likely a date during the first neopalatial phase. There are no grounds for believing that the other rooms were not constructed at the same time as room V. Since the same construction date was ascribed in these reports to terraces I -III (Karetsou 1979, 280), the implication is that the rooms and terraces were constructed simultaneously. The basis for this date was no doubt partly related to the structural unity of the terraces and rooms suggested by the excavator. However this needs to be substantiated by the stratigraphic evidence.

The destruction of the old palace rooms in MM IIB provides a *terminus post quem* for the construction of their neopalatial counterparts. If the identification of the remains of an earlier neopalatial floor is secure, a MM III *terminus post quem* is possible.

The date of the rooms' structural alterations

In summary, although tempting to place the construction of wall $\gamma\gamma'$ between rooms III and IV in LM I, the alternative date of LM IIIA1/2 cannot be discounted on the basis of stratigraphic evidence. If the construction of wall $\gamma\gamma'$ did occur in LM I, it is unknown whether this occurred in LM IA or early LM IB. It has not yet been possible to date with certainty the strengthening of the eastern wall of rooms III and IV. The falling out of use of room V (and more than likely the filling in of the door between rooms IV and V) occurred very soon after LM IB.

Sub-phasing of the second palace rooms

The rooms' earliest use in MM III is indisputable and represented by the deposits beneath the rooms' LM I floors, the fragments of the earlier floor and the *in situ* column base under wall $\gamma\gamma'$. Therefore this is identified as a separate sub-phase named IV.i. The simultaneous laying of the LM I (most probably LM IA) floors in all

the rooms indicates a concerted renovation. The use of these floors up to the LM IB destruction represents the rooms' IV.ii phase of use. We cannot say with certainty whether the laying of these floors was accompanied by the strengthening of the eastern wall of rooms III and IV, and the construction of wall $\gamma\gamma'$.

It is most probable that the beginning of phase IV.i will eventually be securely established in MM IIIA: the erection of the rooms and the terraces were most likely part of an integral scheme. As it has been possible to date the second palace period terraces' construction to MM IIIA on stratigraphic grounds, the same will probably be possible for the second row of rooms. The rooms' IV.i phase therefore coincided with the Knossian palace's first neopalatial phase of use (Niemeier 1994, 83-84). It would appear to have more in common with this site's structural phase than with the contemporary phase III at Phaistos when the structure there apparently served as a builders' yard.

If phase IV.ii in Psili Korphi on Juktas is shown to be associated with the construction of wall $\gamma\gamma'$, the strengthening of the eastern wall of rooms III and IV and the erection of horns of consecration on the retaining walls, the elaboration and investment put into the building complex could be paralleled with those of the 'second neopalatial' constructions at both Knossos and Phaistos. The reasons underlying these structural modifications could very likely be ascribed to a seismic destruction in transitional MM III/LM I attested at numerous sites in Crete (ABAC 63; Warren 1991, 335). The association with this event may indirectly provide additional evidence for the laying of the floors in LM IA rather than LM IB. As already explained, the MM III - LM I deposits underlying the rooms' LM I floors are very likely associated with some destructive event. However, on the basis of preliminary evidence, it remains unclear whether there is evidence of destructive events occurring at Psili Korphi in LM IA, attested at Archanes (ABAC 79) and/or transitional MM III/LM I. The destruction of phase IV.ii rooms in LM IB is of course associated with the widespread destruction attested by deposits in most major Minoan sites (ABAC 78).

THE PHASE IV ANIMAL FIGUR(IN)E CONTEXTS ASSOCIATED WITH THE ROW OF ROOMS

The terraces have yielded many animal figur(in)es related to the phase IV outdoor ritual (**contexts 1 and 2** especially); however these have not been found in the rooms' LM IB destruction layer. While animal figur(in)es were probably not used in the sanctuary's rooms, they have been found in the mixed layers underlying the level of the LM IB destruction deposits of the rooms. The strata underlying the rooms, which comprise **context 7**, contain mixed MM I - LM I material, and some later LM IIIC inclusions. These layers relate to the outdoor activity which preceded the construction of the two consecutive rows of rooms, and to the successive building activities associated with these rooms. They include the phase I red earth layer, mixed with material related to the overlying phase II ash layer; the phase II ash layer, itself contaminated with MM III - LM I material; and overlying deposits related to the construction of the rooms. The intrusion of later material can be confirmed by the few animal figure portions dated to LM IIIC on the basis of their morphology and decoration.

E. POST - PHASE IV EVIDENCE OF THE SANCTUARY'S USE

It is far more difficult to distinguish, on a stratigraphic basis, successive phases of post-LM IB use. The comments that follow are based on the published excavation reports, the day books and the information derived from the animal figures and figurines (stylistic dating and join linkages). Up to, and including, the phase IV use of the Juktas sanctuary, it has been possible to identify certain contexts which have been sealed and not subsequently disturbed. In contrast, the finds related to the post - LM IB use of the sanctuary are invariably found in mixed layers.

Juktas has yielded sparse pottery dated by the excavator to LM II, and a more substantial amount of LM IIIA to LM IIIC material (Karetsou 1975, 339 and pl. 266ç; LM II; 339 and fig. 8; LM IIIB; 339 and fig. 1a and pl. 268a; LM IIIC). If one can judge by the phenomenally large quantity of wheelmade animal figures dated stylistically to LM IIIC, the 12th century witnessed either a general increase in cultic

activity or, at the very least, the introduction of additional ritual objects like the figures. Protogeometric pottery has been represented by some material, mostly from small, one-handled cups (Karetsou 1975, 340 and pl. 267ε), while there is a larger quantity of Late Geometric material (ibid., 340; fig. 10 and pl. 268 ε) and a similar proportion of Orientalizing pottery (ibid., 340). Of note is the clay head of a bearded man of Late Geometric date (ibid., 340 and pl. 267β)². The post - LM IB animal figures found at Juktas date to primarily LM IIIC, but some later (Sub - Minoan and Geometric) figure portions have also been found (see appendix II). None of the figurines found with these animal figure portions in mixed layers can be dated to post - LM IB, and therefore relate to the use of the sanctuary up to LM IB.

A matter of particular interest in relation to the use of the sanctuary, and more specifically the animal figures, is the question of the continuity of the use of the rooms in post - LM IB.

The contextual evidence related to the rooms

In this section we show that, while the row of rooms may have been re - used in post - LM IB, there is little positive evidence proving the use in these of animal figur(in)es.

As already said, room V was not re-used after the LM IB destruction. The excavator believes that rooms I to IV were subsequently cleared out and possibly used continuously throughout the Late Bronze Age (Karetsou 1976, 418). If this was the case, the clearing of the LM IB destruction debris was not thorough since much evidence of this survives *in situ*. Unfortunately we lack evidence regarding the duration of the rooms' possible re-use and function (ancillary or other), and the existence of later floors.

The excavator has not discounted the possibility that the erection of wall γγ' between rooms III and IV may have occurred in LM IIIA (p. 59), and the findspots of

²Unlike the mountain sanctuary of Kato Syme, Juktas has not yielded post-Minoan cultic material of the sort which facilitates the identification of the deity (-ies) worshipped in the sanctuary.

some artefacts may point to the early, post - LM IB, re-use of the rooms. During excavation, the cleaning of wall γγ' in room III yielded two sealstones dated stylistically to LM II - LM IIIA (Karetsou 1976, 415 and pls 230η and 231a), and the cleaning of the southern face of wall δδ' (in the same room) produced part of the alabaster handle of a sword dated by the excavator to LM IIIA (Karetsou, 415, fig. 3δ and pl.231γ). In this respect, it should be mentioned that the only Juktas figure portion possibly associated with a floor level (?) in room III is **J45** which might be dated to LM II.

While the rooms may have been used during LM IIIB and LM IIIC, there is no *in situ* evidence to prove this. Some indirect evidence might be afforded by the three head fragments of a Female Figure(s) with Upraised Arms found in the mixed fill alongside the retaining wall of terrace II (Karetsou 1975, 339-340 and ft.3). These fragments most likely belong to a female figure(s) of LM IIIB or LM IIIC, the date of such figures found elsewhere in Crete. Their indoor use in other cult sites increases the likelihood that this figure (-es) was housed in one of the rooms at Juktas, rather than permanently displayed outdoors.

With the possible exception of **J45** mentioned above, the evidence related to the LM IIIC and later figure portions found in the fill of the rooms does not constitute proof of the use of the rooms in LM IIIC or later. The figure fragments and figurines were in the fill stratified between the modern surface and the lower strata within the rooms which contained the scanty LM II- IIIA finds mentioned above but primarily the LM IB destruction debris. This fill had a depth of 0.60 - 1.80 m (Karetsou 1975, 331; 1976, 410: fill of room I 0.90 - 1.50m). None of the figur(in)es were found on or above the remnants of floors. They are principally located in the mixed fill above the preserved remains of the walls of rooms III, IV, and V, and do not constitute occupation material found *in situ*.

The mixed fill stratified above the LM IB destruction deposits of rooms III and IV contains, alongside MM III - LM I material, a substantial amount of LM IIIC, Geometric (Karetsou 1976, 417 and fig. 3a-b, pls. 231ζ) and some Early Orientalizing pottery (ibid., 417 and 232a). The finds from the fill above rooms IV

and V include fragments of a fine LM IIIC krater decorated with cross-hatched, vertical lozenges in loops (Karetsou 1978, 255 and fig. 14), and a Late Geometric vessel (*ibid.*, 255 and pl. 168δ). The date of the animal figure portions found in these layers is also varied. They have been ascribed, on a stylistic basis, to the LM IIIC, Geometric, and possibly Proto-geometric.

The mixed nature of the fill and the figures' heavy fragmentation very likely indicate that these figure portions found their way there after breakage and possibly when the rooms had fallen out of use. The excavator notes the wide distribution of joining pottery fragments found in the fill covering the entire area of the rooms (Karetsou 1975, 331), and the same can be said of the badly damaged animal figures, on the basis of their join linkages (see table 2). No figure survives intact, and most are represented by small portions. Joining fragments are found at different depths (none very low down in the fill), and fragments belonging to the same figures are spread in the fill across several rooms. Fragments from the fill of the rooms join with portions found to the north and west of the row of rooms (**context 9**), to their south (**context 10**) and over terrace III (**context 12**).

It will probably never be possible to unravel fully the complex sequence of events, accidental and deliberate, which resulted in this distribution (Karetsou 1976, 410). However, it can be said that several factors have contributed to the formation of the mixed fill of the rooms. The fallen stones, which are plentiful in the fill, are from the collapsed retaining wall of terrace II and the rooms' dividing walls. The row of rooms served as a catchment area for the debris gradually moving down the two terraces due to the continuous, natural erosion of the steep slope. Human intervention has also played a significant role. There are two (rubbish?) pits in room III which were probably formed during antiquity, but the most devastating effect on rooms IV and V was caused by the installation of the radar station (Karetsou 1975, 331). The western wall of room IV was entirely destroyed by dynamiting during this operation (Karetsou 1979, 281). As a result of these factors it is difficult to know whether and how the rooms were used in LM III.

THE CONTEXTS OF ANIMAL FIGUR(IN)ES ASSOCIATED WITH THE POST - LM IB USE OF THE SANCTUARY

The dates of the catalogued animal figures found in the contexts described below can be seen in table 2 (p. 71).

Two *loci* with concentrations of animal figures have been identified in the fill of the rooms above the LM IB destruction deposits. These have been numbered respectively **context 8** (room III) and **context 11** (room IV). This fill contained many loose stones fallen from retaining wall II (Karetsou 1976, 410) and from the rooms' dividing walls.

Context 8: Mixed; including LM IIIC, Geometric, Orientalizing.

This is associated with the fill of room III, where the admixture was even greater than in adjoining rooms I and II (Karetsou 1976, 413; 1978 241). The fill included pottery dated to LM I and Late Geometric (Karetsou 1976, 413; 1978 241). Its upper part was heavily mixed and its contents ranged in date from MM I to Orientalizing. The bearded male head of Late Geometric date mentioned earlier was found in this context. Most of the animal figure portions are associated with the southernmost of two (rubbish?) pits which contained ashes and plenty of Late Geometric sherds (Karetsou 1975, 333 and fig. 1β). These ashes are different from the ashes characteristic of the sanctuary's MM I - LM IB, open - air use. The figure portions could well have been introduced, along with other material of mixed dates and provenances, when the pits were formed and filled in antiquity. Alternatively, the possibility cannot be discounted that some of these figures had originally been used in the room(s). Most of the figure portions found in this context are dated to LM IIIC.

Context 11: Mixed; including LM IIIC, Geometric, Orientalizing and modern material.

This is located in the fill of room IV which also contained many fallen stones. It is closer to the area of the sub-station than **context 8** and, because of the

disturbance related to the construction of this building (including dynamiting), this fill also contained modern debris.

Context 7: Mixed MM I - LM I material with some LM IIIC intrusions.

Some figure fragments dated securely to LM IIIC on stylistic grounds were found in the mixed layers underlying the LM IB destruction deposits of the phase IV row of rooms. The small number of these late intrusions shows that there was little connection between **context 7**, which contained primarily mixed MM I - LM I material, and **contexts 8 and 11** featuring plentiful post - LM IB material. This is not surprising since the LM IB destruction deposit was located between **context 7** and the later **contexts 8 and 11**.

The other contexts containing material related to the post - LM IB use of the sanctuary are located in the following areas:

Context 9: Mixed; including LM IIIC, Geometric, Orientalizing and modern material.

Outdoor area to the north and west of room V.

Context 10: Mixed; including MM I - LM I, LM IIIC and Geometric.

Outdoor area to the south of terrace III, outside room I, adjacent to the ramp. In this area, the MM I - MM II (phase II) and MM III - LM I (phase IV) ash layer material is mixed because of the absence of structures which would have sealed in the earlier, phase II, material.

Context 12: Mixed; with plentiful LM III material, including LM IIIC, and Geometric.

This context is associated with terrace III where, in contrast to terraces I and II, there is plentiful LM IIIA2 - III B pottery, particularly drinking vessels (Karetsou 1979, 280). Dated by the excavator to LM IIIB are a monochrome one - handled cup (Karetsou 1976, 417 and fig. 3γ and pl. 232γ), a ladle (ibid., fig. 3ε and pl. 232δ), and possibly a head from a human figurine (ibid., pl. 232β). The excavator suggests that this concentration of LM III material might be due as much to

erosion, as to a shift of activity from terraces I and II to terrace III (Karetsou 1979, 280-281). Again in this area, the animal figures are predominantly of LM IIIC date.

F. AN OVERVIEW OF THE CONTEXTUAL EVIDENCE RELATED TO THE FIGURINES AND FIGURES AT THE JUKTAS PEAK SANCTUARY

(Tables 1 and 2)

The sanctuary's earliest use (phase I) is attested by the presence of EM II and EM III sherds in the peak's natural red earth above the bedrock and in its fissures. The pottery contained in this red earth is dated from EM II to MM II. The *loci* which contained a small number of animal figurines were mixed with material related to the sanctuary's subsequent use (phases II and IV) (pp. 21-22). So while the deposition of animal figurines in the phase I red earth layer may have occurred, it is not possible to prove that this was their primary context.

The sanctuary's succeeding phase II (MM IB - MM IIB) is marked by an innovation in the form of the site's earliest ash layer. This contained large numbers of small scale votives, including many animal figurines. This ash layer is located above, but also beside, the phase I red earth layer. It underlies the area of the phase IV (MM III - LM I) rooms and terraces visible today. Like the other votives, the animal figurines were found sealed in an undisturbed MM IB - MM IIB ash layer deposit beneath and between the phase IV terraces I and II (**context 5**: p.26). They were also found in mixed deposits associated with terraces I and II (**context 2**) and under the foundations of the site's earliest, phase II, row of rooms, erected in MM II (**context 7**: pp. 26, 34; 50-54; 62). The foundations of these phase II rooms can be seen under the better surviving phase IV rooms. The presence of the ash layer under the earliest row of rooms proves that these were erected during phase II, but after a substantial MM IB - MM II ash layer had first accumulated in this location. Possibly contemporary with the erection of these rooms were a wall in the area of the chasm, an early altar (?), and a wall to the north of the phase IV terrace I (pp. 34-35). No evidence survives of the activities associated with this early row of rooms; however it is most likely that, after their construction, the

animal figurines continued to be associated primarily with the outdoor ritual. While the site's rock fissures were used for the deposition of animal figurines during the use of the phase II ash layer, the absence of figurines in the chasm indicates that it did not serve such a function.

Overlying the ash layer under terraces I and II was a reddish (burnt?) earth layer (**context 6**: p.30), assigned to phase III. Its pottery contents are dated to MM IIB - MM IIIA. This layer contained many stones, a substantial amount of votives (including animal figurines) but no ashes like the underlying MM IB - MM II ash layer of phase II. This layer might be related to secondary processes associated with the destruction of the phase II row of rooms in the end of MM IIB, and the preparation for the subsequent, larger scale, building phase of phase IV. The importance of this reddish layer lies in its sealed location and the date of its contents.

Phase IV (MM III - LM I) witnesses the most prestigious period of the sanctuary's use. Its structures were erected in MM III and comprise the row of rooms, the three terraces and the altar visible to this day. A fourth terrace, not yet investigated, lies to the east of terrace III. The site's open air ritual is again associated with an ash layer and plentiful votives (pp. 46-47). Both the altar on terrace I and the bench running along the outer wall of the row of rooms on terrace III were used for the deposition of objects. The most substantial, practically undisturbed, evidence of MM III - LM I outdoor activity is related to the use of terrace III (**context 1**) where there is a great concentration of votives, including animal figurines and figures. This phase (IV) ends with a destruction evidenced by the LM IB destruction deposit found *in situ* on and above the floors of the rooms. If one can judge by the contents of the surviving destruction deposit, animal figurines and figures were not used inside the rooms, at least prior to this destructive event.

The stylistic dating of the figures and figurines related to the post - LM IB use of the site indicates that their deposition virtually halted after LM IB, and was only resumed in LM IIIC. However ritual activity in the site continued after LM IB. This is evidenced by pottery and other artefacts which span the rest of the Bronze Age

(LM II - LM IIIC and later). The outdoor use of the sanctuary is certain and the excavator believes that the rooms were cleared out and re - used after LM IB.

The vast majority of post - LM IB figure portions are LM IIIC in date while there is a far smaller proportion of Sub-Minoan and Geometric material (Table 3, p. 72). These post - LM IB animal figure portions have been found in three different types of contexts (pp. 65-67). A small number intruded into **context 7** underlying the strata related to the phase IV use of the rooms. Many figure portions were found in **contexts 8 and 11**, in the fill of the rooms. With one possible exception (**J45**), their findspots in this fill do not necessarily constitute evidence of their primary use in the rooms. This has been demonstrated by the nature of the fill, the fragmentation of the figures and their join-linkages. We have indicated that the context of **J45** may show that this was used in room III during LM II - IIIA (p.63).

The existence of many LM IIIC figure portions in several outdoor locations, combined with the nature of the contextual evidence related to the fill of the rooms (**contexts 8 and 11**), demonstrates that the figures were primarily used in an outdoor setting. However, since the fragments of the Female Figure(s) with Upraised Arms may well indicate that the rooms were in use in LM IIIB - IIIC, we cannot discount outright the possible use of animal figures in an indoor context. At Kannia: Mitropolis, a large bovine head (very likely from a figure) was found in an assemblage containing Female Figures with Upraised Arms (Levi *Bollettino d'Arte* 44, 237-265: not illustrated; Alexiou *PAE* 1957, pl. 75.3), and Phykalopi on Melos has provided more substantial evidence of the indoor use of bovine figures in a cultic context (Renfrew 1985). While the ritual and symbolic importance at Juktas of the Female Figure(-s) with Upraised Arms should not be underestimated, these three fragments of human figuration contrast with (a) the many animal figure portions (of bovines) found at Juktas and (b) the far greater quantity of Females Figures with Upraised Arms in Cretan cult sites where they feature without animal figuration. The dominant representational element of the 12th century cult at Juktas was undoubtedly the bovine; and the use of bovine figures in open air contexts is amply evidenced by the contextual evidence from the exclusively open-air sanctuaries of Aghia Triadha (Banti 1943) and Kato Syme

(Lebessi *PAE* 1972, 1972, 198 and pl.186). While the figures at Kato Syme are associated with ashy deposits (Lebessi and Muhly 1990, 323, 336), the evidence is less clear in the case of Juktas. The contexts of the LM IIIC figures do not invariably contain ashes. This can be said of **context 12** above terrace III, and **context 11** in the fill of room IV. In addition, the LM IIIC figures are mixed with material (and ashy deposits) associated with the MM I - LM I use of the sanctuary (e.g. **contexts 9 and 10**).

Another striking difference in cult practices between MM I - LM I and LM IIIC is evidenced by the contrast between the many figurines found in undisturbed pre - LM IB deposits and their small quantity in mixed deposits containing LM IIIC and later figures. This is demonstrated in table 3, which refers to the animal figurines used in the typology of chapter III. In morphological terms, the figurines found in the mixed contexts containing later material are just like those found in well-stratified unmixed deposits of MM IB - MM IIB (**context 5**), MM IIB - MM IIIA (**context 6**) and MM III - LM I (**context 1**). Their far lower representation in later, mixed, deposits very likely indicates that they are figurines whose primary use occurred during phases II to IV.

The comparison of the dates of the animal figures from Juktas (table 2) confirms that some contexts are not disturbed. It is significant that no LM IIIC or later figures were found in **contexts 1, 2, 3, 5, 6**. It is also of note that the vast majority of MM III - LM I figures were found in **context 1** while very few were found in mixed deposits containing later material.

Finally, it must be pointed out that not a single animal figure of either MM I - LM I or LM IIIC survives intact or nearly intact. This indicates that, while the MM III - LM I figures remained in the area where they had been first used, all evidence related to their exact primary context or use is lost. This point is even more apt in the case of the LM IIIC figures whose join linkages show that their fragments were scattered over a wide area.

TABLE 1: The dates, locations and corresponding phases of the contexts of the Juktas animal figurines and figures

Context 1: MM III - LM I

Ash layer above terrace III

Phase IV; some phase II (MM IB - MM IIB) ash layer admixtures

Context 2: MM I - LM I

Strata above terraces I and II

Phases II and IV, including phase II ash layer

Context 3: MM IIIA terminus ante quem (phase IV construction)

Stone fill of terraces I and II

Beginning of phase IV

Could include later phase IV (MMI - LM I) admixtures

Context 4: Mixed; MM I - LM I and later

Mixed layers of terraces I and II

Phases II, IV and post - phase IV

Context 5: MM IB - MM IIB

Ash layer beneath and between terraces I and II

Phase II

Context 6: MM IIB - MM IIIA

Reddish earth layer beneath and between terraces I and II

Phase III

Context 7: Mixed MM I - LM I with some LM IIIC

Strata beneath the floors of phase IV rooms used in LM IB

Phases I to IV and a few post - phase IV intrusions

Context 8: Mixed; including LM IIIC, Geometric, Orientalizing

Fill of room III

Phase I to post - phase IV material

Context 9: Mixed; incl. LM IIIC, Geometric, Orientalizing and modern material

Outdoor area to north and west of room V

Phase I to post - phase IV material

Context 10: Mixed, including MM I - LM I, LM IIIC and Geometric

Outdoor area to south of terrace III, outside room I,
adjacent to ramp

Phase I to post - phase IV material

Context 11: Mixed; incl. LM IIIC, Geometric, Orientalizing and modern material

Fill of room IV

Phase I to post - phase IV material

Context 12: Mixed; with plentiful LM III material, including LM IIIC, and Geom.

Layers related to the use of terrace III

TABLE 2: Quantities and dates of the better preserved, catalogued animal figure portions found in the Juktas sanctuary contexts 1 to 12. Some of the figures consist of (joining or non-joining) fragments from more than one context. (The numbers preceding the dates relate to the total of figure portions of that date found in the particular context).

Context 1

36 MM III - LM I (J1; J2a; J2b; J3-J8; J11-J16; J18-J20; J22-J30; J33-J35; J37; J39-J40; J42-J44)

Context 2

3 MM III - LM I (J9; J31; J32)

Context 3

3 MM III - LM I (J17; J36; J41)

Context 5

1 MM I - MM III (J21)

Context 7

1 MM III - LM I (J10)

6 LM IIIC (J103; J113; J116; J149; J150; J166)

Context 8

1 LM II/IIIA (J45) (this portion may be associated with a floor)

1 MM III/LM I - IIIA (J46)

26 LM IIIC (J50; J52; J58-J61; J77; J83; J84; J85; J92a-b; J93; J94; J96; J106; J119; J121; J125; J130; J139; J140; J141; J142; J163; J171)

1 LM IIIC? (J100)

2 LM IIIC or Sub-Min (J49 and J74)

Context 9

20 LM IIIC (J53; J54; J62; J63; J72; J75; J76; J110; J111; J114; J115; J117; J124; J137; J143; J145; J148; J160; J162; J169)

1 LM IIIC or Sub-Min (J72)

1 LM IIIC or later? (J162)

1 Geometric (surface find) (J158)

Context 10

8 LM IIIC (J107; J112; J118; J120; J123; J138; J146; J167)

1 LM IIIC or later? (J134a-b)

1 Protogeometric? (J153)

1 Geometric portion (J151)

Context 11

7 LM IIIC (J73; J81; J97; J101; J102; J133; J164)

1 Post-Minoan (J155)

1 Protogeometric (J153)

Context 12

2 MM III - LM I (J170; J172)

4 LM IIIC (J82; J104; J105; J108)

1 post-Minoan (J165)

1 Geometric (J159)

1 Geometric? (164)

Contexts 8 and 9

1 Geom? (J157)

Contexts 8 and 11

7 LM IIIC (J47; J48; J56; J87; J88; J99; J147)

Contexts 8 and 12

10 LM IIIC (J55; J57; J65; J66; J68; J69; J70; J98; J135; J136)

Contexts 9 and 12

1 LM IIIC (J64)

Contexts 10 and 11

1 Geometric (J154)

Contexts 11 and 12

3 LM IIIC (J51; J86; J122)

TABLE 3: The contexts of the animal figurines used to establish the typology of chapter III

NUMBERS OF ANIMAL FIGURINES	
Contexts 1, 2, 3, 5, 6 (contexts which do not post-date LM I)	608
Context 7 (mixed but mainly MM I - LM I)	81
Contexts 4, 8, 9, 10, 11, 12 (mixed contexts including plentiful post-LM IB material)	238

I.3 THE KOPHINAS SANCTUARY SEQUENCE AND THE CONTEXT OF THE ANIMAL FIGURINES AND FIGURES

I.3.1 THE SITE DESCRIPTION (plan 2)

This peak sanctuary is situated on a gentle slope at a height of 970m in the Asterousia mountains which overlook the southern coast of central Crete. Its location, known as Metsolati, is on a gentle slope immediately beneath the highest, and more inaccessible, summit of 1231m visible from the plain of Mesara. Like Juktas, this is also a place with a more recent religious tradition: the chapel of Our Lady is 200m to the south of the peak sanctuary.

I.3.2 THE INVESTIGATION OF THE SITE

Because of its isolated location, the sanctuary has been the object of recurrent clandestine digging. It is this activity which first prompted the investigation of the site by Platon and Davaras (*Kr Chron* 1960, 526; *Deltion* 1962-63 *Chronika* 287-288). More recent clandestine activities resulted in the partial excavation of the site by Karetsou and Rethemiotakis in 1990 (Karetsou and Rethemiotakis, 1991-93, 289 - 292). A number of human and animal figurines and figures in the Metaxas and Giamalakis collections are likely to be from this site (*Deltion*, 1962-63, 283, 287).

The worst damage to the site's artefacts was caused in the late 1950's and early 1960's. The first task facing Platon and Davaras was the recovery of thousands of unearthed artefact fragments, spread over an area of 80 by 30 meters (*ibid.*, 288). These illegal activities also resulted in the partial damage of the western wall of the enclosure described below.

I.3.3 THE SITE SEQUENCE AND THE ANIMAL FIGURINES' AND FIGURES' CONTEXT

Although its history does not extend as far back into the Bronze Age as that of Juktas, Kophinas has a long tradition of ritual activity, punctuated by interruptions. The account that follows is based on the reconstruction of the use of

the site by Karetsou and Rethemiotakis (Karetsou and Rethemiotakis 1991-93, 289-292 and pls. 5a-b to 7a-b). The earliest pottery has been dated stylistically to MM IIB/MM IIIA. The site has yielded plentiful MM III-LM I material. According to the excavators, pottery dated stylistically to LM IA is not plentiful. After this intense period of activity in MM III-LM I (phase I), there was a complete break in activity until LM IIIC (phase II). The use of the site during the 12th century is attested by plenty of good quality pottery similar to that produced in the area of Gortyna. There is some sub-Minoan and Protogeometric pottery while the Late Geometric material is more plentiful. There is a gap in the use of the site between the 7th and the 3rd centuries B.C.. Ritual activity is renewed in the Late Hellenistic period (Karetsou and Rethemiotakis 1991-93, 290).

Throughout its use, the Kophinas sanctuary ritual was hypaethral. It is necessary to separate each phase's main structural features and areas of use, a task which has been accomplished by Karetsou and Rethemiotakis who excavated most of the features referred to below.

The enclosure wall, not fully preserved, is a Minoan feature, whose use may have extended into later phases. A trial trench during the 1990 excavation confirmed its foundation date in MM III (A. Karetsou, pers. comm.). The enclosure consists of three walls at right angles (Karetsou and Rethemiotakis 1991-93, 289). There is no wall to the south where the area is partly bounded by the natural outcrop of rocks with fissures. It seems likely that the enclosure entrance was located in the (now partly preserved) west wall, to the north of the outcrop of rock. The northern and eastern walls are the best preserved. Platon and Davaras believed they found evidence of a stone bench running along the inner side of the northern wall (*Deltion* 1962-63, 288), but later excavations did not find evidence of this.

The northern wall has a length of 9 m, the eastern one has a rectangular projection, giving it a tripartite appearance. Inside this projection are three courses of fallen stones. Although not very common, tripartite constructions are characteristic of Minoan sacred architecture. A tripartite structure is an important

element of the (idealized?) peak sanctuary representation on the Zakros relief rhyton. A contemporary, more elaborate tripartite construction than that of Kophinas enclosing the eastern side of the open-air courtyard at the MM III-LM I villa at Vathypetro has been reconstructed by Shaw (Shaw *AJA* 82, 442-446). Shaw's suggestion that these architectural facades served as a backdrop for activity within the enclosed, open - air spaces (*ibid.*, 448) is confirmed by the concentration of finds inside the Kophinas enclosure.

In the middle of the enclosed area is a cluster of features which, according to the excavators, are Hellenistic in date (A. Karetsou, pers. comm.) An ash layer was found in two *loci*, one at either end of a channel hewn in the rock with a NW to SE orientation. To the immediate north of the channel is a concentration of stones placed deliberately over the ash layer. The pottery in the ash layer covered a broad chronological range: MM III - LM I; LM IIIC; Protogeometric; Hellenistic and Roman (Karetsou and Rethemiotakis 1991-93, 289). The excavators are of the opinion that the (pouring?) activities associated with the use of the channel and the formation of the ash layer are Hellenistic in date (Karetsou, pers. comm.). Certainly no ashes occurred in areas where there were purer concentrations of MM III - LM I pottery. It is worth noting that these ashes did not contain animal bones.

The sanctuary has yielded a large amount of offerings, typical of MM III - LM I peak sanctuary ritual. Unfortunately because of the constant clandestine digging at the site, much evidence related to the deposition of these objects during phase I has been destroyed. Platon and Davaras noted that the MM III - LM I objects were found in two areas principally: in the southern area of the enclosure (presumably close to the rocks?), and closer to the inner walls of the enclosure (*Arch Delt* 1962-63, 287). It was noted that the clay votives removed from the rock fissures had been better protected, thus better preserved (*Arch Delt* 1961-2, 287). Most of the stone offering tables were found close to the enclosure walls (*ibid.*, 287, 288). Perhaps these were originally displayed and used there, rather than placed in the fissures like the smaller votives.

There are no specific details about the find contexts of the animal figurines and figures. Although the site was used during several periods, it can be said confidently that these are all dated to the MM III - LM I period of use. Despite their different morphological sub-groupings, the basic uniformity shared by the figures' morphological similarities, manufacturing techniques, decoration, and fabrics shows that they can all be dated to MM III - LM I. Despite the LM III C pottery found on the site, not a single figure can be attributed to this period on stylistic grounds.

CHAPTER II

THE INVENTORY AND QUANTIFICATION OF ANIMAL FIGURINES AND FIGURES FROM THE JUKTAS AND KOPHINAS PEAK SANCTUARIES

II. I THE INVENTORY OF THE JUKTAS ASSEMBLAGE

TOTAL OF JUKTAS FIGURINES (intact, broken and fragments): 2869

Quadrupeds	2737
Birds	55
Snakes	22
Animal heads (separately made)	54
Beetle (?)	1
	TOTAL: 2869

JOINAGES OF QUADRUPED FIGURINES

Joining fragments	4 (2 lots)
Non-joining but linked fragments	0

From the above material, it is possible to identify with certainty a minimum of 1130 individuals. These are mostly intact but also include figurines which are abraded or have a small portion broken-off. For descriptions and representative examples of the above figurines, see the typology in chapter III (vol.I) and figs. 1-27 (vol.II).

IDENTIFIABLE INDIVIDUALS AMONG THE JUKTAS FIGURINES

Quadrupeds	998
Birds	55
Snakes	22
Beetle	1
Animal heads (separately made and finished pieces)	54

TOTAL OF JUKTAS FIGURES (parts and fragments): 1260

FIGURE JOINAGES	BODIES	HEADS	LEGS
Joining fragments	155 (57 lots)	55 (22 lots)	8 (3 lots)
Non-joining but linked fragments/parts	92 (38 lots)	3 (3 lots)	0
Non-joining and non-linked fragments/parts	624 (frag.)	78 (frag.)	245 (intact: 119; parts:126)
TOTAL	871	136	253

IDENTIFIABLE INDIVIDUALS AND PARTS AMONG THE JUKTAS FIGURES

FIGURES PARTS	BODIES WITH ADDITIONAL PARTS	HEADS	LEGS
Individual figures/parts identified with certainty	20 (0 intact)	37 (28 intact)	123 (119 intact)
Individual figures/parts possibly identified	20	25	68

The better preserved and most characteristic of the figure portions inventorized above have been catalogued (appendix II; vol. I), drawn and/or photographed (vol. II). The far larger number of individual legs (as opposed to bodies or heads) is due to the fact that they survive intact more frequently than these other portions. There are 20 animal figure portions which preserve a more significant proportion of their original form, permitting us to have a fuller impression of the figure before its breakage. They comprise a representative part(s) of the body which usually includes other (joining and/or non-joining) anatomical parts (e.g. **J45**, pls. 29-30; **J53**, pl. 38; **J51a-b**, pl. 36; **J55**, pls. 40a-b; **J83**, pl. 64; **J171**, pls. 118-119). 20 more figures, also

catalogued, may be identifiable on the basis of the joinages and linkages. In addition, 37 animal heads survive intact/practically intact, or have been restored to this state. 25 more parts of animal heads could represent further individuals. Some of these represent a characteristic part (i.e. a snout) which is not associated with the 37 certain individual heads. There are a further 78 head fragments. Some of these could belong to the other heads, or even be linked with each other. Similarly, there are 123 intact or practically intact legs, and 68 other parts of legs, which are likely to represent different legs. The remainder of the 62 leg fragments are too fragmented to be attributed with any certainty to any of the 68 better preserved legs. The above groupings of different anatomical parts are not necessarily mutually exclusive. Further links can be conjectured but not proved.

II.2 THE INVENTORY OF THE KOPHINAS ASSEMBLAGE

TOTAL OF KOPHINAS FIGURINES (intact, broken and fragments): 118

JOINAGES OF QUADRUPED FIGURINES

Joining fragments	0
Non-joining but linked fragments	0

IDENTIFIABLE INDIVIDUALS AMONG THE KOPHINAS FIGURINES: 62 (out of 107)

Unlike Juktas, which also yielded snakes and birds, only quadrupeds have been found at Kophinas. These comprise intact figurines, figurine portions preserving the head, or broken - off heads. The sparse number of figurines contrasts with the large quantity of those found at Juktas. Some indeterminate figurine portions may be included among the miscellaneous figure portions listed below. However, the few diagnostic portions, like heads, confirm that animal figurines were not common offerings at Kophinas.

TOTAL OF KOPHINAS FIGURES (parts and fragments): 2717 + ? body sherds.

This total does not include the body sherds of the figures which have not yet been counted (the five larger body portions representing individual figures have however been counted).

FIGURE JOINAGES	BODIES	HEADS	LEGS	HORNS	MISC. ¹
Joining fragments	0	0	0	0	0
Non-joining but linked fragments/parts	0	0	0	0	0
Non-joining and non-linked fragments/parts	5 + ?	51	669	497	1495
TOTAL	5 + ?	51	669	497	1495

IDENTIFIABLE INDIVIDUALS AND PARTS AMONG THE KOPHINAS FIGURES

FIGURE PARTS	BODIES WITH ADDITIONAL PARTS	HEADS	LEGS	HORNS	MISC.
Individual figures/parts identified with certainty	5 (0 intact)	40 (21 intact)	554 (181 intact)	47 (all intact)	0

The 5 better - preserved bodies (with additional anatomical parts) are **K52-K53**, pls. 130-131); **K54** (pl.133, 135-136); **K57** (pl.135-136); **K62-K63** (pls. 142-145). Among the heads, 21 are very well preserved (e.g. **K46-K51**, pls.128-129; **K58-K60** (pls. 137-138); **K61** (pls. 140-141); **K106-K109** (pls. 157-158). 19 further individual heads can be recognized on the basis of their snouts (e.g. **K96-K105**; pl.155). While the assemblage was thoroughly checked for possible join linkages, none could be identified. This is probably due to the rough textured fabric of most of the Kophinas figures which wears easily.

¹ Non-descript leg/horn portions.

II.3 THE FRAGMENTATION OF QUADRUPED FIGURINES FROM JUKTAS

	QUADRUPEDS	BIRDS	SNAKES	BEETLE	ANIMAL HEADS
Intact	799 (29.19%)	16	15	1	25
Abraded/ practically intact figurines	91 (3.32%)	2	2	0	3
Figurines with estimated original length	97 (3.54%)	2	0	0	5
Fragments and figurines whose original length cannot be estimated	1750 (63.93%)	35	5	0	21
TOTAL (intact and parts)	2737	55	22	1	54

LENGTHS OF QUADRUPEDS

Intact, nearly intact and estimated	987 (36.06 %)
Not estimated	1750 (63.93 %)

II. 4 THE SIZE OF THE FIGURINES AND FIGURES FROM JUKTAS AND KOPHINAS

Throughout the thesis we make a distinction between figurines and figures, and in chapter VI, we show that these two groupings of figures served kindred, but rather different, representational, ritual, social, and symbolic functions. Here we would like to demonstrate that one of the differences between these two groupings is related to scale.

In this section, the presentation of size distributions with histograms is limited to the Juktas figurines which, because of their large numbers, can be used more systematically to accomplish this. More measurements have been used to illustrate the length distributions of the Juktas and Kophinas figurines (than the figures) because of the nature of their fragmentation and the less arbitrary reconstruction of their size due to their small scale.

The fragmentation of the quadrupeds from both sites is such that their height cannot be reconstructed securely. Therefore, the analysis of their size is based only on length. In estimating the length of smaller terracottas from both sites we have used intact and nearly intact individuals primarily, and broken portions secondarily. In calculating the length of the figures which were all broken, it was necessary to estimate figure lengths from a selection of portions. The length of each portion was measured and multiplied by a ratio (determined independently by calculating the relationship of that portion and the total length of a complete animal figure). Since none of the Juktas and Kophinas figures survived intact, complete figures from other locations were used as models in calculating the length. Thus when calculating the original length of the MM III - LM I figure to which Kophinas head **K109** (pls. 157-158) belonged, we used as models the contemporary figures from Pseira of similar morphology and proportions (Seager 1910, 23, figs. 7 and 31, pl. 9). The calculation of the original length of the LM IIIC wheelmade figures from Juktas is based on the

well - known, intact bovine figure from Phaistos (Pernier, in *Monumenti Antichi* 12, 1990-1901, 118 , fig. 47).

The length distributions of the animal terracottas from both MM I - LM I Juktas and MM III - LM I Kophinas are bimodal, thus permitting the identification of two size groupings among the figures from each site. Their respective members are in this thesis described as figurines and figures because of their differences in size.

In the case of the Juktas MM I - LM I animal terracottas, the figurine grouping far exceeds in numbers the figure grouping. The definition of the length distributions of the figurines is based on 799 intact and 91 nearly intact figurines, as well as 97 figurines whose length was estimated (figs 1-4). In contrast, the length distribution of the contemporary Juktas figures is based on the calculation of the lengths of some of the site's 49 catalogued MM - LM I figure portions (J1 to J44, J46, J169- J172).

Fig. 1 presents the length distribution of the 799 intact quadruped figurines from Juktas. The lengths of all abraded or practically intact quadrupeds, amounting to 91 individuals, are displayed in fig. 2. Fig. 3 represents the lengths of broken figurines calculated, when feasible (fig. 3).²

Among the figurines, the percentage of fragmentation increases with size. Thus the lower values of the intact figurines, which are the most frequent (fig. 1), are not represented by the distribution of the estimated lengths (fig. 3)³. It is not surprising to

²The inclusion of the length of broken as well as intact/nearly intact figurines aims to make the data base used in the calculation of length distribution as representative as possible of the material. It is possible that I have used more than once the length of certain broken figures by calculating it from more than one of their portions. However, the error is small since the estimated lengths represent but a small percentage of the total of lengths used.

³ The far smaller representation of larger figurines reflects their scarcity and not an under- representation due to fragmentation.

note that there are close similarities between the measurements of intact and abraded/practically intact figures (figs. 1 and 2).

The Juktas figurines' length ranges from 1.4 to 9.8 cms, however their most frequent range falls between **2.2 and 2.8 cms**, while the **2.9 - 3.4 cm** range is also well represented (figs. 1 and 4). The (by necessity) less exact calculations of the Juktas figures have yielded a length distribution of roughly **18 to 27 cms**. The clearest indication of the reality of the distinction between the two Juktas size groupings can be seen in the sparse presence of measurements between 7.1 and 9.8 cms (fig. 4). While it has not been displayed graphically, the intervening area between 9.8 and 18 cms is even sparser. Examples of the typical lengths of the Juktas figurines can be seen in figs 1- 27 (vol. II)⁴. Examples of fragments of figures belonging to the 18 - 27 cm range are also illustrated in vol. II: **J5** (fig. 33); **J6** (fig. 34); **J7** (fig. 35); **J8-J44** (pls. 1-28); probably **J46** (pl. 31); and **J169-J172** (pls. 116-123). Amongst these figures, the lower end of the scale is represented by heads **J12**, **J168**, **J13** (pl. 6); **J14** (pl. 7), **J15** (pl. 8); figure **J171** (pls. 118-119). The upper end of the scale is represented by body portions **J6** (fig. 34), **J7** (fig. 35), **J8** (pl. 1); heads **J9** (pl. 2), **J10** (pl. 3), **J11** (pl. 4); **J169** (pls. 116-117); **J172** (pl. 22-123); legs **J16** (pl. 10), **J17** (pl. 11); **J18 -J34** (figs. 36-41); **J19** (pl. 12), **J25** and **J37** (pl. 16); figure **J170** (pls. 118-119)

⁴A point needs to be made, regarding the size of the figurines in figs. 1-27 (vol. II), illustrating the figurine typology. It is noticeable that the larger lengths identified among the figurines are slightly under-represented. This is because these are more likely to be made in a rough textured fabric (appendix I) which abrades easily. As a result, their original form does not survive adequately. These figurines all seem to represent bovines, and the information that can be derived from them will be of interest in the definition of the figurines' manufacturing techniques and production modes.

It should be pointed out that there is a minority of figure portions which, in terms of scale, are intermediary between the figurines and figures, as we have chosen to define their scales. These are the 'smaller figures' represented by body portions **J1** to **J4** (figs. 28-32), which would fit into the intervening area between 9.8 and 18 cms. These few figures do not however undermine the basic bimodal trend of the Juktas figures.

A bimodal distribution is also evidenced in the lengths of the MM III - LM I terracottas from Kophinas. Only a handful of the Kophinas figurines have lengths like those most frequently attested at Juktas. These are 12 figurines ranging in scale from 2 to 5 cms. Ten of these are illustrated in the bottom two rows of pl. 124 (**K13- K22**). Most of the other 118 figurines which make up this Kophinas grouping range in length between **9 - 15 cms**. The more characteristic heads of some of these are **K27-K45** (pls. 126-127). The length of the Kophinas figures ranges mainly from **27 to 35 cms** although there are some exceptionally large figures as well.

While there is an undeniable gradation of scale among the Kophinas figurines (exemplified by the scales of the heads of **K23-K26**; pl. 125), one need but compare the group of typical figurine heads **K27-K45** (pls. 126-127) with those of the far larger figures **K46-K109** (pls. 128-K158). This comparison exemplifies the marked difference between the two major size groupings at Kophinas. Among the Kophinas figures, **K55** (pls. 133-134) is estimated to have a length of 27 cms, **K52** (pl. 130-132) a length of about 32 cms and **K61** (pl. 140-141) a minimum length of 35 cms. Most of the leg portions found at Kophinas (**K114 - K142**; pls. 161-162) must belong to figures of this approximate size. The more 'naturalistic' head **K109** (pls. 157-158) belongs to a figure measuring about 28 cms in length.

Of interest are a few body portions from figures larger in scale than the above. The uniquely large portion of a snout **K110** (pls. 146-147) belongs to a figure with a minimum length of 69.3 cms. The middle portion of a leg featuring a knee joint (**K150**,

pl. 164) must belong to a figure commensurate in scale. Somewhat smaller in scale but also impressive were the figures to which the following legs and hooves belonged: legs **K143-K149** (pls. 163-164); hooves **K151-154** (pl. 165). Of the horns illustrated in pl. 168, **K171** belonged to a substantially sized figure, whereas **K172** and **K173** were from figurines.

The comparison of the scales of the MM - LM I Juktas and Kophinas sites' animal terracottas shows that their dual groupings of figurines have different distributions. Both the figurines and figures are larger at Kophinas than at Juktas⁵. In chapters IV and VI we will be discussing the chronological and interpretative implications of the two different scales of figures witnessed at both sites.

The Juktas peak sanctuary has yielded a great number of LM IIIC figure fragments but hardly any contemporary figurines. Only three LM IIIC (solid) figures could 'qualify' as figurines: **J158**, fig. 65 (if this is LM IIIC); **J162** (fig. 68); and less so the larger **J163**, fig. 69). It is clear that during this period the characteristic miniature scale of the MM I - LM I figurines is not represented. All of the other LM IIIC figures are wheelmade and more varied in their length distribution than the MM III - LM I figures from both Juktas and Kophinas. At the lower end of the scale is a group of figures whose length is exemplified by that of **J47** (pl. 32a-b), estimated at circa **21 cms**. **J58** and **J62** (pl. 43c) are representative of larger figures whose length has been calculated at circa **49 cms**. Substantially larger head **J125** may have belonged to a figure measuring about **58 cms** in length. Although not enough survives of the figure represented by snout **J126** (pl. 86), this was clearly significantly larger in scale, and probably represents the largest of the site's 12th century figures.

⁵The mean values of the figurines' length distributions from Juktas and Kophinas have been calculated at respectively 3 and 8 cms. The mean value of the Juktas figurine lengths reflects the strong representation of figurines measuring between 2.2 and 2.8 cms.

Fig. 1

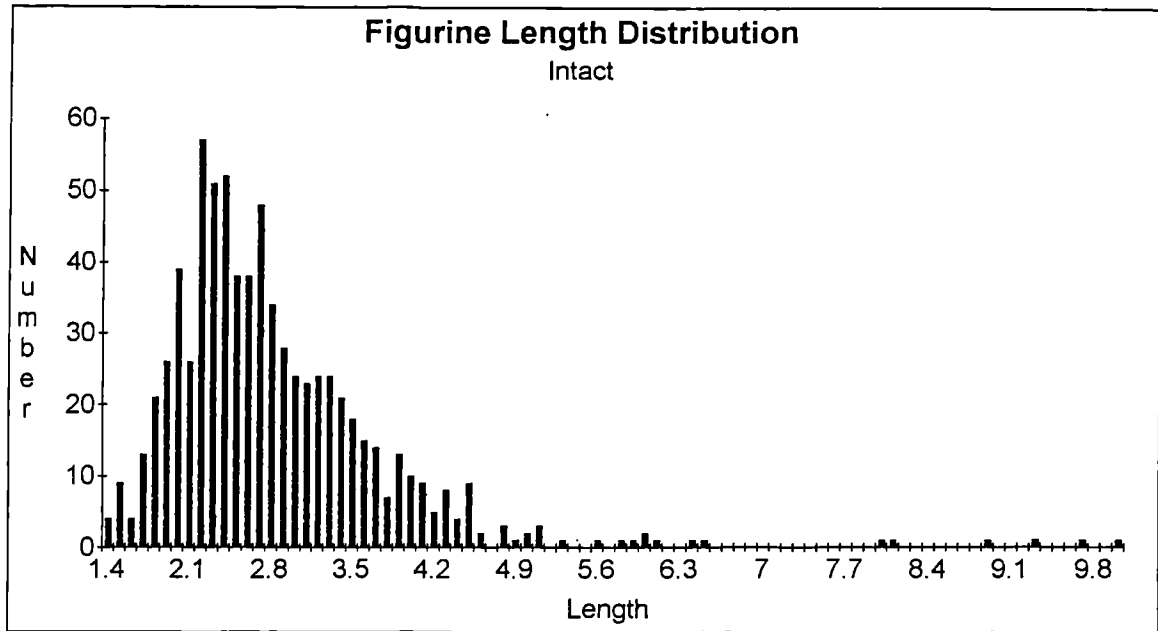


Fig. 2

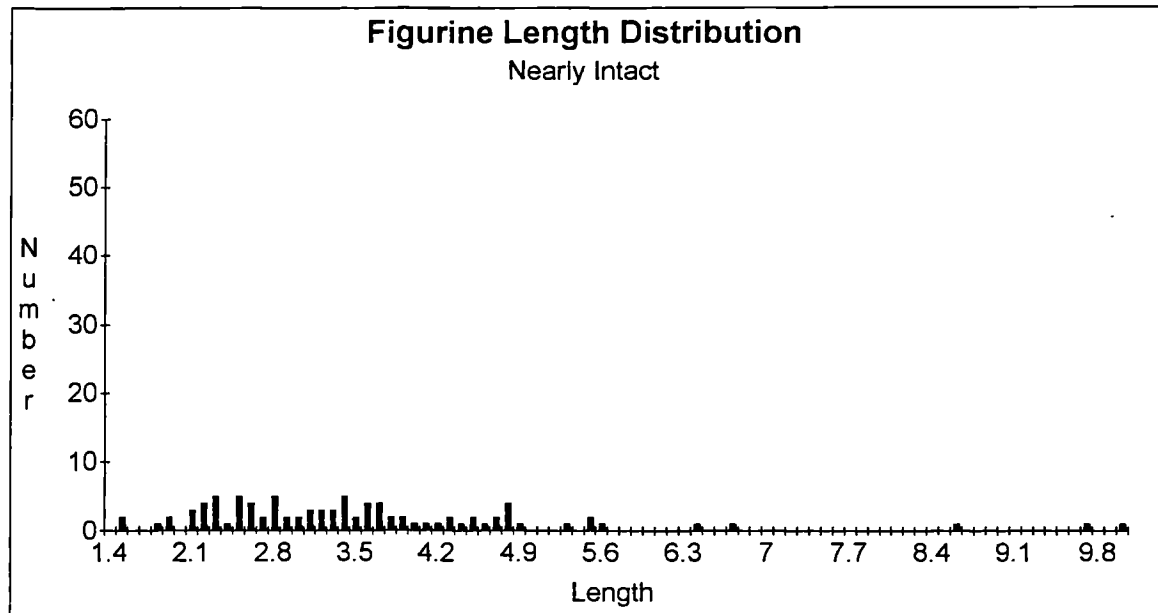
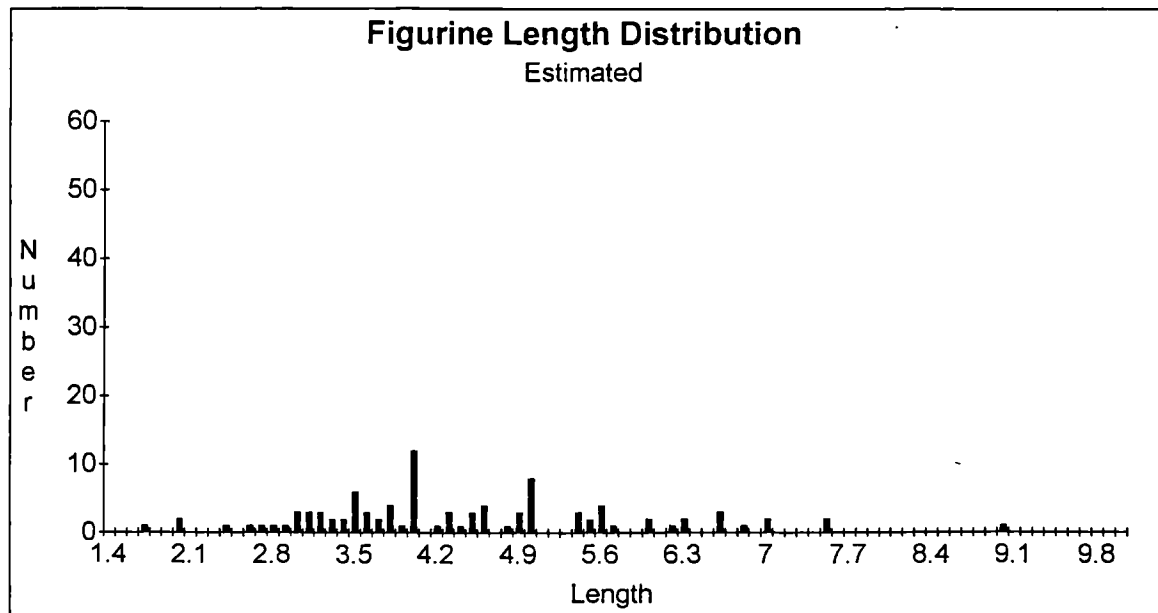
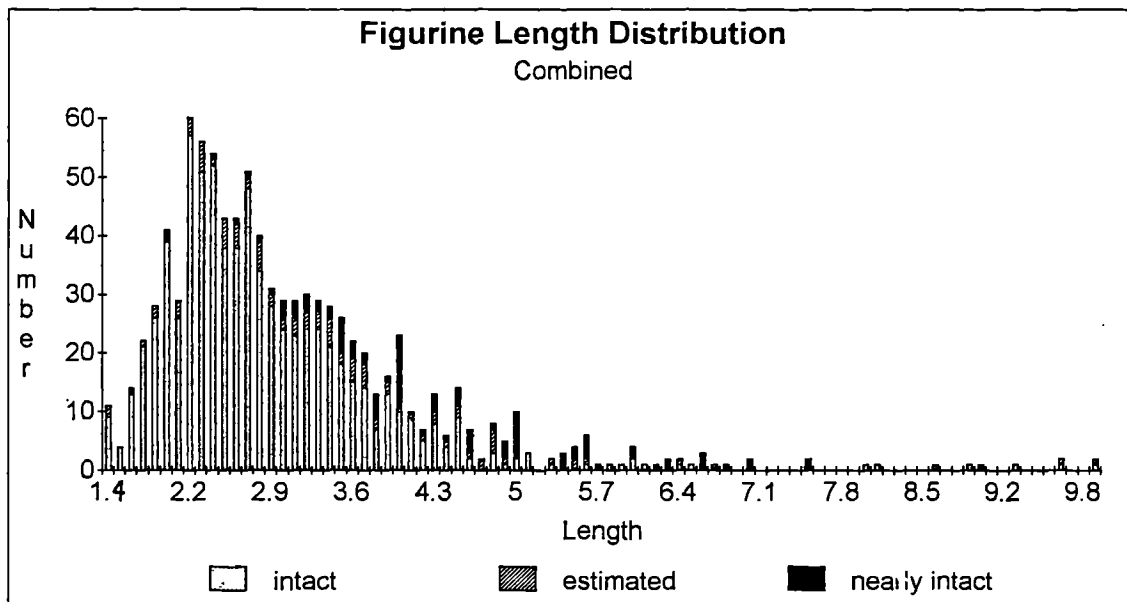


Fig. 3



The Juktas Figurines' Length

Fig. 4



CHAPTER III

THE CLASSIFICATION OF THE ANIMAL FIGURINES AND FIGURES FROM THE JUKTAS AND KOPHINAS PEAK SANCTUARIES

III.1 THE EVOLUTION AND BASIS OF THE CLASSIFICATION

In this section I outline the variables and attributes identified in the animal figurines and figures which dictated the nature and form of their classification. The manner in which the classification evolved is also explained. In the use of the term **variable**, I follow the definition by Adams and Adams: 'a feature or characteristic which varies from one entity to another in the material, and which is taken into account in the definition and description of types' (Adams and Adams 1991, 331 and 370). By **attribute**, I mean a fixed manifestation of the variable. For example, the respective scales of the animal figurines and figures are attributes of the variable size.

My work on the figures from Juktas and Kophinas followed the same procedure. This took the form of three consecutive steps: the ordering of the assemblages, their cataloguing, and (where possible, and desired), the establishing of a typology or alternative presentation of the material. These three closely interlinked steps are described below. In this thesis, the description of the third step is limited to the Juktas material.

1) The ordering of the Juktas and Kophinas assemblages

The figures' most obvious variable was that of size (see analysis of the figure lengths in chapter II). Before my study of the material, this had led to their rough sub-division into figurines and figures, or fragments thereof. The figurines had remained grouped in the Iraklion Museum according to context (layer and trench), but there was no particular ordering of the figures, be it by context or any other criteria. The second most obvious variable of the figures was their fragmentation (see analysis of Juktas figurine fragmentation in chapter II). This

was relative to scale: the figurines survived more frequently intact or nearly intact, while not a single figure survived in its entirety. My ordering of the respective assemblages started as a practical response to the problem of fragmentation. It was necessary to see whether the corpus of identifiable figures could be increased, by adding to the intact ones others reconstructable from the fragmentary evidence.

The search for fragments belonging to the same figures was greatly facilitated by two further sorting procedures. Firstly, the finer sub-division of the animal figures (intact and fragmented) according to an increasing scale. Secondly, wherever possible, the grouping of fragments according to easily identifiable anatomical parts: body portions, heads, horns, bodies and legs, many of which had survived intact. While parts of figures were sorted in this manner, the same procedure could not be applied to broken figurine parts. They comprised mostly bodies or body fragments whose additional anatomical details and parts were either broken off or (more frequently) not intact. The proportion of heads, horns, legs, and tails to bodies/body parts was far smaller in the figurines than in the figures. This is due to the scale of the figurines' fragments. Once broken off or only partly surviving on the figurines, they easily abraded or disintegrated. This is not surprising since the tails were often modelled as small protuberances of circa 2 to 3 mm while the legs and horns had an average length of about 5 mm.

The identification of figures from fragments was further aided by the use of other useful variables: fabric, manufacturing technique, and decoration. Each variable had a range of attributes, i.e. different fabrics, several manufacturing techniques (solid handmade, hollow handmade, hollow wheelmade, hollow mouldmade), and a large decorative repertoire. This means that there had originally been a considerable degree of variation between individual figures. So in attempting to identify fragments that belonged to distinct figures, one was facilitated by the search for fragments sharing specific combinations of attributes (e.g. the common combination of large scale anatomical parts; hollow wheelmade technique; LM IIIC Close Style decoration). Even a small or

morphologically insignificant fragment could yield useful information on the manufacturing technique or decoration of a figure.

By comparison, the figurines featured fewer variables and a smaller range of attributes per variable. Their decoration and manufacturing technique was not useful in distinguishing additional figurines because of their lack of variety: they are all solid, and their decoration mostly survived in the form of worn, monochrome paint. From intact figurines, it appeared that only two variables were potentially useful in the identification of individuals from fragments: form and fabric. However, variation in the form of figurines was often dependent on small differences in individual parts (snouts, horns, tails) which were most subject to wear and fragmentation. Since the surviving fragments of figurines were morphologically indistinguishable (for reasons outlined above), one of two potentially useful variables had to be discounted as a source of information.

In contrast, it is fortunate that individual examples of figures could be identified from the fragmentary evidence, since not one had survived intact. The sorting of the figures resulted in the identification of join linkages, and in the grouping together of non-joining fragments which belonged to the same individual figures (see chapter II). Despite the sorting process, it was still not possible to reconstruct any large figures in their entirety. However, the surviving parts (which were occasionally substantial) provided much information on the variables of the newly identified figures. The sorting of the surviving fragments of figurines did not yield any of the above results, due to their abraded, indeterminate form.

The larger (joining or non-joining) parts of incomplete figures can be identified with certainty as belonging to distinct, individual figures, but the same cannot be said of the many single fragments representing figures. These cannot be associated with individual figures already recognised nor with other single fragments, although neither possibility can be excluded.

The nature of the animal figure assemblages from Juktas and Kophinas is such that it was not possible to base the categorising of the figures on a uniform approach. Different approaches, dependent on the scale and fragmentation of the figures, had to be applied. By necessity, the identification of types in the figurines is based on intact examples while the ordering of the figures is based on incomplete individuals and fragments.

Therefore, the classification of figurines is, from the outset, one of complete entities based primarily on differences in form whereas that of the figures can only aspire to be one of complete entities.

In conclusion, the ordering of the respective assemblages was initiated in order to address the problem of fragmentation. However, this systematic laying out of the material also prepared the groundwork for the cataloguing of the figures in a methodical manner. The principles which dictated the sorting also contributed to the establishment of the classification of the figures.

2) The cataloguing of the Juktas and Kophinas assemblages

Certain variables were chosen in the belief that they would be useful in quantifying the material and establishing their classification. These are: fragmentation, size, fabric, form, decoration, sex. The aim of the cataloguing was to record the individual attributes of the variables which were retrievable from each entity in the assemblage, whatever its state of preservation (intact or incomplete figure, or individual fragment). The methodical ordering of the figurines and figures greatly speeded the cataloguing. In the process of establishing the classification, it was the catalogued data, rather than the figures, which were further manipulated. This was particularly useful in the case of the figurines which, as said previously, rather than being laid out according to morphological and other criteria, had remained grouped according to context.

3) Establishing the typology of the figurines and the alternative presentation of the figures from Juktas

From the outset, it was necessary to treat figurines and figures differently. This difference of approach was evident in the sorting of the materials, and corroborated statistically in chapter II in relation to their scale, and resulted in the establishment of two separate typologies for each site. The typology of figurines is based on one principal criterion, that of form. The figures' presentation is based on a combination of criteria, namely form, fabric, manufacturing technique and decoration. These are the variables which proved to be the most useful in practice. Underlying the use of different typological tools according to scale are certain consistent principles observed in the material.

DECORATIVE PRINCIPLE

The decoration of the figures is relative to their scale. Thus the figures had the potential of a larger and more elaborate decorative range. The decoration of the figurines is far more restrictive because of their scale.

MANUFACTURING PRINCIPLE

The manufacture of the figures is relative to their size. The figures had the potential of a wider choice of manufacturing techniques, in contrast to the solid figurines.

FIGURATIONAL PRINCIPLE

The species represented are also relative to the scale of the figures. With two possible exceptions, the figures represent bovines or bulls. The Juktas figurines represent bovines and other species. Whereas the prescription of figuration for the larger figures is exclusively related to one species, the smaller ones represent a greater range of figuration possibilities. However the exclusive 'prerogative' of bovine/bull figuration is associated with the figures. We shall see that this is due to their ritual use and their value as votive offerings.

The decorative and manufacturing principles reflect the makers' cognitive and cultural responses to practical and aesthetic considerations. The figurational principles have a more impenetrable, cognitive basis. The classification aims to highlight practical as well as symbolic aspects of form. It also reflects dilemmas which perplex the interpreter, but not necessarily the manufacturer or the user of these figures. The aim of the typology of the figurines and the presentation of the figures is to highlight these principles. Their interpretative possibilities are brought out in chapter VI.

The classification of animal figurines presented below is based on differences in form. This approach, while sharing certain common features with other studies and discussions of figurines from the Aegean, differs from these. A comparison is made here with the criteria used by French (1971) in the typology of Mycenaean figurines, the only one so far integrated into a comprehensive classificatory scheme.

French's effective and practical typology of Mycenaean figurines is based on their painted decoration. French fully realises the implications of this typological approach. In giving primacy to the decorative criterion, she recognised that her stylistic division of the animal figurines is different from that of Blegen, who based his on differences of shape in terms of degrees of stylisation (French 1971, 151). It is also different from Furumark's and French's classification of the human figurines which relies more on a combination of formal, decorative and stylistic criteria. This difference of emphasis is partly reflected in the classifications' respective nomenclatures. The animal figures' Wavy, Linear, Spine and Ladder types refer to their decoration, whereas the class names of the human figurines (Phi, Tau and Psi) describe their shape. The succinct terms used to describe the categories of human and animal figurines are a reflection of how practical their classification principles really are.

As already explained, decoration cannot be used as the principal criterion in the classification of Minoan figurines. It is interesting to note, however, that even in the case of the effective Mycenaean animal figurine classification, French recognises that typologies based on style and decoration are "less firmly defined" than those based on fundamental differences of shape (French 1971, 152; 1985, 261). It is clear that she would desire finer definition of categories in her classification, particularly to resolve chronological matters, and that she would not consider decoration to be a sufficient factor in achieving this finer categorisation.

French's decorative classification was tailored for the animal figurines which share the generic morphological characteristic of the bovine. However, even so, she still believes the morphological differentiation is important. This should be all the more the case in assemblages like that from Juktas where the forms are strikingly different, and where the discussion of abstract notions of figuration will take place on the basis of form.

III.2 THE TYPOLOGY OF THE JUKTAS FIGURINES

The aim of this section is to give a description of the form of the figurines grouped into distinct types on a morphological basis. The figurine types are illustrated in figs. 1 - 26 (vol.II). The interpretation of the figurines, which hinges on the identification of the species represented and their quantification, takes place in chapter VI. The term 'bovine' is discussed there in detail. At this point, we limit ourselves to explaining that it was chosen because it is not 'value laden', and because it reflects the fact that the sex is not represented on any of the figurines so described. The drawings of types 1 to 4d (bovines) are all of the front and/or side view.

TYPE 1 (BOVINES). Figs 1-3

Pointed rendering of anatomical details (i.e. snout, horns, legs); upright horns.

Most frequently, the tail is not represented. When rendered this is either:

-a protrusion on top or behind the rump (1.5,12,23,26), rendering a small vertical or horizontal "bump" (quite common)

-an elongated separately modelled tail which extends horizontally along the body (1.21,22), twists around the rump (1.25,29), hangs downwards (1.20), or projects horizontally (1.16). This elongated form of tail is more common in the larger figurines of this type, associated with a more naturalistic representation.

Surviving decoration: monochrome; occasionally dark-on-light (1.14 represents dappling).

Two exceptional figurines are more naturalistic (3.1-2). The legs are bent at their ends, suggesting hooves. The surviving part of the tail of 3.2 indicates that it arched downwards and was probably modelled separately.

TYPE 2 (BOVINES). Fig.4

Long body; elongated rounded snout and upright pointed horns; the tail long extending horizontally (4.4), a protrusion (4.1,3) or non-existent (4.2).

TYPE 3 (BOVINES). Fig.5

Rounded rendering (due to modelling, not wear) of the anatomical details, i.e. the curvature of the body (particularly the rump), the legs, the head and the horns. As a result, the outline of the figurines of this type is less angular than in type 1. The horns and snout are less sharply differentiated from one another than in type 1. The tail is not rendered. The legs are often rendered in pairs rather than distinguished individually.

In many examples of type 3, the hindquarters are lower set than the rest of the body; for this reason, the outline of the body of type 3 is often reminiscent of a triangle (5.1-6), as against the rectangular form of type 1.

In larger examples, the face is pinched rather than rounded (5.26-28), and the individual details are more clearly modelled (5.26,27).

Surviving decoration: monochrome and possibly dark on light (5.12).

TYPE 4 (BOVINES). Fig.6

The principal characteristic of this type is its sturdiness. This is achieved through the stocky body and abbreviated neck. The figurines' individual anatomical details vary. Some show affinities with type 1 because of the pointed individual features (nose, horns and legs), and the rendering of the short upright or vertical tail. Others with type 3, because of the lower hindquarters and lack of tail. Some combine elements from both types. For example 6.12 has the triangular outline of type 3 and the pointed snout of type 1. In all cases, however, the sturdy body differentiates them from characteristic examples of types 1 and 3.

Surviving decoration: monochrome and possibly dark-on-light (6.5).

TYPE 4a (BOVINES). Figs 7.1-6

This sub-category of sturdy bovines is accompanied by greater emphasis on individual anatomical features (especially legs and horns), rendering them truer to nature. The horns overlap in 7.1, and the legs in 7.2. The tail is either rendered as a point at the end of the rump (vertical or horizontal) (7.1, 4), or not at all (7.2, 3, 5). One example (7.6) had a tail hanging vertically behind. The same figure has an abbreviated head, as only a low-set, down-turned muzzle is represented. This figure is thus less naturalistic, and it could even be argued that the species rendered is unclear.

Surviving decoration: monochrome.

TYPE 4b (BOVINES?). Fig.8.1-3

Sturdy body; no neck; abbreviated head with cylindrical muzzle/snout downturned (8.1-2) or horizontal (8.3); horns not stated; 'tail end' rising upwards (8.1-2), or absent (8.3)

TYPE 4c (BOVINES?). Fig.8.4-7

Short, sturdy body, without neck, ending in the front with a muzzle/snout horizontal (8.4,6,7) or downturned (8.5); the rendering of the head is limited to the horns and the snout (8.4, 7), or to the snout exclusively (8.5,6). Tail a slight protrusion at the rump, or not represented.

TYPE 4d (BOVINES?). Fig.9.1-5

Schematic, elongated body, rectangular outline with square section. Legs rendered, no tail. At its front end, a drooping muzzle is rendered. No other anatomical details.

TYPE 5 (AGRIMIA).

TYPE 5a Fig. 10a; TYPE 5b Fig. 10b

The drawings are of side views, or side and front views, except 10a.7, 10b.10-11 (side and top views).

These figurines can be securely identified as agrimia because of the unmistakable long, high-set horns which are separately modelled. The horns' rendering differs considerably. They are either upright (10.1,3-7, 8, 10, 12, 14) or, more rarely, sweep backward (10.2,9). In 10.1 and 10.2 the horns overlap.

Formal variation is considerable among these figurines. Type 5a (10.1-7) comprises a more finely modelled group which resembles formally the type 1 bovine figurines. The horns, set high on the head, and the occasional vertical tail (10.3-4) result in the transformation of what would otherwise have been a

bovine into an agrimi figurine. Other, more schematic examples, belonging to the more schematic sub-type 5b, can be either stocky (e.g. 10.12 and 13), or attenuated (10. 14,15). The eyes and mouth of 10.4 are rendered with punctations.

TYPE 6a (SHEEP). Fig.11

The drawings are of side and/or front views.

The body is shaped like that of the bovines of types 1 and 3, however the head differs. There are no horns, and the face is pinched in one of several ways:

- one vertical pinch along the front of the face forming a vertical ridge probably corresponding with the upper ridge of the snout (11.4,5)
- one vertical pinch on either side of the head forming three vertical ridges probably representing a narrow snout with small, low-set hanging ears on either side (11.1)
- one horizontal pinch on either side of the head forming three horizontal ridges corresponding with a ridge along the top of the head and low-set ears on either side (11.2,3,6)

In view of the absence of horns and the small size and position of the protrusions, which are similar to low-set ears, it seems likely that sheep are being represented.

TYPE 6b (SHEEP). Fig.12

The drawings are of side and/or front views.

These figurines are similar to type 6a sheep, but the details of the head are rendered with incising rather than pinching. The following variations are seen:

- two incisions along the top of the head (12.1-5). When sufficiently deep, they form a ridge along the top of the head and two smaller ones on either side, like low-set ears. When the incisions are shallower, these ridges are less obvious
- two incisions along the side of the head (12.6,7). These also result in the forming of ridges, the central one being the most prominent.

This incising attains the same formal results as the pinching of type 6a. It is therefore most likely that sheep are again represented.

TYPE 7 (SHEEP/DOGS?). Fig.13

The drawings are of side views.

The body is shaped like those of type 1 and 3 bovines. However, the head differs in that it is rounded and lacks horns. The abbreviated head is occasionally downturned. Alternatively, it can feature a slightly pointed, upturned snout (13.1-3). The tail is either small, upright or not rendered.

More unusual representations: in two examples, the body is longer (13.4 and 5); in one example punctations represent the eyes (13.8).

The identification of the species represented by this type is problematic. The absence of horns probably excludes bovines, rams or goats, all species with prominent or characteristic horns. Perhaps the summary representation of a species with small horns and/or ears is intended. Of these, a sheep or a dog, may be the more plausible, indicating that ears rather than horns are absent but nevertheless intended. If so, neither of these species is realistically rendered. A comparison with types from Juktas representing these species does not resolve the matter. Type 11, very likely representing dogs, features the pointed muzzle but also a typical long tail. If our type 7 is a summary representation of sheep, it lacks the low-set ears of type 6a and 6b and sheep. While some examples of type 7 have a downturned muzzle (13.5-7) reminiscent of the drooping muzzle of sheep, the pointed, slightly upturned muzzle (13.1-3) might be more akin to that of dogs).

TYPE 8a (RAMS). Fig. 14.1-3

The drawings are of side and front views.

Realistic rendering; large, powerful horns curving downwards; beard (applied) at the chin in two cases (14.1-2). In one case, the added tail hangs vertically (14.1-3)

TYPE 8b (RAMS). Fig.14.4-6

The drawings are of side views except 14.4 (side and front).

These figurines share a more schematic rendering. The downward curve of the horns and possibly their sturdiness are indicative of the species represented. Their individual features vary: heads differ in size and form; one has an open mouth (14.5); the rounded rather narrow head of 14.4 is somewhat reminiscent of the typical drooping muzzle of rams. Two of the figurines have short horizontal tails, separately modelled (14.4,6). These animals could, less convincingly, be identified as sheep.

TYPE 9 (RAMS/SHEEP). Fig.15

The drawings are of side and front views.

These figures share the characteristic flattening of the head on top. On either side of this, two horizontal, elongated protrusions, represent either ears or horns. Sheep or rams are most plausibly represented. In 15.2 three additional vertical strips of clay are added, the middle one representing the nose, the others horns or ears, depending on how the horizontal protrusions are interpreted.

TYPE 10 (RAMS/SHEEP). fig.16

The drawings are of front and/or side views, except 16.1 (side and top).

All these figures feature downward or forward sweeping ears/horns. In the latter case (16.2,10,12), they can more plausibly be interpreted as horns. The heads often end in a pointed snout while one figure (16.9) has a truncated cylindrical snout. When indicated, the tail is a vertical or horizontal protuberance (16.2,3 and 13). The body can be stocky (13.7-12), and the length of the neck varies considerably. While some of these small figures could be compared with dogs, the sturdiness of some and the lack of a long tail in others, favours their preferred identification as rams or sheep. These physical characteristics make them differ considerably from the more likely dogs of type 11. In a couple of instances, the incurved horns favour the identification of rams. Surviving decoration: monochrome and dark-on-light (16.1)

TYPE 11 (DOGS). Fig.17

The drawings are of side and front views.

The slender form of figures 17.6-10, with elongated legs, necks and tails, is canine in appearance. The pointed or rounded snouts and the drooping ears (?) agree with this identification. Figure 17.10, with legs extended fore and aft, may be deliberately represented running, an apt canine occupation. Although morphologically similar, figures 17.1-5 could alternatively be interpreted as sheep or lambs. Their slender form probably excludes the likelihood that they represent rams.

TYPE 12 (PIGS). Fig.18; also Karetsou 1976, 230 β

The drawings are of side and front views.

These figures could be divided into different sub-types; however, they share the representation of a rotund form which features small ears, a snout, squat legs and a small tail.

TYPE 13 (INDETERMINATES). Fig.19

The drawings are of side and front views (19.3 and 4); side view (19.2); front, side and top view (19.1); side and top views (19.5-6).

These enigmatic creatures feature an attenuated, low-set body. 19.5 and 6 seem to have a single front pair of short legs, however, 19.1-4 seem to also have a back pair of lower-set legs as well. Figures 19.1 and 5 may feature horns or ears.

ANIMAL HEADS. Fig.20

The drawings are of front and side views, except 20.43 (front and top view).

These are all separately made and finished heads, not pieces broken off quadrupeds. They differ considerably in the way they are represented:

20. 1-10: a simple triangular head; at times the point corresponding to the snout is accentuated; the long peg on the underside of 20.10 served to prop it up, and is different from the figure's snout

20.12-24: triangular head with horns arched backwards

20.25-26: rounded head with horns arched backwards

20.27-29: crescent, representing only the horns

20.30-33: triangular head with horns arched forwards

20.34-42: v-shaped horns curved forward

Head 20.11 with the pellet eyes and heads 20.43 and 44, in which the face is rendered in relief, verify that animal heads are represented. Even the more schematic crescent and v-shaped examples show affinities with the horns of the more realistic heads of bovine figures. No effort has been made to render the heads of agrimia, rams or goats.

These animal heads are interpreted in chapter VI. It should finally be noted that it is highly unlikely that any of these objects (e.g. 20.30-47) represent birds, which are modelled entirely differently (see immediately below).

BIRDS, figs 21-24

TYPE 1 BIRDS. Figs 21 and 22.1-3

The drawings are of top and side views; except 21.4 (top, side and front view); and 21.2, 10, 13, 14 9 (only top views); 22.1 (top and underside); 22.2 (top, underside, and side view)

Birds with outstretched wings, resulting in a quatrefoil shape. The more realistic ones show the backward sweep of the wings. The side view of the more schematic ones is characteristic of birds in flight. The more realistic 21.1 and 22.3, with wings outstretched, seem perched or about to take flight. The more naturalistic figure 21.1 has two "feet". Figures 22.1 and 2, modelled with more attention to detail than most of the figures, were propped up by a pair of pellets on their underside (only one pellet survives on each).

Surviving decoration: monochrome (well-preserved on 22.1), or dark-on-light (21.2 and 22.2; in the former representing the patterning of the feathered wings).

TYPE 2 BIRDS. Fig.23; also Karetsou 1976, pl. 230 ε; 1978, pl. 170 γ

Drawings: 23.1-3 side view; 23.4-6 top view; 23.7 top and side views.

The neck, wings and tail are similarly modelled with long strips of clay. The pointed head is formed with a pinch and a bend at the tip of the neck; the tail differs from the wings in that it is longer. Necks with heads broken from the bodies (and not preserved) indicate that the neck was frequently long, and the head upraised.

TYPE 3 BIRDS. Fig.24; also Karetsou 1978, 170 β:1-3

The drawings are of top and side views.

The tail, wide and spreading out, is this type's most characteristic feature. The wings are comparatively small, round protrusions. From the side view, these birds appear to be in flight, but only one (24.1) has obviously outstretched wings.

Surviving decoration: monochrome; 24.3 may have had dark-on-light decoration.

Finally, a separate mention should be made of three bird figures in fig. 22 of varying sizes and forms (22.4-6) with folded wings.

SNAKES Fig.25; also Karetsou 1974, pl.176, γ and δ

All drawings are of top views.

These are either represented coiled (25.1-5), "meandering" (25.6-8), or stretched out to their full length (25.9). Their ends are frequently broken. On those that survive intact, no further details (eyes, tongue) are shown which would consolidate their identification as snakes.

BEETLE (?). Fig.25

Drawing: side view.

This tiny figure features a round body to which a neck with two horn-like projections and (the remnant of) a snout are attached. It has no parallels in Juktas. It might, less convincingly, be described as a hedgehog or a rabbit.

III.3 THE PRESENTATION OF THE ANIMAL FIGURES IN THE CATALOGUE (APPENDIX II)

This section explains the purpose the catalogue fulfils, and the classificatory principles underlying the presentation of the material.

The need to establish separate classifications for figurines on the one hand, and figures on the other, emerged during the sorting and cataloguing of the Juktas material. The typology of the figurines, based on morphology, is quite straightforward and comprehensive. However, in the case of the Juktas figures, it has not been possible to establish consistent criteria which result in distinct groupings of most of the figures and figure portions. As a result, it is not easy to present in a formulaic or diagrammatic way the range and diachronic changes in the figures' manufacture, form, function and decoration.

One obstacle in establishing a formulaic typology is the degree of fragmentation of the figures, not encountered in the figurines. They are all broken, and no individual figure can be reconstructed in its entirety. This is problematic because, ideally, in a classification we would wish to base the grouping of entities (even if fragmented) on the concept of **whole** individual figures.

Another problematic aspect is the uniqueness of many individual figures and figure portions. It is clear that many of these, while chronologically and technically the same as other figures, are unique because of individual attributes, e.g. their distinct morphology and /or decoration. It is difficult to

accommodate many unique individuals and portions in a typology, since type concepts are formed on the basis of **groups** of objects rather than individual objects (Adams and Adams 1991, 180). Having said that, some of the figure **portions**, as opposed to individual figures, can be grouped together on the basis of single attributes. Thus, many legs which, in a sense, represent whole anatomical parts) lend themselves to typological groupings based on form: 9 leg types have been identified (see table 5).

With the exception of the legs, the classification of a substantial percentage of individual figures/figure portions based on a single attribute (the principle on which the groupings of the Mycenaean and Juktas figurines are based respectively) has not been feasible. This is because the LM IIIC Juktas figures combine a range of manufacturing, decorative and morphological variables, and are therefore more varied. **When possible**, the alternative approach adopted has been to group individual figures or portions 'on the basis of unique combinations of attributes, not on the basis of unique individual attributes' (ibid., 179). These groups are based on 'the strength of association' (ibid., 180) between several attributes. 8 such groups of figures have been identified in the material (see table 4). When these groups of figure portions are described in the catalogue, they are clearly described in terms of a numbered group (e.g. **GROUP 3** comprises **J58-J61** which are two heads and two body sherds).

Since these groups are mutually exclusive, the criteria which define the groups are not identical (Adams and Adams 1991, 243 and 180; Clarke 1968, 190). E.g. the two **GROUP 1** figures share the same scale, the representation of the male sex, and similar decorative principles. **GROUP 5** members are unique because of their large scale and the striking combination of fabric, red paint and unusual decorative motifs on their bodies; **GROUP 7** stands out because of the large scale, representation of the male sex, and 'melon-shaped' bodies of its members. Each group features a different combination of different attributes, but they are all 'drawn from the same pre-selected group of variables' (Adams

and Adams 1991, 92), i.e. scale, manufacture, morphology, decoration, representation of sex etc.

While these groups are based on a sound typological principle, I have named them 'groups' rather than 'types'. Firstly, because by grouping together these figure portions we create a composite (if not complete) image of what the figures' attributes were before fragmentation. Secondly, because their groupings are based on a very specific combination of attributes which include clay, firing conditions, slip and paint as well as scale, manufacture etc. By virtue of this specificity, very few members can belong to these categories.

Despite these groupings we are left with mostly unique figure portions. These defy classificatory attempts to integrate most of the material under one scheme, but are essential in understanding the chronology and history of the assemblages. It is the totality of the assemblage (combined general trends, unique tell-tale fragments, and the 8 groups just described) which provides the fullest picture of the diachronic history of these figures. Therefore, it has been decided to integrate into a selective catalogue all the figure portions contributing to the purposes of this thesis, be they members of the groups described above or unique portions. The catalogued entities are presented in chronological order, ranging from MM III - LM I to Post - Minoan.

The respective anatomical parts of each chronological period have been grouped together according to approximate scale (medium, large and very large; see also chapter II). This is done in an attempt to reconstruct a composite image from non -joining portions of the manufacture, stylistic and decorative attributes of the animal figures. Many of the pieces catalogued here are unique; therefore, catalogue entries are detailed. The dating of the figures' contexts is based on the analysis of the site's stratigraphy in chapter I, where 12 different contexts were identified. The date of the animal figures has been included in the date of these contexts only when it unequivocally provides information not provided by the day books and preliminary excavation reports.

When figures are found in unmixed or sealed deposits (**contexts 1,2,3,5,6**), their dating is straightforward. In the case of figure portions found in the mixed deposits, only those with characteristic decorative features can be dated with certainty. While practically all figure portions found in mixed deposits have characteristics which permit their dating, there are exceptions. It has been decided to include in Section I (catalogue entries **J1 - J165**) those figure portions which can be dated with certainty on a contextual or stylistic basis or a combination of both. Section II of the catalogue (**J166 - J172**) comprises some figures which can be assigned to specific periods on the basis of parallels from unmixed deposits; or figures from mixed deposits which cannot be assigned with certainty to specific periods since their technique/morphology/decoration are diachronic.

The dimensions given in the catalogue (appendix II), are usually those of broken figures or portions. When intact this is stated in parenthesis. Due to preservation it has not always been possible to describe the slip and/or paint. When slip or paint are described as worn or fugitive, the colour refers to how it survives. When the species or gender of a non-diagnostic animal figure is inferred, this is put in parenthesis.

TABLE 4: Groups of figure portions, all LM IIIC.

GROUP 1	J47-J48
GROUP 2	J50; J51a-b; J52a-b
GROUP 3	J58-J61
GROUP 4	J62-J64
GROUP 5	J77-J82
GROUP 6	J87-J91
GROUP 7	J92a-b; 93; 94
GROUP 8	Five portions including J95

TABLE 5: Catalogued legs representative of leg types.

MM III - LM I

TYPE 1	Legs with cloven hooves J16-J23
TYPE 2	Straight legs ending in foot; oval section J27-J28
TYPE 3	Slightly curved legs ending in foot; round section J29-J32
TYPE 4	Legs with plastic knee joint in front of mid-leg J33-J36
TYPE 5	Tapering legs J37-J40
TYPE 6	Tapering legs with plastic knee joint J41-J44

LM IIIC

TYPE 7	Cylindrical legs with several parallel ridges J104-J109
TYPE 8	Cylindrical legs with middle ridge J110-J116
TYPE 9	Cylindrical legs with ridge very low down J117-J119

CHAPTER IV

THE MANUFACTURE, DECORATION AND STYLE OF THE ANIMAL FIGURINES AND FIGURES FROM JUKTAS AND KOPHINAS

IV. 1 THE MANUFACTURE OF THE ANIMAL FIGURES

IV.1.1 INTRODUCTION

Since the manufacture of the solid figurines is straightforward, this section attempts to reconstruct the forming and finishing techniques used in the manufacture of the animal figures. It identifies the manufacturing trends of each site and, by considering the stratigraphic evidence, it shows how these change over time. It compares these findings with previous discussions in the literature of the manufacture of animal figures from Minoan Crete and examines how these new findings necessitate changes in the established accounts of the manufacture of this class of artefacts. This new evidence contributes substantially to the re-evaluation in section IV.3 of the Cretan and Aegean stylistic trends identified in Bronze Age animal figures.

In order to reconstruct the techniques and the sequence of events in the conversion of clay bodies to animal figures we have to rely primarily on the 'imprints' of these processes on the artefacts. We are also aided by the ethnographic record of the manufacture of such figures and experimental archaeology, although these two domains have not been fully utilized in relation to animal figures. In addition, the more substantial body of information on similar techniques used in the manufacture of clay vessels provides a grounding in basic procedures and a useful reference framework.

We have to be realistic about what can be reconstructed from the evidence provided by the animal figures. The archaeologist's account of the

construction sequence cannot match that of the ethnographer in exactitude and detail. Good ethnographic accounts are not restricted to basic techniques and sequences employed in the manufacture of animal figures and other clay artefacts. They have the potential to reveal the material, social and symbolic dimensions of these processes. To give but a few examples, they can provide information on the material and form of tools, supports, rotational devices and parting agents; the stationary or mobile relationship of the potter to the object being manufactured; methods of drying and lengths of drying periods; proscriptions regulating manufacture dictated by the nature and function of the objects being made, and the sex and age of the maker.

A few ethnographic examples from India illustrate the nature of the proscriptions and beliefs surrounding the manufacture of animal figures and figurines. In south Gujarat, solid clay animal figurines are made almost exclusively by women (Shah 1985, 107), and potters think of the animal figures they create as living beings. Once the animal figure's parts are assembled, they are believed to form an animate whole (ibid., 35). This is how the potter Jethabhai of Lambadia, in north Gujarat, views the wheelmade horse figures he makes. The purchase of a wheelmade animal figure which will be offered up at a sanctuary is not viewed exclusively as an economic transaction. In the workshop, the buyer chooses a wheelmade horse and, with Jethabhai, makes offerings of burning coal and incense on which is placed a piece of coconut. Because the smoke rises towards the horse, it is believed that the offering has been accepted.

Most of these aspects of manufacture remain elusive to the archaeologist who relies on different information sources, such as surface markings on finished artefacts, as opposed to direct contextual observation of the entire manufacturing process. In addition, the diversity of manufacturing processes identified ethnographically cautions that no amount of analogy can provide a single procedural model which, when applied, can prove a reconstruction of the idiosyncratic procedures followed in the manufacture

of prehistoric clay artefacts. Such a model could, of course, be useful as a 'direction indicator' (Krause 1984, 683).

As already indicated, the diversity of the construction sequences used in clay objects is great, but for the most part they rely on a basic repertoire of techniques and procedures accessible to archaeologists because they are identifiable in the artefacts (Rice 1987, 124 and 141). It is these aspects of the animal figures' manufacture which can be reconstructed with greater confidence.

Apart from a handful of exceptions, the animal figurines from Kophinas and Juktas are solid. These are usually formed by the pinching out of their entire shape from a small lump of clay during a single procedure. Very rarely, certain parts are added on separately. The manufacture of the figurines hardly requires further comment. In this section we shall be concentrating on the manufacture of the larger animal figures. The figurines are only mentioned below in the exceptional case of their featuring a technique usually associated with the figures. In contrast to the animal figurines, these represent a range of more complex manufacturing procedures. In line with such figures from the Aegean and around the world, their makers followed basic constructional techniques mostly found in clay vessel manufacture, i.e. slab building, drawing, moulding, throwing etc. This is to be expected: the universality of the figures' basic forming and finishing processes, in both contemporary and ancient societies, is dictated by the properties of clay bodies. Given their material of manufacture, it is therefore not surprising that both the techniques and the basic procedural sequence derive from a common basic repertoire closely akin to that of clay vessel manufacture (Guggisberg 1996, 369-370).

As with pottery vessels, the transformation of clay bodies into animal figures in their final form is achieved 'in separate stages by some combination of [these] constructional techniques' (Rice 1987, 129 and 149).

According to ceramicists, three main processes are identifiable in the conversion of clay bodies to finished vessels: primary forming, secondary forming, and surface modification (Rye 1981, 62 ; Rice 1987, 124). Both ethnography and archaeology show that similar basic processes are followed in the manufacture of animal figures. A summary description of the pottery manufacturing processes, as presented by Rye and Rice, is followed by a reconstruction of the similar ones identified in the Juktas and Kophinas animal figures.

In pottery, primary forming entails converting a lump of clay into a form resembling the finished vessel (Rye 1981, 62); techniques commonly used are throwing, coiling, preparation and joining of slabs, pinching and moulding. During secondary forming, 'the shape of the vessel is defined and completed and the relative proportions of various parts are established' (ibid.). Techniques commonly used include turning, scraping, beating, trimming, throwing, coiling and joining. Surface modifications 'change the texture and enhance the aesthetic character of the vase' (ibid.). Techniques employed are scraping, smoothing, polishing, burnishing, carving etc.

Three similar basic processes are identifiable in the forming of animal figures from Juktas and Kophinas, which are no different from those associated with animal figures elsewhere in the Aegean (e.g. Guggisberg 1996, 7-18; Kourou and Karetsou 1997, 109-110). The outline of these processes conveniently orders into a coherent description the evidence of the manufacturing techniques identified in the figures. However, as ceramicists and archaeologists have warned of pottery manufacture, the notion that these three processes are strictly sequential or distinct stages is a simplification. The correlation between individual techniques and specific phases is not absolute (Rye 1981, 62; Rice 1987, 124). Certain techniques can occur during more than one process. For example, surface modifications can occur between or during one or both stages of construction (Rice 1981, 136). As we shall see, because techniques are 'tied

intimately to the varying properties of the clay bodies as they dry' (Rye 1981, 62), the state of the clay determines when these take place.

IV.1.2 FORMING AND FINISHING TECHNIQUES

Basic procedures employed

During the **primary forming** of animal figures, clay is converted into a 'form resembling the finished' (Rye 1981, 62) figure. Techniques used are the preparation and joining of slabs, drawing, possibly coiling, moulding, throwing and solid building. During this process, the forming, drying and assembling of all the separately manufactured parts which make up the animal figure take place.

Once manufactured, these parts must have been allowed to dry, usually to a leather-hard state. If the body was given a closed end by this stage, it would have been left standing with the closed side up. The legs also needed to be leather-hard in order to support the considerable weight of the body. Once able to support the weight, the body, neck and/or head, horns and legs were assembled with the use of additional clay.

The individual body parts made during this process are either in their final form or require some degree of secondary forming once the assemblage of the figure has taken place. Therefore this initial process determines the basic form of the body, e.g. cylindrical, semi-cylindrical (**K52**, pls. 130-132), melon-shaped (**J92a**, pls. 69-70), barrel-shaped (**J83**, pl. 64) etc.; and the final or near-final form of the legs and heads.

Some body parts require the making of two portions which are attached to each other during assemblage. For example heads can be composed of a separately made muzzle and head portion. In some cases, the primary forming of individual parts required a two-stage process prior to assemblage. For example the forming of head **J12** (pl. 5) required clay building around a pre-form consisting of an inner solid ball of clay prior to its attachment to the body. In other instances of body portions requiring a two-

stage process, it seems likely that only the preform stage was necessary prior to assemblage. For example, the horns of Kophinas heads **K48-K51** (pls. 128-129) and **K61** (pls. 140-141) have an internal solid cylinder which is attached horizontally to the head during assemblage. The subsequent modeling around this preform probably took place after the assemblage and during secondary forming. However, in certain cases when it is apt to describe the whole figure as a preform, this could hardly have been assembled without the addition of a thick layering of clay. This is most likely the case with Juktas body and head portions **J75** (pls. 57-58) and **J76** (pls. 59-60). As already indicated, with figures requiring less drastic intervention, it is probably only with the completion of secondary forming (when modelling takes place) that the figure reaches its finished form.

Certain techniques which involve the removal of clay and which are normally associated with the secondary forming of clay vessels probably needed to be carried out on the body of the figures during primary forming. These are trimming and possibly beating or paddling which aim to further shape and smooth the body of the vessels. They often need to be carried out on the body prior to assemblage for two reasons. Firstly, because the clay must not have reached a leather-hard state; and secondly because, once the whole figure is put together, the body can no longer be safely manipulated and propped on one of its ends, a position employed for the execution of such techniques.

During **secondary forming**, the shape of the figure is further defined and completed. Modeling, which is the technique most frequently used, is characteristic of the 'additive' quality of clay. This stage can entail the final forming of elements already created during primary forming (e.g. bodies, heads, legs,), or the concealment of body parts as they appear after their primary forming. It can also entail the addition of elements not formed prior to the assemblage. For example plastic features rendering the body's relief (backbone, withers, dewlap, knee joint, etc.); and certain important anatomical features, such as the tail, genitalia (and perhaps formed at this

point, the ears, tongue, eyes, etc.). More rarely, this process may have also included the forming of a primary anatomical feature, like the head, if it is formed with modeling after the figure has been assembled, without the need of a preform. This may well be the case with the 'shovel-shaped' heads of Kophinas figures like **K52** and **K53** (pls. 130-132).

This stage of the forming aims to render the figures more 'realistically' recognizable and, in some cases, could even be described as showing aesthetic sensibilities. However, it also has a practical function, in that it serves to conceal and strengthen the joins of individual parts by adding clay to the exterior. Thus the backbone of Kophinas figure **K53** (pls. 131-132) serves to conceal and mainly to straighten the joining edges of the slab-formed body. Had the join not been there, the rendering of the spine would not have been a practical necessity.

The creation of ventilation holes may well have taken place during this process and prior to the surface treatment. These would prevent the figure from bursting while fired in the kiln. Obviously, in the case of rhyta, holes serving such a function would have existed anyway. Common places for airing holes are the rear (e.g. Juktas figures **J3**, fig.31 and **J51a**, pl. 36) and sometimes the breast, on either side of the dewlap (e.g. Juktas figures **J45**, pls. 29-30, and **J170**, pls. 118-119). The holes were pierced into the body, probably with a reed or a stick, or with the cutting/slitting of a blade (**J170**; pls. 118-119).

It is either during this process or the surface treatment that final details may have taken place, e.g. the occasional piercing of holes for the mouth, the nostrils and the ears; and the definition of eyes in the form of pellets, discs or punctations (e.g. **J172**, pls. 122-123: eyes punctured with the same narrow reed?)

Surface treatment relates to the techniques used for enhancing and compacting the surface of the figures after forming and modeling are

smoothing and possibly burnishing. Unlike many clay vessels, it is not necessary to treat the inner surface of the figures, since it is usually not visible to the viewer or user.

Techniques used during the forming and finishing processes

Below follows a description of the techniques employed during each of the three processes. It is based on the diagnostic features found on the animal figures. In this regard, Rye's outline of the identification of these techniques in clay vessels has been particularly useful (Rye 1981, ch. 5). As will be seen, it is not always easy or possible to identify animal figures' primary method of forming or the sequence of techniques which followed this. The diagnostic surface evidence of forming techniques can be difficult to interpret. This is because the finished form of the animal figures is the result of the accumulation of techniques, making it difficult at times to attribute certain physical attributes to one or another technique (Rye 1981, 123). In addition, surface markings associated with earlier procedures can be obliterated by later procedures such as smoothing (Rye 1981, 58). It is fortuitous that, because the inner surface of the animal figures was invisible to the viewer and user, evidence of primary or secondary forming which would otherwise have been obliterated survives. The subsequent breakage of the figures gives us access to this evidence.

Primary forming

Slab building: Kophinas and Juktas.

(Guggisberg's method 3: 1996, 9 and fig. 3)

Parts formed: Bodies primarily; necks and heads?

Scale: Some figurines; figures.

Date: MM III - LM I.

In order to create the bodies, a rectangular slab is formed from a lump of clay placed on a flat working **surface**. This may have been sprinkled with a parting agent to prevent the slab from sticking (Rice 1987, 125). Such slabs are usually formed either with patting or rolling. Once the slab is made, it

can be formed into one of several shapes which determines the body shape of the finished figure. The slab can be formed into a cylinder (roughly round section most frequently attested), or a semi-cylinder (semicircular section) as in Kophinas figures **K52** (pl. 132), or perhaps into a triangle, as may be the case in **J3**, fig. 31.

In the case of cylindrical bodies, it may be that the slab was wrapped around a firm cylindrical object (see also Guggisberg's method 2: 1996, 8-9 and fig. 2), until it became leather-hard and was removed prior to assemblage and firing. Had this been the case, the body diameter of the Kophinas figures indicates that this prop would not have been a stick or branch. Could a baked clay cylinder have been used? The formation of semicircular and other angular body shapes require the folding of slabs.

The longitudinal edges of the rectangular slab meet or overlap, and are joined with finger smoothing (Rice 1987, 142). This smoothing usually obliterates evidence of such a seam on the outer surface, but it can occasionally be seen on the inner surface or in a horizontal break of the body. In the Kophinas figure **K53** (pl. 132), the seam occurs along the backbone while in another (not photographed) along the underside. Evidence of such a seam on the underside is probably evident in the horizontal break on the medium sized body of **J171** (pl. 121) from Juktas and on the body of a couple of figurines from Kophinas, not photographed.

In the case of these figurines, the slab of clay does not always form an internal hollow but is folded and pinched together and rendered solid. The seams of these small figures are not invariably obliterated. This method of manufacture, while resulting in a solid figure, clearly differs from the manufacture of solid figurines.

Only a few body portions from Juktas and Kophinas can be ascribed to slab building, either because the diagnostic seam has been obliterated by later forming, or because its diagnostic area does not survive. It is difficult to

determine whether patting or rolling were used in the forming of these body slabs. The appearance on the inner surface of the Kophinas animal figures varies considerably. The horizontal finger marks of slab-built body **K53** (pl. 132) may indicate that the slab was patted (rather than rolled) and perhaps evened with finger-scraping, a practice associated with this technique (Rice 1987, 142). Alternatively, these finger marks could be indicative of the upward drawing of the clay after the initial slab forming. The inner surface of other figures is smoother, with no finger indentations. This could attest to the rolling (rather than patting) of the slab, or to its smoothing after it was patted and/or drawn out.

Drawing: Kophinas and Juktas.

Parts formed: Bodies; necks and heads?

Scale: Figures.

Date: MM III - LM I.

This technique involves the opening of a lump of clay with the fist. 'The walls are then refined by squeezing the clay between the hands while simultaneously pulling or stretching it upward' (Rye 1981, 72). As discussed, the seam on the body of **K53** (pl. 132) from Kophinas indicates that a body slab was formed prior to the possible drawing. In this instance at least, while drawing might have been part and parcel of slab building, it would not have been the exclusive technique used in primary forming.

The longitudinal movement of fingers on the inner surface of the body portions of figures both at Kophinas and Juktas (**J3**, fig. 31; **J6**, fig. 34; **K52**, pl. 132) may well indicate that drawing was the primary forming technique; however, the possibility cannot be discounted that these figures had a seam, no longer visible or extant, which would evidence the combined use of slab forming and drawing.

I believe that the angularity and thinness of the bodies of figures (e.g. Juktas examples **J1**, fig. 28; **J2a** and **J2b**, figs. 2 a and b; **J3**, fig. 31) favour slab building over drawing. From the ethnographic record it appears that bodies

formed exclusively with drawing would be less likely to have such features. If this were the case, the long finger imprints would be due to patting of clay on a flat surface rather than to the upward drawing of clay. For similar reasons, I believe that while the size of handmade head portions favour pinching, their angled walls probably shows that these were drawn rather than pinched (e.g. see the interior of preform of Kophinas head **K82**, pl. 151; Kophinas head portions **K70**, pl. 149; **K85** and **K86**, pl. 154).

Coiling: One possible example, Juktas.

(Guggisberg's method 5: 1996, 10)

Part formed: Body.

Scale of figure: Figure.

Date: Uncertain; mixed context.

One non-wheelmade body fragment from Juktas (not photographed) is coilmade as its inner surface features regular variations in thickness and corrugations between these at intervals of about 1.5 cms. This may be indicative of the non-obliterated junctures of coils.

The addition of a separate coil of clay for the neck to the body is, strictly speaking, a form of coiling, e.g. **K54** (pl. 136). This is a frequent form of attachment to hollow handmade bodies.

Moulding: Kophinas and Juktas.

(Guggisberg's method 6: 1996, 11-12)

Parts formed: Bodies; Head?; Legs?

Scale of figures: Figures.

Date: MM III - LMI in Kophinas and Juktas; one possible mouldmade figure portion from mixed layer in Juktas (**J8**, pl. 1).

Two fragments most likely from the same moulded body have been identified at Kophinas (**K112** and **K113**, pls. 159-160). They feature both the upper and lower junctures of the mould, and it is clear that this figure was

produced in a two-piece mould. Both fragments have a uniformly textured outer surface, reproducing the inner surface of the mould, and the markings on their inner surfaces evidence the longitudinal pressing of the clay into the mould, possibly with a tool (Rye 1981, 81). This moulded figure is of interest because it is smaller in scale than most of the other mould-made figures published from the Aegean.

One Juktas head fragment could conceivably be from a mould (J46, pl. 31) while several solid legs have been identified as types very likely belonging to mould-made figures (e.g. J16, pl. 10). That legs from Minoan figures could be manufactured as part of the same moulds is clear from the mould portion found in Gournia which features the rear portion of the body and the entire leg, which would have been solid. However, it cannot be known for certain whether the leg from the Kophinas mould-made figure (K112, pls. 159-160) was separately made or not. It is clear that Juktas leg on pl. 10 (middle) (possibly early although from a mixed context) was not produced uniformly with the body since it has an attachment peg. It is not known whether this leg was separately moulded or handmade.

Throwing: Juktas.

Guggisberg' s method 10: 1996, 14-15).

Portions formed: Bodies; legs; necks; heads; muzzles; occasionally horns.

Scale: Figures.

Date: LM IIIC and one possible LM II figure (J45, pls.29-30).

When the body is produced as a separate entity, a basic geometric form is produced. When the neck and body are formed in one piece, the diameter of the front end of the body is narrowed by placing the hands opposite one another on the exterior and squeezing inwards, a process known as collaring (Rye 1981, 74).

The inner surface of the rear of several body portions features a spiral groove across the interior of the base, caused by the hand or thumb

pushing down and sideways into the center of the lump of clay, in order to start the formation of the wheelmade body (ibid.). The inner surface of wheelmade bodies features either the spiral grooves produced by lifting, or the shallower and less pronounced, frequently horizontal, lifting marks produced by shaping. The latter are often fine lines left by the fingers.

French has commented on the resemblance of the Phylakopi animal figures' wheelmade units to known pottery types, and in particular stirrup jars (French 1985, 340). These animal figures are characteristic of Mycenaean morphological types and differ considerably from their Cretan counterparts, whose individual parts do not have affinities with stirrup jars. However, the affiliations with pottery types is evident in the inspiration of the Juktas wheelmade leg shapes which greatly resemble those of kylikes.

It is certain that these belong to animal figures rather than kylikes for three reasons. Firstly because they are hollow in contrast to contemporary kylikes which only feature a small hollow inside the base. Secondly, when the attachment area to body survives, the hollow feet communicate with the body with a ventilation hole. Thirdly, because of the attachment to the body, they are not precisely cylindrical or symmetrical.

The most unusual of these Juktas legs is **J79** (pl.77, left), which is the largest in scale, with many ridges. This cannot be misinterpreted as a vessel leg because of its upper crooked angle, which could not but have fitted onto an animal body. I have not been able to find Cretan parallels for this. It is very similar to two kylix feet from the Amyklaion (Buschor et al 1927, nos. 20 and 21, pl.II, 19-23, 25; Demakopoulou 1982, pl. 52, no. 20). Buschor dates these to Protogeometric but Demakopoulou, following Desborough, dates them to LH IIIC (Demakopoulou 1982, 71-72 and footnote 226; Desborough 1952, 284). Demakopoulou parallels her leg portions, very like ours, with the ribbed stem of a conical kylix (FS276) known from various parts of NW Greece but also from certain locations in the Peloponnese, dated by Desborough to the latter part of the 12th c. (ibid.). While the base of the

Amyklaion leg no. 20 is very much like that of the Juktas leg, an Ithaka example has fewer ridges, like ours (Benton 1938-9, pl. 8, no 65). Perhaps the possibility cannot be discounted that no. 20 from the Amyklaion is from an animal figure leg, since, like our leg, it lacks the pedestalled foot.

Parallels in kylikes can be found for the Juktas type 7 legs with several parallel ridges (J104-J109; pls. 77-79). Although the Juktas figure legs end in a much less conspicuous foot, they are reminiscent of several examples from the Ionian islands: Marinatos 1932 pl. 6, no 44 (Kephallenia); Benton 1938-9 pl. 8; Benton 1949, 309, fig 1 2,3,5 (Ithaka).

The Juktas legs can be solid with a stick hole. These would have been formed on the wheel and then pierced with a narrow stick, or alternatively handformed with or without the help of a stick. Alternatively, they are hollow, either quite wide or very narrow. In both these cases, they could have been formed on the wheel, with the finger on the inside (Veronica Newman, pottery workshop, Oxford).

Ethnographic parallels show us that the parts of large wheelmade figures can be assembled in different ways. In North Gujarat, the potter Jethabhai of Lambadia places the wheelthrown body of his horse on the standing, wheelmade legs positioned in pairs to receive the body (Shah 1985, 49 and pl. c). An alternative method is followed by the potter Judhvbhai of Chhota Udaipur, who places the wheelmade body on the ground and fixes the thrown legs to the underbelly (ibid., 69, pls. a-c). For the assemblage of very large figures, the feet are tied together initially to remain in position (ibid., 71, pl.a).

Solid forming: Kophinas and Juktas.

Parts formed: Entire figures; legs, heads with or without necks of small to very large figures.

Scale: See above.

Date: MM III/LM I (and LM IIIC at Juktas).

Other techniques possibly associated with primary forming

The treating of the bodies of animal figures with beating, scraping and trimming or similar techniques 'which essentially complete the forming process' (Rice 1987, 136) would probably have taken place after a drying period and before assemblage. This is because such techniques usually take place when the body of the figures is still propped up in a vertical position. Once the legs, head and neck were attached to the body, it would have remained in the horizontal position and could not be placed upright again. A lot of the evidence of such treatments, including tool marks, is lost because of the wear of the rough textured animal figures from both sites. However, compared with the inner, the outer surface is much more smooth and even. This probably indicates that they underwent a treatment more drastic than just a final smoothing. They are too smooth to have been caused by rubbing over primary forming marks like those associated with drawing. Very often a smooth surface is all one would expect to find as evidence of such processes as beating.

An attempt is made below to assess which of these techniques may or may not have been used on the animal figures.

Beating (or paddling)

This normally takes place when the clay body is wet or nearly leather hard (Rice 1987, 137). It involves 'repeatedly striking the clay with or without internal pressure' in order to 'modify its shape, size and surface characteristics and compact the paste' (ibid.). This is a technique frequently, but not exclusively, associated with coiling (ibid.), a practice rare in Juktas and Kophinas; however it is also associated with drawing (Rye 1981, 72), evidence of which has been found on both sites.

It was probably not popular as a refining technique if associated with the exertion of internal pressure. Certainly the narrow diameter of many figures

and their not necessarily round form probably means that beating with the use of the hand internally, to apply pressure or simply to move around the vessel, may have been impractical. On the one body portion possibly showing internal evidence of coil-building (not photographed), the inner surface has hardly been smoothed, indicating that internal pressure was probably not applied. However, the possible body portion from a very large animal figure has interior markings rather which may indicate the use of internal application during beating (J145, pl. 98; for example of dimpling caused by anvil, see Rice 1987, 136).

Although it cannot be proved, beating in order to close the open end of a slab-made body may have been a useful application (Rye 1981, 84). Perhaps the practice of paddling without the use of internal pressure is more likely for the Kophinas and Juktas animal figures because of their relatively narrow diameter and the rather unfinished looking inner surface. [Perhaps the repeated indentations on the lower body of K52 (pl. 130) indicate that this was beaten with a stick?: not very clear in photograph].

Scraping: The clay usually has to be still wet or soft leather-hard, so (as is the case with beating) this process would have taken place before assemblage. Scraping is usually 'accomplished with smooth-edged tools' (Rice 1981, 137), and is useful in removing surface imperfections but also thinning walls (ibid). Since the techniques of coiling and moulding, with which it is associated, is rare in our figures, this technique may have more likely been used with drawing (Rye 1981, fig. 57b, p. 73) or coil-building (ibid., 72).

Surface finishing

These processes occur when the clay is leather hard, but may require wetting of the object with wet hands and smoothing with a cloth or sponge. Smoothing, which leaves a matt appearance, was a common practice. There may be occasional evidence of burnishing, which is distinguished from smoothing because it has a surface luster (possibly on Juktas figure

J49 (pls. 34 a-c); less worn areas of J54, pls. 39a-c). It is probable that a tool was rolled over the surface for eliminating imperfections and evening out the surface (Rye 1981, 138), evidenced by parallel linear facets. The marks on the external surface of many figures are quite soft and are probably more likely to have been formed by finger smoothing. The irregular and discontinuous markings on the animal figures indicate that this process occurred when the figures were stationary and all other forming had been accomplished, as one would expect.

A few points should be made about the closing of the body and at which end this occurred. Naturally, once the modeling of a figure is finished, it is closed at both ends of the body. However, because of the figures' great fragmentation, it is difficult to know whether one or both body ends of specific figures were closed prior to their final forming. It is certain that a variety of possibilities existed (Kourou and Karetsou 1994, 127; 1995, 109; French 1985, 240), depending on the techniques used in primary and secondary forming. In slab-built bodies, both ends would have been open initially; in drawn bodies, one end would have been closed, i.e. that which coincides with where the fist opened a hole in the clay. Similarly in wheelmade bodies, the closed end is the one where the hand or thumb is pushed down the center of the lump of clay. This leaves a characteristic spiral groove in the interior which is attested in several body fragments from Juktas.

The open side(s) of bodies could be blocked during the primary forming, prior to the assemblage. In drawn or slab-built bodies, an open end could be closed with drawing in without the use of additional clay. While still on the wheel, the upper (open) end of a wheelmade body could be completely closed up, or left partly open. Even if such measures were not taken during primary forming, an open end can be covered with a specially prepared separate slab of clay during secondary forming, once the figure has been assembled.

It was useful, but not imperative, to have the body open at one end during the figures' assemblage, so that the insertion of the hand inside would aid the firm attachment of the legs to the body. Finger marks are evident on the inner surface of the junction of figures with the body when the legs have no attachment peg. Many figure portions with rear closed ends have finger marks on their inner surface which indicates that this would have been approached from the open front end.

The front end was the one most likely to have been left open during assemblage. This could be the case for one or both of the following reasons. Firstly, when figures served as rhyta, the front end of the body core was left open to provide communication between the main body and the mouth. Secondly, whether the front was open or not also depended on the form and manufacture of the head and neck, and their manner of attachment to the body. In Cretan animal figures of MM III- LM I and LM III date, the likelihood that they remained open in the front was greater than was the case for LM III Mycenaean type figures. This is because, as Kourou and Karetsou have correctly pointed out, the Cretan figures always emerged at an angle from the neck in contrast to the Mycenaean figures where the neck was attached vertically to the upper edge of the body and essentially followed a different stylistic tradition (Kourou and Karetsou 1994, 128-9; 1996, 115; D'Agata, 1996).

Contrary to what has been suggested, it is not always necessary to use the closed end of a wheelmade body core for the rear of the figure, as is evidenced by the hand-closed rear of Juktas wheelmade body **J136** (pls. 92a-b).

Techniques associated with very large, MM III - LM I, animal figures from Kophinas

None of the body sherds from Kophinas can be ascribed with certainty to very large figures (see chapter II). Yet, the existence of such figures is known from very large anatomical parts (i.e. muzzle portion **K110**, pls. 146-

147; legs **K143-K150**, pls. 163-164; hooves **K151-153**, pl. 165). It may be that portions from their bodies will be identified amongst the pottery assemblage. In the meantime, we can hypothesize on their manner of manufacture. No wheelmade body fragments are included in the Kophinas material. While it is difficult, on these grounds, to discount entirely the possibility that the bodies of the few very large, MM III/LM I animal figures were wheelmade, their manufacture with 'handbuilt' techniques is far more likely for several reasons: a) the consistent use in Kophinas of open-vessel, 'handformed' techniques for all identified animal figure body fragments, including the hollow (slab-made?) muzzle portion from a very large figure (**K110**, pls. 146-147); b) the preferred use of 'handformed', rather than wheelmade, techniques for contemporary very large human figures from Kophinas; c) the choice of similar techniques for the very large, roughly contemporary, human figures at Aghia Irene on Kea (except for one later, possibly wheelmade exception); d) the use of non-wheelmade techniques in the manufacture of contemporary large vessels like pithoi.

The bodies of very large animal figures from Kophinas may have been slab-built, but in a more elaborate scale than their large human counterparts. This technique is eminently suited to the scale and the likely shapes of these bodies. An alternative possibility could be the use of coiling, although this is less likely since the technique is favoured neither in other animal figures nor in the very large human figures from the same site.

IV.1.3 MANUFACTURING PATTERNS IDENTIFIABLE IN THE JUKTAS AND KOPHINAS ANIMAL FIGURES

While the hollow handformed figure portions are clearly different in appearance from those made on the wheel, because of their fragmentation it is not easy to distinguish whether they were formed with slab-building and/or drawing. Therefore, the term 'handformed' is used hereafter when describing these body portions. It will be seen that this more generic term does not distort the evidence, and the resulting categorization of

techniques (into solid handmade; hollow wheelmade; hollow 'handformed'; mouldmade) fully serves to highlight the sites' manufacturing trends and their historical and cultural implications.

It is unusual to find figures whose individual parts are made exclusively with a single forming technique. As in vessel manufacture, several techniques are used in the making of individual figures, a forming method named 'compound' or 'composite' (Rice 1987, 124). The following combinations are verified by the Juktas and Kophinas materials, and affirmed by animal figures elsewhere in the Aegean.

-Hollow, handformed bodies and necks; hollow, handformed or solid heads; solid legs (with only three exceptions at Kophinas and one at Juktas of hollow, handformed legs)

-Hollow, wheelmade bodies; hollow, wheelmade or solid heads(hollow, handformed heads and necks are very rare); hollow, wheelmade or solid legs.

It is common practice to characterize the manufacture of a figure by the technique used in the forming of the body. This is valid because the body technique is dominant in two senses. First, the body is the first-made and largest portion of the figure; secondly, the body's method of manufacture influences the way the other parts are made. Thus, other body portions can, and are, often made in the same technique. For example, the neck, head or legs of figures with wheelthrown bodies are frequently, though not exclusively, wheelmade. Also, a consistent patterning can be identified in the combination of body forming techniques with those employed for the same figures' other portions. For example, practically all hollow, handmade bodies are associated with solid legs. From the above combinations it can also be seen that certain patterns are not practiced. Some of these reflect chronological differences, e.g. the non-association of hollow handmade bodies with wheelmade parts. Others however do not: hollow, wheelmade

bodies never have hollow, handmade legs although they can have hollow, handmade heads.

These different patterns are also associated with different ways of resolving technical and structural problems during the manufacture of the figures. These varied approaches can reflect both regional and chronological differences. Some Juktas LM III figures had sticks or reeds used to support them during (and after?) construction, a practice attested elsewhere in the Aegean during the same period, as in the Phylakopi animal figures (French 1985, 240). In MMIII - LM I human and animal figures, structural and airing needs are resolved without recourse to such aids, in contrast to the larger human figures from Kea which feature elaborate 'armatures' of osier and bamboo (Caskey 1986, 26-27).

IV.1.4 THE QUANTIFICATION AND CHRONOLOGY OF MANUFACTURING PATTERNS ASSOCIATED WITH ANIMAL FIGURES

It is necessary to stress again that we are here referring exclusively to animal figures, as opposed to figurines.

The difficulty in distinguishing between hollow, non-wheelmade techniques has meant that statistics representing the percentages of body sherds associated with distinct 'handformed' techniques cannot be provided. The more desirable statistics showing percentages of individual figures representing techniques identified (wheelmade, solid, mouldmade, slabformed etc) is also not feasible because of the fragmented nature of the material. However, simple quantification can show that it is possible to identify chronological trends associated with manufacturing techniques. The contextual evidence yields decisive results on the chronology of the techniques represented by both sites.

The Juktas evidence

The stratigraphic evidence was examined in order to date the manufacturing techniques evidenced in the site, based on the figures' contexts. Two matters are of particular relevance: 1) the earliest context of wheelmade figures; 2) the earliest contexts in which animal figures were found. Answers to these questions can be provided by a comparison of earlier, mainly unmixed, and later mixed layers. Below follows a listing of numbers of body portions according to forming technique used.

Context 1 (MM III - LM I): total 51

44 hollow, handformed

1 possibly mouldmade or wheelmade

1 indeterminate, possibly wheelmade (no rilling marks)

5 of indeterminate manufacture¹

Context 5 (MM IB - MM IIB): total 2

1 hollow, handformed (identification as animal portion uncertain)

1 hollow, wheelmade (identification as animal portion uncertain)

Context 6 (MM IIB -MM IIIA): total 1

1 hollow, handformed

0 hollow, wheelmade

The remainder of the contexts: total 817

These are mixed and contain mainly LM IIIC figures but also some MM III - LM I and later (Geometric) material. They contain the following body portions:

¹The fragments' manufacture is uncertain either because they are small and worn, or because they do not feature part of the inner body core. Even if the manufacturing technique of their figures were known, it is unlikely that these would modify the manufacturing trends identified below.

98 hollow, handformed

81 of indeterminate manufacture

638 hollow, wheelmade

The decoration and morphology of the surviving animal figures (including the body portions) found in the early, mainly undisturbed, Juktas contexts **nos. 1, 5 and 6** provide clear evidence that none of these figures can be ascribed to known LM III types. This further substantiates the excavator's assertion that these layers are practically clear from the admixture of later material. In contrast, the site's other, mixed, contexts contain animal figures whose morphology and decoration assigns most of these to LM IIIC or later. As will be seen below, the figures' manufacture also contributes to these chronological distinctions.

The date of wheelmade figures.

The virtual lack of admixtures in **contexts 1, 5 and 6** means that should portions of wheelmade figures be found in them, they can be dated to no later than the dates of the contexts in which they were found.

Clear distinctions emerge from the comparison of contexts. In contrast to mixed contexts which have yielded ample quantities of wheelmade figures (638 in total), **context 5** (MM IB - MM IIB) has yielded one wheelmade fragment which might be from an animal figure, and **context 1** (MM III - LM I) two body fragments which might be wheelmade. Neither of these two fragments have markings characteristic of rilling, subsequent trimming or smoothing processes associated with this technique. In addition, all the head or leg fragments from these early contexts are either solid or hollow, handformed.

In conclusion, no layers containing material dated from MM I to LM I have animal figures positively identified as wheelmade. Should the three pieces in question belong to wheelmade figures, they would attest to the rarity of

thrown figures in these early Juktas layers. These three pieces aside, if **J45** (pls. 29-30), which is from a mixed context, is correctly dated stylistically to LM II, it should be the earliest example of a wheelmade figure at Juktas. Otherwise all wheelmade figures are dated to LM IIIC, on a morphological and stylistic basis.

The comparison of the ratio of hollow handformed to wheelmade body fragments between early **contexts 1, 5 and 6** and later mixed ones is also significant.

	Contexts 1,5,6	Other contexts
Hollow, handformed body portions:	45	98
Hollow, wheelmade body portions:	3 or less	638

It indicates the (total?) dominance of handformed techniques up to, and including, MM III - LM I and the virtual dominance of thrown figures in LM IIIC and later. In fact, many of the 98 hollow, handformed portions found in mixed contexts could well be contemporary with those found in early contexts, since these also contain MM III - LMI material; despite their worn state, most would appear to be solid painted, the decoration characteristic of early figures but not one identified in any published animal figures which post-date MM III - LM I. **J169 to J172** are all from mixed contexts, and very likely of MM III - LM I date.

The earliest contexts in which animal figures were found.

The earliest, practically unmixed contexts in which animal figures were found are **contexts 5 and 6**.

Context 5 (MM IB-MM IIB)

- 1 hollow, handformed body portion (ident. as animal portion uncertain)
- 1 hollow, wheelmade body portion (ident. as animal portion uncertain)
- 2 heads (1 intact; 1 portion), solid
- 8 horn portions, solid

11 legs (intact and parts), solid

Context 6 (MM IIB - MM IIIA)

1 hollow, handformed body portion

2 head portions (intact), solid

5 horn portions, solid

3 legs, solid

These finds indicate that hollow handformed animal figures were most likely used at the Juktas peak sanctuary during both MM IB - MM IIB and MM IIB - MM IIIA, but that these were not frequent. The practice of dedicating animal figures increased during MM III - LM I as is evidenced by the finds of **context 1**. The use of wheelmade figures during MM IB - MM IIB and MM IIB - MM IIIA remains doubtful mainly because the wheelmade portion of **context 5** may be from a vessel, but also because the evidence for wheelmade figures in **context 1** is also contestable.

The Kophinas evidence

The evidence from this site was looked at with two particular questions in mind: 1) the possible existence of wheelmade figures; 2) the date of the respective techniques evidenced in the site. While we lack detailed stratigraphic evidence relating to the figures' contexts, the independent dating of the site's pottery to MM III - LM I means that all the techniques identified here are given this chronological horizon. No aspects of any animal figures (decoration; morphology; forming techniques) contradict this dating. No wheelmade figure fragments have been identified.

IV.1.5 THE COMBINED JUKTAS AND KOPHINAS MANUFACTURING EVIDENCE

With the possible exception of two or three fragments noted above, all the Kophinas animal figures and the Juktas figures from early contexts attest to the use of handformed techniques and moulding. Their markings exclude the use of centrifugal force and high speed rotation characteristic of wheelmade clay objects. There is no rilling, which would attest to the use of the wheel during primary or secondary forming and, unless it can be convincingly shown that the markings on the inner surface of the figures were used to obliterate rilling, a case cannot be made for the centrifugal use of the wheel. If rilling was subsequently obliterated, one would expect the type of intervention on the pottery which follows rilling. e.g. trimming or the usual method of smoothing the surface with the hand, or a sponge or some other device, as attested on contemporary Minoan wheelmade pottery. Rilling and smoothing marks on wheel-thrown vessels are parallel to each other and horizontal to the wheel (Gillis 1988, 187). However, no such markings have been identified on these early figures.

The early Kophinas and Juktas figures do not provide evidence of the use of a tournette either. The tournette 'does not rotate with the sustained momentum and centrifugal force of the true wheel' (Rice 1987, 134), however if it is turned quickly enough a vessel can be thrown on it (Gillis 1988, 187; Peacock 1982 25-27). When this occurs however, the tournette accomplishes fast but non-sustainable speed. The markings associated with such a use of the tournette are either short horizontal waves (evidence of rotation with short movements) or curved lines for a faster moving tournette (Gillis 1988, 187). In the absence of such markings on the early Juktas and Kophinas figures, the possibility of the fast rotation of a tournette must also be discounted. In fact, the rather rough inner surfaces of these animal figures are consistent with the use of techniques such as slab-building not utilizing centrifugal force or high speed rotation, as already suggested. If the inner surfaces were very smooth, it might be possible to

say that the use of the wheel has been overlooked due to subsequent smoothing, but this is not the case since the inner surfaces are quite rough.

Having said that, I cannot discount the possibility that the makers of the Kophinas and/or Juktas figures used a rotating device as a support, simply to facilitate the moving around of the body of the animal figures during primary forming. This hypothesis is based on the assumption that the potter, rather than the body, remained stationary during manufacture, the practice most widely attested ethnographically (Rice 1987, 133). Such a turning device would have been useful in the forming of drawn bodies, or in the drawing upwards of slab-formed bodies. It would not have been necessary in exclusively slab-formed bodies. Such slow and intermittent movement would not have attained speed or momentum.

In theory, any of the following devices could have been used for slow and intermittent rotation: a simple non-pivoted turntable (e.g. mat, basketry or matting: Evely 1988, 96 and 125; Warren 1972, 316), a tournette, or a potter's wheel. Both the tournette and the potter's wheel can be used manually for simple rotation without sustained rotation or centrifugal force during the secondary and also the primary forming process. I have not found evidence of the imprint of any surface on the ends of the animal figures.

In conclusion, animal figures predating the MM III - LM I period are sparse, and were probably hollow and handformed. Fragments so dated have been identified at Juktas because of the stratigraphic evidence. It has not been possible to identify in Kophinas any pre-MM III - LM I figures, either stratigraphically or stylistically. The MM III - LM I animal figures from both Kophinas and Juktas attest to the common use of 'handformed' techniques and the infrequent use of moulding. Kophinas has not yielded evidence of thrown figures, and Juktas attests to the near or total absence of the wheelmade technique. No animal figures in Kophinas post-date LM I, when the site's use is interrupted. Juktas, whose history continues into LM III and

Geometric times without interruption has yielded many wheelmade LM IIIC figures but only one thrown figure of possibly earlier date, i.e. LM II.

IV.1.6 THE MANUFACTURE OF THE MM III - LM I JUKTAS AND KOPHINAS FIGURES WITHIN THE CRETAN AND AEGEAN CONTEXT

Cretan evidence

In this section, I compare the Kophinas and Juktas material with the small amount of contemporary, MM III - LM I, material published from elsewhere in Crete and the rest of the Aegean. The few, well-known previously published animal figures are supplemented with the evidence of lesser-known figures from Galatas, possibly Tyliossos, and Ayia Triadha. It is also suggested that previously unprovenanced material from the Goulandris Collection is very likely to come from the Kophinas region, and therefore also dated to MM III or MM III - LM I.

The morphology of several bovine figures published in the Goulandris catalogue (Marangou 1985), little referred to in the literature, is remarkably similar to that of the figures from Kophinas. Perhaps the analysis of their fabrics would verify that they were produced in the same manufacturing region. The provenance of these plundered pieces may well be the Kophinas peak sanctuary. Goulandris figure no. 44 is practically identical in most of its details with K55 (pls. 133-134), 45 quite like the more unusual K54 (pls., 133, 135-136). While Marangou does not specify their manufacturing technique, it seems most likely that these are hollow and handformed, like their known Kophinas counterparts. Some of the catalogue figures have been individually dated by Marangou to MM I (Marangou 1985, nos. 47-48), but the more recent dating of the principal period of use of Kophinas to MM III - LM I on the basis of pottery finds, and the well-stratified MM III - LM I parallels from Juktas, Galatas and 'Tyliossos' (see immediately below) require a re-dating to MM III or MM III - LM I. If these

figures are from Kophinas, they mainly confirm what we already knew about the figures from this site.

Dr G. Rethemiotakis has very kindly shown me the head and neck of a large bovine rhyton found in a securely dated MM IIIB/LM IA context under the paving of the central courtyard of the palatial building at Galatas. This is hollow and handmade, and similar to bovine rhyta **K62** and **K63** (pls. 142-145) from Kophinas and bovine head **J10** (pl. 3) from Juktas. Finally three unpublished bovine figure portions in the Heraklion Museum, marked as coming from the 1914 Tylissos excavation by Chadzidakis, should be considered here (HM inventory nos. 27880, 27881 and 27874). A combination of decoration, form and handformed manufacture verifies a MM III date. All three are solid painted, and white-on-dark decoration survives on two of these: no. 27881 has white linear decoration and no. 27874 has white dots (reminiscent of the white dotting attested in both MM II and MM III pottery: *ABAC*, 57). These two are definitely rhyta, no. 27881 featuring part of its neck aperture. Nos. 27880 and 27874 have close typological parallels with the Kophinas bovine figures. As they survive, none are wheelmade. No. 27881 may be coilmade and no. 27874 has a hollow neck and head. No body portion survives on solid head no. 27880. There is no evidence to suggest that the greater preserved nos. 27881 and 27874 are anything but hollow and 'handformed', and the same most likely also applies to 27880.

These four pieces from 'Tylissos' and Galatas add supporting evidence to the few Juktas and many Kophinas figures which have greatly augmented our knowledge of the handmade manufacture of MM III - LM I animal figures. As already explained, coilmaking, possibly evidenced by Tylissos no. 27881, is not attested at Kophinas and only one Juktas piece of uncertain date was so made. This technique is also clearly evident on an unprovenanced figure stylistically dated to LM I-III A by Guggisberg (Guggisberg 1996, no. 529, pp. 10 and 151 and , pl. 39.3 and 4).

The few MM III - LM I pieces associated with mouldmade figures are supplemented by the well-known moulded figures from Pseira, Pachyammos, Vasiliki and Knossos (Seager 1910, 23, figs 7 and 31, pl.9; Higgins 1984 no 23, 200 and 202, pl. 194.5; and ft. 26 for general references; Marinatos 1969, pl. 232).

At this point, some further evidence from Ayia Triadha should be discussed. As this differs from the evidence outlined so far, it is quoted in full.

'... Kamares-style bull rhyta were originally and mainly made by hand, but obviously the newly introduced use of the wheel in the making of vases had its repercussions in the making of rhyta; thus, although generally considered handmade, some of these MM IIB and MM III hollow figurines in the Kamares style on careful examination proved to have been made on a slow wheel. There is no typological or other distinction between handmade and wheelmade specimens of this class [pl. XLIVb-c] thus implying that they were possibly made in the same workshops. Therefore, the history of terracotta wheelmade bull rhyta and figurines in Crete can be pushed back to the MM IIB period, although not without gaps as yet (Kourou and Karetsou 1997, 114).

Kourou and Karetsou rightly state that Cretan MM IIB and MM III animal figures are hollow and handmade. The authors, in associating certain Aghia Triadha figures with the 'slow wheel', seek to indicate the existence of a precedent in MM IIB and MM III Crete for the manufacture of animal figures on the potter's wheel. At this point, the use of the terms 'slow wheel' and 'fast wheel' needs to be clarified.

These terms were first used by Aegean archaeologists when comparing Protogeometric and Submycenaean pottery. The notion that Protogeometric pottery reflected a technological advance because of the

adoption of a faster potter's wheel has been shown to be incorrect (Eiteljorg 1980, 447). It is based on the misguided assumption that the fast and slow wheels are somehow distinct entities because of 'technical or practical improvements' (ibid.; Evely 1988, 118) resulting in different rotational speeds, and having a different effect on the artefacts they produce. These misconceptions surrounding the rotating speed of the potter's wheel arose from an early 20th century lack of clarity in the definition of turning devices and their respective speeds of rotation (Eiteljorg 1980, 447). There has been a lack of distinction between (a) wheels which have fixed pivots and can be rotated with sufficient speed and momentum to allow the transmission of energy from the rotating wheel to the clay (ibid.) (kick wheels, wheels moved by stick and simple wheels), and (b) tournettes or turntables which while pivoted cannot be used to store and release energy. This lack of accuracy in definition has resulted in the term 'wheel' being used for both wheels and tournettes/turntables, and the mislabeling of a tournette as a 'slow wheel' (Rice 1987, 134).

It has been pointed out that once a wheel is fixed to a pivot and centrifugal force is achieved, it can be spun at different speeds ranging from approximately 50/60 to 130/150 rpm 'to suit the needs of the moment' (Evely 1988, 118). This fact renders invalid the distinction between 'slow' and 'fast' wheels. As said previously, a tournette can also achieve, for short durations, a high speed, but because of its non-sustained momentum and lack of centrifugal force, it cannot be described as a wheel. Thus the term 'slow wheel' is a misnomer. It is also worth noting that not all proper wheels have a flywheel effect (Rice 1987, 134), but they all attain centrifugal force. Therefore the markings on thrown objects cannot be used to distinguish between potters' wheels on the basis of whether or not they have the flywheel effect.

Although I have not seen the Aghia Triadha figures 'made on a slow wheel', on the basis of the above observations a few comments can be made on their manufacture. These figures must not feature rilling or other markings

typical of the use of centrifugal force since the authors would have described the animal figures as being made on the 'fast wheel', or simply on the wheel. Yet the implication of the use of the term 'slow wheel' is that the figures' markings evidence pivoting and rotary movement, albeit without constant centrifugal force. These markings could therefore be produced either by a potter's wheel used as a tournette (rather than to its full potential), or by a tournette used to its full rotational potential. In either case, the potter's wheel or the tournette would have been turned at high speeds but with interrupted rotation. (Presumably the markings are such that the possibility is discounted that the markings on these figures were produced by non-pivotal rotation, i.e. a more simple hand-turned device).

Therefore, the Aghia Triadha figures might provide evidence of a rotational device in full speed. It remains to be clarified whether this rotation is associated with primary forming or is an accompaniment to such forming techniques as drawing and slab building. In the former case, it attests to a technique seemingly not evidenced at Juktas and Kophinas. The latter case has been conjectured as a possibility for the Kophinas and Juktas figures.

If the evidence has been properly interpreted here, the Aghia Triadha figures do not provide evidence of the use of constant centrifugal force. In this, they comply with all the other evidence discussed so far. We know that in Minoan Crete the freely rotating potter's wheel, and thus centrifugal force, were used frequently in pottery forming from MM IB onwards (Evely 1988, 112, 125; Warren 1989, 47). Yet, on the basis of its total or virtual absence from all the combined evidence outlined above, this technological potential, if used at all for animal figures between MM II and LM I, was done so very infrequently indeed. The technology of the wheel hardly affected the tenacious tradition of handforming animal figures.

In conclusion, the manufacturing trends identified in the MM III - LM I Juktas and Kophinas figures comply with the rather scanty testimony provided by both published and previously unknown contemporary figures. We must

await the systematic publication of other sites, particularly peak sanctuaries which will, I believe, provide plentiful comparative material on handformed techniques.

However, a note of caution is needed regarding the danger of ascribing to non-published assemblages the same manufacturing techniques as those found at Kophinas or Juktas or the other known Cretan sites. Other sites may yet yield wheelmade figure(s) dated to no later than LMI. In this respect it is interesting to note that G. Rethemiotakis refers to the existence of human figurines with thrown skirts from the peak sanctuaries of Petsophas, Traostalos and Vrysinas (Rethemiotakis 1997, 117), sites whose use we know extends into the 'Neopalatial' period (Peatfield 1990, 127). Perhaps some of the animal figures from these sites are also wheelmade. However, the existence of such figures would not change the general trend corroborated by material from several sites. Such findings would alter the known evidence by adding another, probably regional or local, trend to the general picture, and would not change the quantitative dominance of handformed techniques.

Other Aegean evidence

At this point it is worth noting that the few contemporary figures identified elsewhere in the Aegean are also either handformed or mould-made. The two earliest figures at Phylakopi on Melos are dated to LC I. One is coilmade (Atkinson et al 1904, 204 and fig. 176; French 1985, 240; Renfrew 1985, 375 and fig. 9.1; Guggisberg 1996, no. 406, 116 and 370, pl. 29.1), and the other is made of a hollow, handformed cylinder (Atkinson 1904, 204 and pl. 40; Guggisberg 1996, no. 407, 117, pl. 29.2). The well-known LMIA bull figure from Akrotiri on Thera is mould-made (Marinatos 1969, 153 and pls. 170.2; 171.1; 232.12).

Implications of the above analysis

The Kophinas and Juktas evidence changes in many ways our knowledge of both the established sequence and the quantification of animal figures in Minoan Crete from MM III onwards.

Firstly, certain aspects of the Minoan sequence are verified and remain the same, i.e. the representation of few examples of mouldmade figures and even fewer coilmade ones. These two techniques are already familiar to scholars and verified by the few published figures (Nicholls 1970, ft. 71, p 27; Higgins 1984, 199-200; French 1985, 240; Guggisberg 1996, 151 and 369).

Secondly, the realization that there are many previously unknown figures which are slab built and/or drawn and dated to MM III - LM I could not have been fully anticipated before the study of the Juktas and Kophinas material. This is of course alluded to by A. Karetsou, the excavator of both sites (Kourou and Karetsou 1996, 114). The corpus of Minoan animal figures is very much augmented and these additional manufacturing techniques are defined.

Through no fault of theirs, scholars have previously had to rely on scanty evidence due to lack of publications. As a result, researchers are either unaware of the existence of handformed figures (e.g. Nicholls 1970, 8 and 27, ft. 71); or avoid referring to them since they cannot provide published examples (e.g. French 1985); or allude to their existence by referring to handmade figures without further defining dates, quantities or techniques used (e.g. Higgins 1984, 200; Guggisberg 1996, 369; and more specifically: Kourou and Karetsou 1996, 114). Due to lack of published material, certain misconceptions have arisen. We now know that Nicholls' statement that 16th and 15th century Minoan animal figures were all wheelmade, with the exception of a few mouldmade figures, cannot be substantiated by the material evidence (Nicholls 1970, 8 and 27, ft. 71).

From the Juktas and Kophinas evidence, it becomes possible to identify a previously 'untapped' phenomenon related to the production and consumption of handmade animal figures serving a ritual function, and to situate it in relation to the better known, though previously unquantified, existence of solid animal figurines. This phenomenon is firmly linked with the MM III - LM I peak sanctuary cultic activity. If one can judge by display cases in the Iraklion and Aghios Nikolaos Museums containing unpublished animal figures, this phenomenon is not exclusive to the Juktas and Kophinas peak sanctuaries.

The contrast between the number of animal figures found at Juktas and Kophinas is not fortuitous: it shows that this is a complex phenomenon with regional variations: the large number of Kophinas figures is inversely linked with the virtual absence of figurines, and the reverse applies to Juktas where the animal figurines dominate. The numerical abundance of slab-build or hand-drawn figures highlights the smaller numbers of mouldmade and coilmade figures.

Thirdly, scholars' reconstruction of the sequence of Minoan wheelmade figures is verified. The substantial Juktas material augments the significant corpus of LM IIIC Cretan material and, with the exception of one possible figure, provides no evidence of wheelmade figures from LM II up to LM IIIC. However, because of our new realization of the existence of many MM III - LM I figures in Crete (independently of their technique of manufacture), this caesura spanning LM II to LM IIIB becomes all the more dramatic.

Finally, it should be stressed that the manufacture of handformed animal figures is one aspect of a wider tradition which includes the production of human figures. Like their animal counterparts, the human figures found at Kophinas are hollow and handformed, and there is no evidence of any being manufactured on the wheel (Rethemiotakis 1997, 117-8). They are also produced in a similar range of sizes, including on a very large scale. According to G. Rethemiotakis they can reach a height of 1m, which is

commensurate with the scale (but not the height) of the largest animal figures.

According to Rethemiotakis, the technique identified in the Kophinas human figures of hollowing out clay with the use of a tool is inspired by the animal figures (*ibid.*, 118). I have not been able to find evidence of the use of this technique in the animal figures. It is probably not necessary to ascribe techniques used in human figures as originating in their animal counterparts. It is reasonable to hypothesize that human and animal figures were made contemporaneously, and petrographic analyses should verify that they share the same clay recipes and firing conditions. Even if they were not made in the same production space(s), they were no doubt produced in the same manufacturing region.

The manufacturing techniques of the Juktas and Kophinas animal figures could have bearing on the construction of production models. The non-use of potters' wheels or other fixed rotating devices should be taken into consideration in reconstructions of these figures' workshop environments. Their manufacture would require installations for the working of local or 'brought' clay and a permanent (?) kiln, but perhaps there was no need for permanent rotating devices.

In constructing an adequate model for the Kophinas animal figures, it is necessary to use evidence related to the production of both human figures and pottery used at the same site. It is therefore necessary to compare the pottery's clay recipes, firing conditions and manufacturing techniques with those of the animal and human figures. It is particularly important to see whether the pottery is wheelmade, in contrast to both animal and human figures, or handmade like these. If their manufacture were different, we would have to conjecture whether differently equipped manufacturing spaces are attested in the same production region or, alternatively, whether the animal figures were produced in workshops containing potters' wheels. The latter possibility is suggested by Kourou and Karetsou (Kourou and

Karetsou 1996, 114; quoted above, p.28). In the case of the Juktas , and particularly the Kophinas figures, if they were made in a workshop(s) with potters' wheels, these would not have been used at all, or would simply have been used for rotation (as suggested on pp.133-134).

Certainly the tradition of handforming pottery during periods when wheelthrowing was firmly established is well-attested ethnographically and evidenced in the prehistoric Aegean (e.g. the Lustrous Decorated Ware of the southern Peloponnese; the gold mica wares of Aegina: Dickinson 1994, 108; Nordquist 1997, 205-207). More information on proportions of techniques represented by Minoan pottery would be very useful in this regard. Until then, it will be difficult to assess how different or similar the handmade production of the Juktas and Kophinas animal and human figures is within the wider contemporary context of the production of clay artefacts.

It will be difficult to situate the handmade production of the Juktas and Kophinas animal and human figures within the wider contemporary context of the production of clay artefacts, and to assess how this complies or differs from the techniques and processes used for other clay artefacts.

IV.2 THE DECORATION OF THE JUKTAS AND KOPHINAS ANIMAL FIGURES AND FIGURINES

Despite the worn condition of the figurines and figures, decorative trends corresponding with different temporal phases can be identified. These trends comply with what is already known of animal figures' decoration in Crete and the Aegean. The original contribution of the Juktas material lies in the rich range of LM IIIC decorative motifs, some not attested previously on other Cretan figures.

IV. 2.1 MM I - LM I EVIDENCE (JUKTAS AND KOPHINAS)

The majority of MM I - LM I figur(in)es from Juktas and MM III - LM I figur(in)es from Kophinas were solid painted. On some figures, certain areas are excluded from paint. Such is the case with leg **J18** (fig. 36) from Juktas, selectively painted in the front. Similarly, body sherd **J7** (fig. 35) shows us that the underside of this figure was not painted in its entirety. In the latter case, this may have occurred because this part of the figure was hidden from view.

In Crete, the sources of inspiration for more elaborate MM II and MM III animal figure decoration are polychrome and light-on-dark pottery decoration. In the absence of evidence of polychromy on the Juktas figures it is not possible to date stylistically any of these to MM II. Nor, predictably, is it found at Kophinas where the figures date to MM III-LM I.

White-on-dark decoration, although perhaps more common than the surviving evidence indicates, was probably rare in Kophinas and Juktas. While it may have been used on the animal figurines from both sites, no evidence survives of this. It is found only on two figure portions from Juktas. **J9** (pl. 2) has a white circle around the eye and can be dated to MM III (or earlier?). The muzzle of head **J10** (pl. 3) is also encircled with a white band/line. As already said, the vast majority of the figurines appear to have been entirely covered in monochrome paint. This ranges in colour from red to reddish brown to brownish black (see appendix I). The figurines may

have been dipped in paint rather than painted individually. While the decoration does not survive well on the figures either, it would appear that many of these, in both sites, were solid painted in similar shades as the figurines.

Dark-on-light decoration is evidenced with certainty on only a few of the MM III - LM I figurines. Due to the frayed condition of their paint, we have only illustrated in figs. 1 - 27 the decoration of those which might attest to the use of dark-on-light. When this occurs on bovine figurines, it probably represents hide patterns (figs 1.14, 5.12, 6.5). One figurine, identified as a ram, may also be similarly decorated (fig.16.1).

Dark-on-light decoration is attested on body fragment **J5** (fig. 33). The solid, dark circle on the light ground probably indicates the dappling of the bovine's hide. This rather rare decorative scheme has parallels on a MMIII/LMI figure from Phaistos (Levi 1976, 311; Guggisberg, 171, **590**, pl. 43.6) and on another from Phylakopi on Melos (Atkinson et al. 1904, pl. 1; Renfrew et al 1985, 375 fig. 9.1; Guggisberg 1996, 116, **406**, pl. 29.1).

In Crete, the mouldmade bull askoid vessels can be more elaborately painted than the handformed figures. A fine example is provided by the bull askoid vessel from Pseira covered in a painted pattern representing a ceremonial net (Seager 1910, 23, pl. 9). However, the only two surviving body portions from a mouldmade figure, found at Kophinas, were solid painted in red (K112-113, pls. 159-160). Leg **J16** (pl. 10) from Juktas and legs **K157, K159 and K160** (pl. 166) from Kophinas may have belonged to mouldmade figures with more elaborate decoration.

In the case of the Juktas figures found in mixed contents, the solid painted decoration has been helpful in their dating. We have ascribed **J170, J171 and J172** (pls. 118-123) to MM III-LM I on the combined basis of their handformed manufacture, morphology and, very likely solid, decoration. While the manufacturing technique of **J46** (pl. 31) remains unknown, the combination of its solid painted decoration and

naturalistic head favour a date in LM I¹. Certainly both the decoration and morphology of this figure follow a MM III-LM I tradition which contrasts with the wheelmade, more schematic LM IIIA2 figure from Psychro whose hide pattern is identical to that of the garb of the priestly figures on the Aghia Triadha sarcophagus (Kanta 1980, 122).

IV.2.2 THE LM IIIC EVIDENCE (JUKTAS)

Post - LM I figures were found only at Juktas. Of these, only one might be dated to as early as LM II (J45, pls. 29-30). All the Late Minoan III figures are dated to LMIIIC on the basis of their decoration, i.e. individual motifs and the way they have been combined in an overall decorative scheme.

Like many of their mainland and Cycladic counterparts, the decoration of the LM IIIC figures is bilaterally symmetrical, and dictated by the horizontal axis of the body. A range of decorative possibilities can be identified.

Although their decoration is poorly preserved, some of the figures may have been monochrome. J58-J61 (two heads and two body sherds: pls. 43a-b), J92a-b (body portions: pls. 69-70) and J93, (leg possibly belonging to the previous body: pl. 71middle) might have been entirely covered in reddish brown paint. Legs J79 (pl.77), J81 (pl. 28) and J150 (pl. 71) might also be monochrome, but we have suggested in appendix II that, of these, J81 and J150 could belong respectively to bodies J80 (pl. 63, right) and J149 (pl. 102, middle), decorated in the more usual way, i.e. with motifs on a light ground. The morphology of these possibly monochrome body parts leaves us in no doubt that they are dated securely to LM IIIC.

Most figures are decorated in selected areas. Decoration can be restricted to the linear definition of the body's contours, as with J47 (pls. 32a-b). When additional

¹In view of its decoration, a LM IIIA date seems less likely; we have not entirely excluded such a date because we lack information on the manufacture of this figure's body.

motifs are used, the racket defining the haunch and extending down the leg is filled: **J48** (pl. 33a-b, fig. 44) is cross-hatched, **J49** (pls. 34a-b, fig. 45) features parallel lines, while the more finely decorated figure **J51a-c** (pl. 36) has a cross-hatched lozenge within the racket (**J51a**). The haunches of **J53** (pl. 38, fig. 46) are filled with quatrefoils, and **J52a** and **J52b** (pl. 37) are portions of similarly decorated areas. On **J50** (pls. 35a-b), a cross-hatched triangle features on the forehead, an area often selected for decoration in this manner on the Juktas figures. The heads of **J85** (pl. 65a) and **J86** (pl. 65b), from slightly larger figures, are similarly decorated. The thick contour band on figure portions **J51a-c** (pl. 36) and **J52a-b** (pl. 37), combined with these decorative motifs, is characteristic of LM III C pottery decoration.

The same decorative scheme is found in larger figures. The haunches of **J130-J133** (pl. 89) are cross-hatched, and heads **J65**, **J66** and **J69** (respectively pls. 46a-b; 47a-b; 50) feature cross-hatched triangles. The converging lines running down legs from similarly sized figures are probably the tapering ends of rackets which encircled the haunches (legs **110**, pl. 80; **119**, pl. 81; possibly **118**, pl. 81).

Several portions from larger figures were probably similarly decorated. **J95** (pl. 73) shows bands which ran down the outer surface of the figure's leg; and **J134a-b** (pl. 91a) has bands running along the backbone. Two very large heads, **J76** (pls. 59-60) and **J125** (pls. 84-85) have a cross-hatched triangle which, in the former case, survives very faintly.

Animal figures with less selective decoration covering the entire length of the body are rarer. The body of **J54** (pls. 39a-b, fig. 47a) has a simple triglyph panel, inside which is a filled lozenge which may have been part of a chain. This panelled decoration is however combined with the more typical haunch decoration. Its surviving haunch features, inside its reduplicated edge, a lozenge and dotted lines. The lay-out of the haunch's motifs, in this combination, has parallels in LM III C Close Style stirrup jars.

On **J55** (pls. 40a-b) and **J57** (pls. 42a-b; fig. 49) the decoration also runs horizontally along the body inside simple panels. On **J55** (pls. 40a-b), a narrow zone of solid double axes with reduplicated edges runs along the backbone; and on each side of the body of **J57** (pl. 42a-b, fig. 49) is a series of pendent solid semi-circles with reduplicated edges. The alternating dashes on the leg of **J55** (pls. 40a-b), the series of solid motifs and the filling of their interspaces with lines on both **J55** and **J57** are all characteristic of LM IIIC Close Style pottery decoration, although in these figures they feature against a plain ground. While the haunches of these figures featuring panelled decoration are painted, from a decorative viewpoint, the natural contours of the animal are less important.

In **J56** (pls. 41a-b, fig. 48) the rectilinear division of the body into side panels bordered by triglyphs with garlands and festoons, obviates the need for the curvilinear decoration of the haunches. The quatrefoil within this decorative context provides definitive proof of its LM IIIC date. As with **J55**, a narrow zone follows the backbone, decorated with solid triangles with reduplicated edges.

Juktas has provided some fine examples of figure fragments in Close/Fringed Style. The foreheads of the **group 4** heads **J62** (pl. 43c left), **J63** (pls. 44a-b) and **J64** (pl. 45a-b) are variously decorated with reduplicated triangles filled with oblique lines, ladder patterns, and fringes. Body sherd **J67** (pl. 48, fig. 51) is decorated symmetrically and densely with narrow panels of alternating lines and garlands (?).

J80 (pl. 63 right, fig. 55) has an arrangement of motifs similar to **J67**, but the decoration is 'loose' and larger in scale. This brings us to the bilateral decoration of several body portions which is larger in scale and less detailed than that of the figures discussed so far. Body portion **J82** (pl. 63, fig. 56) features, on either side of the backbone, a series of tapering bands and groups of lines. **J75** (pls. 57-58) has large, roughly executed, loops containing a reduplicated solid lozenge. **J77** (pl. 61, fig. 54) is one of the more unusual pieces, for which no parallels can be found among known animal figures. It is boldly decorated with reduplicated curved lines (around the

haunch), individual circles, and a group of parallel lines. The reduplicated curves are strongly reminiscent of the spiral motif, but also the concentric circles around the base of contemporary cups and bowls.

While it is clear that the figures with panelled decoration have been affected by Mycenaean stylistics, mention should be made of three small figures which may be affected by the stylistics of mainland figurines. Of these, **J162** (fig. 68) with its parallel slanted lines and **J163** (fig. 69) with its zig-zag pattern are very likely to be LM IIIC in date. The side panels of **J158** (fig. 65) feature alternating transecting lines and rows of dots. As indicated in its individual catalogue entry, the decoration of **J158** occurs during both the LBA IIIC and Geometric periods.

The pieces most likely to be Sub-Minoan or later in date are body portion **J74** (pl. 56, fig. 52), with its dense but well-ordered upper zone of alternating zig-zag, and **J153** (pl. 104) which combines a cross-hatched and inverted solid triangles. It might be argued, but not convincingly to my mind, that some of the more 'degenerate' pieces are Late Minoan/Sub-Minoan. Such pieces are body portion **J75** (pls. 57-58), and heads **J68** (pl. 49) and **J70** (pl. 51) which are quite 'stylized' in form and feature roughly executed fringed decoration.

It is necessary to comment further on the decoration of two figure portions since their dates differ from those ascribed to them by Guggisberg. I have dated **J50** (pls. 35a-b) to LM IIIC, whereas Guggisberg has given it a Geometric date (Guggisberg 1996, 152-153, 532). I have assigned this figure to **group 2** (whose other members, **51a-c** and **52a-b**, are undoubtedly LM IIIC) for three reasons: a) the cross-hatched triangle on the forehead is very popular in LM IIIC figures in Juktas; b) the even, symmetrical execution of the decoration is evidenced on LM IIIC figures (e.g. the execution of the lozenge on the haunch of figure fragment **J51a** (pl. 36), assigned to the same group; c) **J50** is very similar in scale, manufacture, and fabric to **J51a-c** and **J52a-b**.

On balance, the date of the problematic figure portion **J45** will have to be left open. Guggisberg likens the motif on its haunch to a wheel motif on a horse from Tsoutsouros(?) of Sub-Minoan/Protogeometric date (Guggisberg 1996, 177, **612**, pls. 46, 2-3)². This wheel is however entirely different from that on the Juktas figure and the LM II motifs we have suggested in the catalogue entry; however, a LM III motif more similar to that of **J45** is provided by the wheel-like motif on the false neck of a stirrup jar from the re-occupation level at Petras (Tsipopoulou 1997, 217, fig. 14: 92.349).

IV.2.3 COMPARISONN OF LM IIIC (WHEELMADE) ANIMAL FIGURE AND POTTERY DECORATION

Guggisberg has commented on the fact that motifs used in mainland animal figures are derived from the Mycenaean pottery repertoire (Guggisberg 1996, 369). The LM IIIC Juktas figures' decoration has adopted individual motifs and decorative schemes from Cretan, and mainland, pottery. Hatched and cross-hatched triangles, frequently used on the foreheads or haunches of the figures, are common filling motifs of LM IIIC pottery (ABAC, 92). The use of solid motifs (triangles, double axes) reduplicated by finer lines, found on the figure bodies, is also characteristic of contemporary pottery; and the characteristic use of thin lines outlining solid areas of decoration (ibid.) is likewise derived from the pottery repertoire. A krater from Juktas features elements characteristic of the site's animal figures (particularly the decoration on their haunches). This fine vessel is covered with a surface pattern of vertical cross-hatched lozenges, with reduplicated outlines, enclosed within the loops of a network of curvilinear bands (Karetsou 1978, 255 and fig. 14). Petrographic analyses may well show that workshops producing these vessels also made animal figures. Like the kraters dedicated at the peak sanctuary, the similarly decorated animal figures were also prestigious and costly offerings.

²This figure is clearly later in date, and contrasts with the more plastic rendering of **J45**.

Of great interest are the typically Mycenaean panelled patterns decorating the animal figures, as is shown by the panel with a simple triglyph on **J54** (pl. 39a, fig. 47a) and the more elaborate example, bordered with garlands and festoons and filled with a quatrefoil, on **J56** (pls. 41a-b). The introduction of panelled decoration on Cretan pottery is indicative of mainland influences (Furumark on triglyphs: 1941, 419; Popham 1965, 335; Warren 1982-83, 74 and 1997, 181-183; Kanta 1997, 97).

It is clear that the Juktas animal figures provide examples of both Cretan and Mycenaean-inspired decorative schemes, and this is a good point to compare the decoration of the Juktas figures with those from elsewhere in Crete and the Aegean.

IV.2.4 COMPARISON OF THE DECORATION OF THE LM IIIC WHEELMADE FIGURES FROM JUKTAS WITH THAT OF CONTEMPORARY CRETAN AND MAINLAND FIGURES

While we await the publication of the rich material from Aghia Triadha and Kato Syme, which will provide many comparanda, it is evident that some of the decorative principles and individual motifs of the LM IIIC Juktas figures can be found on figures published from Phaistos and Patsos. These show that the painted outlining of the animal figures' contours, including the haunches, was a popular decorative scheme. Two of the finest examples of LM IIIC figures are afforded by the intact bull figure from Phaistos (Pernier, in *Monumenti Antichi* 12, 1900-1901, 118, fig. 47) and another from Patsos (Kourou and Karetsou 1994, 131, no. 5, fig. 7). The former has solid painted haunches; on the latter the haunches feature lozenges, which, unlike those of the Juktas figures, are solid painted. The elaboration of these figures' decoration is reminiscent of the smaller scale Juktas figures **J51** (pl. 36) and **J52a-b** (pl. 37). Several other, more schematic, figures from Patsos (probably still within LM IIIC) follow the same scheme although they are more simply decorated (Kourou and Karetsou 1994, no. 6, pls. 8-10, figs. 3-5; no. 7: pls. 11-13 and figs. 6-9). The greater simplicity of their painted decoration is very like that of **J130**, **J131** and **J133** (pls. 89 and 90). Like some of the Juktas figures, Patsos head no. 11 (Kourou and Karetsou 1994, pls. 21-24; figs. 14-15) and the pair of legs no. 18 (*ibid.*, pls. 40-41) feature

alternating lines. The painted eye lashes on the heads of no 11 and no 5 from Patsos also feature on the heads of Juktas figures (J65, pls. 46a-b, fig. 50; J68, pl. 49; J70, pl. 51).

While a few of the published Cretan figures have decoration which runs along both sides of the body (e.g. Aghia Triadha: Banti 1943, fig. 31), I am not aware of published examples on figures other than from Juktas of Mycenaean - inspired panelled decoration with triglyphs. This decorative scheme is of course found on contemporary Cretan pottery. Panelled patterns are found on mainland figures; but the use of triglyphs, attested at Juktas, is not particularly common, if we can judge by the virtual absence of these in Guggisberg's useful presentation of pottery-inspired Mycenaean motifs used primarily on mainland figures (Guggisberg 1996, table 1).

The decorative differences between the wheelmade Cretan figures and their mainland (or mainland - inspired) Cycladic counterparts are strikingly obvious. Firstly, the painted definition of the natural contours of the haunches, and their filling with motifs, is not attested elsewhere in the Aegean. Secondly, although different in many respects from the Mycenaean figurines³, the Mainland figures are most frequently decorated with very simple (linear or wavy) patterns not found on the Cretan figures. Thirdly, the placing of individual motifs or zones around the circumference of the body of Mycenaean figures is alien to the decorative scheme of Cretan figures. Thus, on figures from Ialysos (Jacopi 1930-31, pl. 35; Guggisberg 1996, 129-130, 442, pls. 34.1-2) and the Amyklaion (Tsountas 1892, 14, pl. 3.1; Guggisberg 1996, 156 pls. 10.1-2) solid-painted motifs (triangles and semi-circles)

³Guggisberg very correctly distinguished the decoration of LH III wheelmade figures 'decorated with individual motives corresponding to those used in vase painting' (Guggisberg 1996, 369) from that of the handformed figures and figurines which are decorated with simple linear decoration. Nevertheless one need but compare the Cretan wheelmade figure repertoire with that of their Phylakopi counterparts, to see the dominance among the latter of very simple linear decoration. Linear decoration is attested on the following Phylakopi figures (Renfrew et al., 1985): SF1561 (pl. 32b; 246, fig. 6.23; SF2690 (pls. 41a-b; 239, fig. 6.18,); SF2670 (pls. 41c-d, 236-237, figs. 6.15 and 6.19); also on a horse figure from Ialysos (Maiuri, 1923-24, 135, fig. 57).

with reduplicated edges encircle the body whereas on Cretan figures, like Juktas figures **J57** (semi-circles: pl. 42a-b, fig. 49) and **J55** (double axe: pls. 40a-b), they occur in chains or in isolation, along the length of the body's sides or backbone.

IV.3 THE CONTRIBUTION OF THE COMBINED JUKTAS AND KOPHINAS EVIDENCE TO THE CHRONOLOGICAL AND STYLISTIC DEVELOPMENT OF AEGEAN ANIMAL FIGURES

Research on large scale Aegean animal **figures** has focused on three basic matters: a) the systemics of time and space; b) stylistic development; c) the reconstruction of a descriptive culture-history of Aegean animal figures. In this section, I examine how the new Juktas and Kophinas evidence can be used to serve the first two aims, thus fulfilling the prerequisites for the third, i.e. the placing of Cretan animal figures within their historical and cultural contexts (chapter V) and, ultimately, the interpretation of their use, function and meaning (chapter VI).

Sections IV.1 and IV.2 have provided the analysis and dating of the manufacture and decoration of the Kophinas and Juktas animal figurines and figures, and outlined how the emerging trends support, alter, and provide new insights into previous discussions of these aspects of Cretan animal figures. This section (IV.3) situates the above evidence within broader accounts of the chronological and stylistic development of Aegean animal figures by building on earlier scholarly contributions. It shows how the new evidence alters our perception and reconstruction of Aegean figures' development in MM III - LM IIIC.

IV.3.1 THE CONTRIBUTION OF THE NEW EVIDENCE TO THE BROADER SYSTEMICS OF TIME AND SPACE

The Juktas and Kophinas evidence alters the established spatial and temporal distribution of this artefactual category within the Aegean.

While three-dimensional animal figuration is attested in the Aegean during the Neolithic, Bronze and Iron Ages, discussion of the chronology and stylistic development of animal figures has focused primarily on the Late Bronze Age and Iron Age (Nicholls 1970; French 1971, 1981, 1985; Renfrew 1985, Guggisberg 1996; Hayden 1991; Kourou and Karetsou 1994, 1997). The systematic inclusion of the Iron Age material has only recently been achieved with Guggisberg's indispensable compilation and analysis of all the published and some unpublished Late Bronze Age and Iron Age material from the Aegean (Guggisberg 1996).

The Bronze Age evidence discussed by researchers (including the most recent contribution by Guggisberg) is virtually restricted to the timespan ranging between LBA I and LBA IIIC. This chronological limitation has been unavoidable. It is due to the genuine absence of Middle Bronze Age Mainland and Cycladic material, but also to the non-publication of extant MM III - LM I figures from Crete, the sole geographic region which can fill the Middle Bronze Age III gap.

The timescale previously covered in the study of Cretan animal figures ranges from the 'Neopalatial' period to LM IIIC. In actual fact the 'Neopalatial' evidence has been virtually restricted to the well-known, mouldmade LM I figures. But the absence of published MM III material can finally be redressed with the Juktas and Kophinas figures found in layers containing pottery dated to both MM III and LM I. The dating of these figures is discussed in detail below. What is unprecedented about the MM III - LM I material is the sheer quantity of figure portions from Kophinas (see chapter II).

In other respects, the Juktas and Kophinas evidence is in keeping with the known chronological patterns of Cretan animal figures. The pre - MM III figures are few, and the LM II - LM IIIB dearth of evidence is confirmed. The post - LM IB Juktas contribution lies in the large LM IIIC animal figure assemblage.

Finally, Juktas bridges the gap between the Bronze and Iron Ages with a handful of Sub - Minoan and Geometric figures. This continuity is significant, however the small

number of these figures contrasts with the more plentiful Sub-Minoan evidence from Aghia Triadha, and the even later assemblage from Vrokastro (Hayden 1991).

To sum up, the Juktas and Kophinas material contributes to the history of large scale Bronze Age figuration in a number of ways. It augments substantially the MM III, LM I and LM IIIC material, but it also confirms the little evidence from MM I - MM II and the virtual hiatus of LM II - LM IIIB. .

IV.3.2 THE CONTRIBUTION OF THE JUKTAS AND KOPHINAS EVIDENCE TO STYLISTIC TRENDS AND THE FINER SYSTEMICS OF TIME

The MM III - LM I stylistic evidence

This section is related to all the large figures found at Kophinas and Juktas portions **J1 - J44, J46, and J169-J172.**

The practically clear 'Neopalatial' **context 1** in which most of the Juktas MM III - LM I figures were found contained both MM III and LM I pottery (p.69). Similarly, although mixed, the deposits in which the Kophinas figures were found contained both MM III and LM I pottery. In Kophinas, MM III is said to have dominated over LM I, however it could well be that some of the pottery stylistically ascribed to MM III can be dated to LM I. On a contextual basis, these figures are dated to a MM III - LM I horizon since it is not possible to distinguish stratigraphically between earlier and later material in these contexts. However, the implication is that, in chronological terms, figures were deposited at both sites during both MM III and LM I.

In the absence of further stratigraphic sub-divisions, the finer dating of the figures lies in their decoration, morphology and manufacture. On the combined basis of these attributes, it is possible to identify two distinct groupings of figures which co-existed in both sites' MM III - LM I contexts. It is believed that, on the basis of these stylistic

groupings it is possible to distinguish between earlier and later figures from the sites' MM III - LM I contexts.

1) The distinguishing attributes of Groups 1 and 2

In both sites, Group 1 is represented by the majority of figures in contrast to Group 2, represented by few fragments.

Group 1 figures

JUKTAS

Heads, bodies, legs: J1- J15 (fig. 28-fig. 35; pls. 1-9); **J17-J44** (pls. 11-28) **J46** (pl. 31); **J168-J172** (pls. 6, 1116-123).

KOPHINAS

Bodies and heads: K46-K95 (pls. 128-156); **K106, K107, K108** (pl. 157-158); **K111** (pls. 159-160).

Legs: K114-K156 (pls. 161-165); **K158, K161-162** (pl. 166); **K167-K170** (pl. 167).

Horns: K171-K173 (pl. 168).

Group 2 figures

JUKTAS

Leg J16 (pl. 10).

KOPHINAS

Head: K109 (pls. 157-158).

Body: K112-K113 (pl. 159-160).

Legs: K157, K159, K160 (pl. 166).

The immediately identifiable differences between these two groupings, found in the same contexts, are morphological. Although several morphological sub-types can

be identified among the group 1 Kophinas figures⁴, all the group 1 examples from both sites share what would be described traditionally as a 'schematic' rendering which contrasts clearly with the form of Group 2 figures. The latter is represented by very few examples with close morphological parallels with the well-known 'naturalistic' Cretan LM I mouldmade figures. The morphological contrast is striking. One need but compare Group 2 'naturalistic' head **K109** (pls. 157-158) with Group 1 'schematic' heads **K46 - K51** (pl. 128), and **K70-K76** (pls. 148-149); or Group 2 legs **J16** (pl. 10), **K157** (pl. 166 top left), **K159** (pl. 166 second left: bottom), **K160** (pl. 166 first left: bottom) with Group 1 legs **K114 - K142** (pls. 161-162) and **K143-K147** (pl. 163).

I will retain the nomenclature 'schematic' and 'naturalistic' for Groups 1 and 2 respectively, firstly, because the term 'naturalistic' is widely used for the known (mouldmade) LM I figures; secondly, because these terms reflect their immediately obvious morphological differences. However, the principal setback in using these subjective and over-used terms is that they refer only to the form of the figures, whereas the differences between these two groups, extend beyond the morphological aspects of the finished products.

With the notable exception of head portion **K109** (pls. 157-158) from Kophinas, each grouping from both sites evidences a discrete set of 'technological inputs', (Knappett 1997, 305), namely fabrics and forming techniques. The 'naturalistic' figure portions of group 2 feature clear, levigated fabric(-s). These are all buff in colour with the exception of two body portions from the same figure, **K112** and **K113** (pls. 159-160), which has a red fabric. In contrast, the 'schematic' figures from both sites feature the much more commonly attested, rough-textured clay fabrics, predominantly in varying shades of oranges and reds.

⁴E.g. the following rough groupings could be singled out **K46 to K51** (pl. 128); **K54 - K56** (pl. 133); **K62-K63** (pls. 142-143); **K96-105**, pl. 155.

Different patternings related to manufacturing techniques also occur. It would appear that in contrast to the 'schematic', group 1, figures which are all handformed, the 'naturalistic' figures are either mouldmade or wholly/partly handformed. Naturalistic body portions **K112** and **K113** (pls. 159-160) are mouldmade, whereas the legs belonging to such figures are either handmade (**K157**, **K159**, **K162**, pl. 166) or possibly mouldmade (**J16**, pl. 10). Finally, from our knowledge of mouldmade figures of this date found elsewhere in Crete and Thera, the 'naturalistic' figures invariably functioned as rhyta, a function evidenced by the only head **K109** (pls. 157-158) belonging to our group 2 figures. In contrast, only some of the group 1 heads from both sites function as rhyta (e.g. **J9**, pl. 2; **J11**, pl. 4; **K54**, pls. 135-136; **K55**, pl. 133; **K62-K63**, pls. 142-145). It is here worth noting that two of the schematic Juktas figures featured deep mouth apertures which could only have served to emulate rhyta since the mouth did not communicate with the interior of the body (**J12**, pl. 5; **J168**, pl. 6)

Therefore these two groups are distinguished respectively by consistent combinations of fabrics, forming techniques, morphological characteristics, and function. Another major distinguishing feature is the fact that group 2 is represented by far fewer members than group 1. Only one figure (included in group 2) shows an inconsistency in the combination of its attributes. This is handformed head **K109** (pl. 157-158) which, while 'naturalistic' in appearance, is made in the fabric of the 'schematic' group 1 figures. We shall return to this 'divergent' figure in a while.

Each of these two groupings of figures represents different quantitative and spatial distribution patterns and 'technological profiles' (Knappett 1997, 306).

The ratio of group 1 to group 2 figures demonstrates that the production of 'schematic' handformed figures is much greater, and the geographic and quantitative distribution of each group indicates that their principal contexts of use also differ. The handful of group 1 figures found at Tylissos, Galatas and Aghia Triadha contrasts with the larger quantities of such figures found at Kophinas, Juktas and, most likely, other peak sanctuaries. The reverse can be said of the far fewer

'naturalistic' figures in Crete. While these do not occur anywhere in large quantities, they seem to be found more frequently in low-lying, palatial or 'urban' and occasionally funerary contexts, all representing a similar, high status, environment. While contextual overlap of these distinct figure groups occurs (as at Juktas and Kophinas), it appears to be uncommon.

Each group represents a different production mode with different intensities of production, representing different demands. The more frequently produced 'schematic' handformed figures appear to be made primarily in response to the needs of peak sanctuary ritual worshippers, whereas the 'naturalistic' figures are made to fulfill the needs of a narrower clientele using them primarily in a wider variety of lowland ritual contexts. The apparent scarcity of the mouldmade figures in peak sanctuaries does not necessarily indicate that the affluent elite did not participate in the deposition of animal figures. It is more than likely that they also offered up the figures especially created for the peak sanctuary milieu. The scale and workmanship of these 'schematic' figures indicates that they would have been prestigious objects reflecting adequately the status of the worshippers who offered them up. The recognition of this substantial group of schematic animal figures shows that animal figuration in Minoan Crete was a more complex phenomenon than had previously been thought, responding to a wider range of demands. To the better known evidence of naturalistic figures and the large quantities of figurines must now be added this other corpus of figures.

There may be grounds for suggesting that each grouping of large MM III - LM I figures was produced in distinct workshop types using different installations and different forming techniques. The 'naturalistic' mouldmade figures were probably produced in workshops which manufactured, among other products, luxury items like the naturalistic animal figures in response to the demands of an elite clientele. The manufacture of these figures necessitated the use of fine (usually buff) clays and specialized moulds. 'Schematic' handformed figures were produced in workshops, possibly specializing in handforming techniques, and using rough textured fabrics,

not requiring the use of the fast wheel, and producing (seasonally?) large numbers of figures. These workshops, which possibly also produced large human figures (like the male ones found at Kophinas) would have been responding to a broader and (to a certain extent different) clientele from those of the naturalistic figures. It is very likely that, in the case of Kophinas at least, the figurines and figures were produced in the same contexts.

In Minoan Crete, the use of the mould was restricted to a small numbers of luxury items, in contrast to handforming and later (LM IIIC) wheelthrowing which responded to wider consumer demands. However the more elaborate handformed figures, particularly the very large ones, were undoubtedly also considered prestigious offerings.

What evidence we have of specialized mouldmaking is related to urban workshops, perhaps controlled by administrative centers, specializing in prestige goods. *In situ* (MM II) evidence of the manufacture of objects with moulds and their local consumption is afforded by the 'Atelier du Potier', to the west of Bâtiment B, with its two potter's wheels and clay moulds for appliqué decoration (Poursat 1992, 1996). Ritual vessels with moulded decoration found in Bâtiment B may also have been manufactured in this workshop, or its vicinity.

2) The chronological relationship between Group 1 ('schematic') figures and Group 2 ('naturalistic') figures

Group 2 can be dated to LM I on the basis of independent contextual evidence dating the better-known published 'naturalistic' parallels. No well-stratified figures of this highly 'naturalistic' morphological type have been reported from Middle Bronze Age contexts in either Crete or the Cyclades⁵. In the absence of independently dated

⁵The figure portions from Kophinas and Juktas belonging to group 2 are highly naturalistic and therefore dated stylistically to LM I. Their form contrasts with the more schematic (still experimental?) mouldmade figure from Phaistos which betrays the influence of the more schematic figures' morphology (Pernier 1935, 360; Guggisberg 1996, 591, 171, pls. 43, 7-8; MM III - LM I)

parallels, we cannot discount either a MM III or LM I date for the 'schematic' Juktas and Kophinas figures of group 1 found in MM III-LM I contexts. The same applies to their parallels from a MM III-LM I context at Galatas, and an unspecified context at Tyllissos discussed previously in relation to their handformed manufacture (pp. 135-136). The schematic figures could be chronologically linked to the LM I naturalistic figures in any one of the following ways:

- 1) Groups 1 and 2 were contemporary, thus LM I in date.
- 2) Group 1 was earlier (i.e. MM III) than the LM I group 2 which effectively replaced it.
- 3) Group 1 was MM III in its inception, but its use continued alongside group 2 when this emerges in LM I.

Possibility no. 1 can be eliminated on several grounds. A reliable indicator of the MM III inception of these 'schematic' figures is their monochrome decoration in black, with or without the addition of white on the dark ground. This decorative scheme, a hallmark of MM III vessel decoration, differs from the dark-on-light decoration of the published LM I naturalistic figures⁶. Similarly, the handformed techniques consistently used in the manufacture of these figures point indirectly to the MM III inception of some, since these techniques predate the use of the mould in manufacturing figures. In addition, the morphology and forming techniques of the 'schematic' figures are closer to those of earlier EM III/MM I - MM II figures from Porti and Koumasa than the later naturalistic figures.

While there is no denying the MM III inception of group 1 figures, it is more difficult to assess whether their use extended into LM I. Certainly the presence in peak sanctuaries (and elsewhere) of the 'naturalistic' figures is too incidental to make a case for their replacing the 'schematic' ones. The 'aberrant' figure to which head **K109** (pls. 157-158) belonged, which is naturalistic in form but made in the fabric of

⁶No decoration survives on the naturalistic figure portions from Juktas and Kophinas except for **K112-K113** (pls. 159-160), which were solid painted.

the 'schematic' figures, indicates that handforming was a technique still practiced during LM I. It seems likely that, with rare exceptions like **K109** (pls. 157-158), handmade figures retaining their more schematic form (which is partly an outcome of their manufacturing techniques) continued to be made in LM I. We cannot exclude the possibility that the sub-groupings of figures noted earlier (ft. 4) might reflect chronological differences. If one were to hazard chronological distinctions on the basis of 'degrees of schematization', maybe a case could be made for some of the group 1 figures being less schematic than others, namely **K64** and **K67-K69** (pls. 146-147); **K70-K76** (pls. 148-149), and therefore later in date.

In conclusion, by contributing both MM III and LM I animal figures, Juktas and Kophinas push back to MM III the relative sequence of the Aegean animal figures. The evidence points to a substantial, previously unknown, corpus of handformed, 'schematic' animal figures which preceded, and very likely overlapped, with the later, LM I naturalistic figures. A complex picture of animal figure production and use emerges, composed of distinct strands related to different production modes, patterns of demand and distributions.

The LM IIIC stylistic evidence

Up until recently, the LBA III (and particularly the more plentiful LBA IIIC) Aegean wheelmade animal figures, had been subsumed under a generic stylistic grouping. Building on other researchers' work, it is here demonstrated that the wheelmade Cretan figures differ considerably from their counterparts elsewhere in the Aegean because of a combination of morphological and decorative differences. I limit my comparison to LBA IIIC figures for two reasons: 1) the quantity of the LBA IIIC evidence is sufficient to exemplify this comparison; 2) the inception date of these respective styles is problematic.

1) Morphological differences

I shall start first with those differences already drawn to our attention by other researchers. The differentiating morphological characteristics of the Cretan figures are their plastic quality and the more realistic rendering of the animals represented (Kourou and Karetsou 1994, 128-9; 1996, 112-115; Guggisberg 1996, 370; D'Agata 1996, 41 and 45).

Because of the detailed analysis of the manufacturing sequence and decoration of the Juktas animal figures, we can further elaborate on how the LM III Cretan figures diverge from their Aegean counterparts. Their respective morphological characteristics emerge as a result of the adoption of different approaches during both the primary and secondary forming stage of the animal figures.

The shape given to animal figure parts during primary forming predetermines, to a large extent, their final form. Several or all of the individual parts of LHIII C wheelmade, mainland and Cycladic, figures are wheelthrown. Some of these are given the form of familiar, wheelthrown vessel parts (French 1985, 240). These were usually the head, the muzzle, the neck and sometimes the legs. In Cretan figures, fewer portions are wheelmade (sometimes only the body), and the only wheelmade parts of 12th century animal figures which resemble vessel parts are the legs. These can (but do not invariably) replicate kylix stems (e.g. J104-J109, pls. 77-79: see p. 121). Therefore, already during primary forming, Mycenaean figures are given more schematic forms: their primarily wheelthrown form, based on pottery shapes, removes them one step further than their Minoan counterparts from 'true to nature' figuration.

Significant differences are also apparent during secondary forming which entails the assemblage and modelling of the figures. The choice of body forms established during the primary forming dictates the structure and proportions of the assembled

figure. There are striking, and consistent, structural divergences between LBA III Mainland/Cycladic and Cretan figures. The neck in Mainland/Cycladic figures is placed vertically/near vertically on the upper edge of the body whereas in Cretan figures it always emerges at a realistic angle from the chest (Kourou and Karetsou 1994, 127-8). In the Mycenaean figures, a vertical axis can be drawn from the top of the head between the horns, down the neck, along the chest, and ending between the feet/hooves. In Cretan figures, a vertical line aligned between the legs would end at the base of the neck, excluding most/all of the neck and the entire head. This structural principle, attested in Cretan figures from the Early Bronze Age, only changes in post-Geometric figures.⁷

Marked differences also emerge from the way that clay is used in secondary forming. In Mainland/Cycladic figures, the use of additional clay serves mainly to consolidate the attachment of figure parts, to close off the open end of the body's cylinder when necessary, or to model the tail (Guggisberg 1996, 14-15 and fig. 10). In Cretan figures, clay serves these basic practical and figural functions, but in addition it is frequently used generously to cover fully or partly the preform created during primary forming, and to render individual parts and their heads more naturalistic with further modelling. Therefore modelling in Cretan figures also serves an 'aesthetic' function, aiming at more realistic figuration, which is not obviated by the potential of the wheelmade technique as it is with their other Aegean counterparts.

Now that the regional differences in the morphological characteristics of the figures have been described, it is necessary to comment on the leg shapes of certain Juktas animal figures. Their parallels show geographic^{al} cross-links which admittedly throw into disarray the rigid geographical distinctions made so far. We have already noted that the closest (and most frequent) parallels for some of the kylix-shaped legs are to be found in the Ionian islands (p. 121).

⁷The Mainland/Cycladic structural principle is only applied to Cretan figures which represent fantastical creatures: hybrid human-headed quadrupeds, most convincingly interpreted as sphinxes and/or 'bullmen' (Kourou and Karetsou 1996, 108).

2) Decorative differences

To the morphological differences between Cretan and other Aegean figures can now be added the decorative ones, discussed in section IV.2. It was demonstrated that the use of decoration to highlight the naturalistic contours of the figures' anatomical details, and particularly the haunches, is missing in the mainland figures, and the popular use of certain motifs like the hatched triangle is much less widespread in the mainland. While we noted that the decoration of some Juktas figures is derived from the Mycenaean repertoire (e.g. panelled decoration), we indicated that this was not particularly common in the Mycenaean world. Finally it was shown that even when the same motifs are used, their lay-out on the figures differs considerably.

These consistent manufacturing, formal and decorative differences between these two regional styles are well established by LBA IIIC.

3) The chronological and spatial distribution of the Late Bronze Age III Aegean wheelmade figures and their styles

Since two broad LBA IIIC stylistic groupings of wheelmade figures can be distinguished on a regional basis, it is necessary to trace their respective chronological distributions. While LBA IIIC Aegean wheelmade figures have often been subsumed under a generic 'stylized' category (French 1985, 238; Renfrew 1985, 439), it is recognized that they have a 'mixed chronological/regional development' (French, *ibid.*). Because our data have increased greatly recently, we are in a better position to reconstruct the wheelmade figures' regional history.

Guggisberg has provided us with a comprehensive picture of the mainland LBA III evidence on animal figuration, and LBA III Cretan evidence has been bolstered by the publication of the Patsos material (Kourou and Karetsou 1994) and the presentation here of the Juktas figures. Below follows a listing of the numbers and provenance of known animal figures found in the Cyclades and Crete.

TABLE 6: Chronology and quantification of known wheelmade animal figures/ portions from Cretan sites.

LOCATION	LM II-III A	LM III A - B	LM III B	LM III B - C	LM III C
Juktas ⁸	1?				103 +
Patsos			2?	2	6
Tsoutsouros	1?				
Nirou Chani	1				
Psychro	2				
Unexpl. Mansion: Knossos		2	1		
TOTAL	3+2?	2	1+2?	2	109+⁹

TABLE 7: Chronology and quantification of known animal figures from the Mainland and the Cyclades, based on Guggisberg's catalogue entries (1996).

LOCATION	LH II-III A	LH III A - B	LH III B	LH III B - C	LH III C
Mainland	4	3	26	39	64
Cyclades	2	7	1	10	18

LBA IIIA evidence

It is clear that the pre - LBA IIIB Aegean evidence of large scale figures (wheelmade or hollow) remains rare. If **J45** were a LM II figure, it would be the earliest known wheelmade figure in the Aegean; however it should be stressed that we cannot be

⁸The numbers from Juktas relate to the figure parts/portions catalogued in appendix II. There are a further 638, less characteristic and smaller, wheelmade pieces which have been catalogued but are not included in this thesis (p. 131).

⁹The total of LM III C animal figures/portions will increase greatly with the publication of Aghia Triadha and Kato Syme.

sure of this. It would appear that each of the three Aegean regions has yielded equally limited evidence of the manufacture of wheelmade figures. The two LM IIIA2 figures from Psychro remain the earliest securely dated Cretan wheelmade figures (Kanta 1980, 122: reference to one of the figures, in hide pattern).

The evidence from the Cyclades is known to us primarily from Phylakopi¹⁰, which covers the crucial LBA IIIA and LBA IIIB periods¹¹. In quantitative terms, it has hardly yielded a lot more LBA IIIA evidence than Crete.

To my mind, of the earliest figures identified by Guggisberg from this sanctuary (Guggisberg 1996, 110-118, 370), one can be dated with greater certainty to LH IIIA, and another two might be LH IIIA2 - IIIB. **388** (French 1985: SF 2685, 247, pl. 40c), with its naturalistic modelling and three-leaved 'clover' pattern, is likely to be LH IIIA (Guggisberg 1996, 370). Its manufacture is unknown (French 1985, 247), but Guggisberg believes it to be wheelmade (Guggisberg 1996, 112).

Two other figures could be either LH IIIA or IIIB. These are **387** (French 1985: SF 2687, 248 and pl. 39) and **373** (French 1985: SF 2166, 250 and pl. 43c), which are wheelmade according to Guggisberg¹². The former still retains a naturalism which is not seen in the later Phylakopi figures. Guggisberg dates 3 other figures from the sanctuary to LH IIIA2-IIIB1; however of these, **372** (French 1985: SF 1032, 244 and 247 fig. 6.24) could be downdated to (at least?) LH IIIB since morphologically it is very similar to a LH IIIC Tiryns figure (*BCH* 1978 (102) 667, pl. 62; Guggisberg 1996: 111, 46 pls. 8.1-4). That leaves us with 2 figures/portions. **374** (French 1985: SF 1726,

¹⁰When discussing figures described in Guggisberg 1996, they are referred to by their catalogue number (e.g. **90**). In the case of figures from Phylakopi, this is followed by a parenthesis referring to the figure's original catalogue number and relevant references in French, 1985: e.g. **388** (French 1985: SF 2685, 247, pl. 40c).

¹¹French believes that the stylistically latest figure from the Phylakopi sanctuary is of LH IIIB date (French 1985, 239).

¹²The manufacture of **387** is unknown because it was plastered before manufacture (French 1985, 248).

249, pl. 43f) is small, very likely handformed, and can be more aptly described as a figurine than a figure. **396** (French 1985: SF 1713, 249; no ph.) is a horn, and therefore little else can be said of the manufacture or form of the figure to which it belonged. A previously unpublished, probably wheelmade, figure from the town of Phylakopi has been dated by Guggisberg to LH IIIA2 - IIIB (Guggisberg 1996, **410**, 117, pl. 29.5). While we cannot be sure that it is as early as LH IIIA, its shape is morphologically closer to the Cretan form of MM III - LM I Group 1 figures than to Mycenaean forms.

In contrast to Crete, and to a lesser degree the Cyclades, the mainland did not have a tradition in animal figuration in MH - LH I. This early lack is highlighted by Guggisberg's reference to just one, solid bovine figure of LH I-II date from Argos, with a length of 15.8 cms (Guggisberg 1996, 272, fig. 20).

But sparse as the LH I-II period may be, the mainland has yielded some LH IIIA evidence. The morphology of bovine head **90** from Mycenae (body manufacture unknown), dated stratigraphically to LH IIIA, has been compared with the contemporary Psychro figure with the ox-hide pattern (Guggisberg 1996, 39 and 370)¹³. Kourou and Karetsou refer to another, wheelmade, figure from a LH IIIA2 context from Dimini-Iolkos (Kourou and Karetsou 1997, 113 and figs. 14 and 71 with reference) which is more similar to Cretan than to later, more schematic, Mycenaean bovine figures.

To summarize, none of the Aegean regions can boast substantial evidence of animal figuration in LBA IIIA. Head **90** from Mycenae, Phylakopi figure **388** (SF 2685) and the figure from Dimini-Iolkos are, in terms of their morphology/decoration, closer to

¹³Apart from this figure from Mycenae, 3 other (handmade) portions have been dated by Guggisberg to LH II (**186** and **187**: Nichoria, Messenia) and LH IIB-III A1 (**185**: Aghios Stephanos: Lakonia) (Guggisberg 1996, 61 and 370, pls. 12.5-7). Guggisberg describes them as 'zoomorphic vessels' and their non-standardized form indicates that their manufacture is at an experimental stage (Guggisberg 1996, 370).

the Cretan Psychro figure than to the later, typical Mycenaean figures. We have suggested that figure 410 from the Phylakopi city is reminiscent of the earlier, MM III - LM I, Cretan figures. The Psychro and the Dimini-Iolkos figures are wheelmade and those from Mycenae and Phylakopi were also probably made with the same technique. The morphological affiliations of these earlier mainland and Cycladic figures to Cretan ones (Guggisberg 1996, 370) indicate that the style of the later wheelmade Mycenaean figures delayed somewhat to evolve.

LBA IIIB evidence

Our knowledge of LBA IIIB animal figuration has greatly improved, and shows that it is in the 13th century that a marked increase of wheelmade animal figures occurred on the mainland and the Cyclades. This well attested Mycenaean phenomenon contrasts with the meagre Cretan evidence which amounts to two figures from the Unexplored Mansion, and two figures from Patsos, possibly dated to LM IIIB.

Prior to Guggisberg's work, the greatest quantity of pre - LH IIIC evidence known to us was from Phylakopi. Now it is possible to show that LH IIIB mainland figuration was more widespread than had been assumed, thus confirming Nicholls' belief that the mainland yielded more LBA IIIB evidence of (wheelmade) figuration than Crete (Nicholls 1970, 9). This evidence alters somewhat our perspective of the Cycladic LH IIIA - IIIB material since it shows that it is not unique but part of a wider phenomenon of figuration also evidenced in the mainland which, during this period, exerted great influence on the Cyclades.

However not all of the mainland animal figures listed by Guggisberg were wheelmade. Three LH IIIA-B figures are handmade (Guggisberg 1996, 91 and 92: 'House of the Oil Merchant', Mycenae, 40, pl. 6.1-2 (91); 301: Aegina, 97). In LH IIIB, the increase of wheelmade portions among the mainland figures is marked. Of the 26 LH IIIB figures/portions that belong, or could belong, to bovines, the manufacture of 11 is

known. Of these, 9 are wheelmade¹⁴ and just 2 handmade. The remaining 15 fragments are from handmade legs and similar fragments, but some of these are undoubtedly from wheelmade figures. Due to the fragmentation of all these LH IIIB wheelmade figure portions, it is difficult to define their stylistics, but they would appear to make up a rather disparate group of varying sizes.

To recap, from LH IIIB onward there was a continuous increase of animal figures, including those made on the wheel, in the Mycenaean world. They attest to the more frequent production of wheelmade figures on the mainland and the Cyclades than in Crete, but it seems that the characteristic form of the LH IIIC wheelmade figures had not yet been fully consolidated in the mainland.

This contrasts with the figures from Phylakopi which are more standardized, and reminiscent of the 12th century mainland figures.

LBA IIIC evidence

The largest number of LBA III figures dates to LM IIIC, but it is clear that these do not emerge suddenly (table 7). The Cretan contribution lies in the large quantity and the individual nature of the ritual assemblages associated with wheelmade bovines in the 12th century. In view of the near total absence of Cretan LM IIIB wheelmade figures, this quantitative increase is far more dramatic in Crete than on the mainland where there was a steady increase throughout LH IIIB - IIIC.

Conclusions

Wheelmade figures are equally sparse in all regions of the Aegean in the Late Bronze Age IIIA period. The Psychro figure (LM IIIA2) is believed to be a stylistic precursor of Cretan LM IIIC figures; if anything however, I feel that many of the LM IIIC wheelmade figures are less schematic than this early (experimental?) one. The earliest (probably

¹⁴Guggisberg 1996: 8, 9 and 10 (Berbati: 26-27, pls. 1,6-7 (8) and 2,1(9); 61, 71, 95 (Mycenae: 34; 36, pls. 3.5-6 (71); 41, pl. 6,6); 107 (Unterburg: Tiryns: 46); 207 (Athens: 67, pl. 14,4); 271 (Delphi: 85).

wheelmade?) LH IIIA2? Phylakopi figures **388** (SF 2685) and **410** are more similar to MM III - LM I figures: although not mouldmade, **388** is reminiscent in its form and proportions of the 'naturalistic' (Group 1) figures, and **410** of the more 'schematic' (Group 2) figures. The LH IIIA figure from Mycenae is however closer to the wheelmade Psychro figure.

The production of wheelmade figures increased during LH IIIB in the Mycenaean world, when their stylistic affinities with Crete were no longer evident. The stylistic attributes of the typical 12th century figures are apparent in the pre - LH IIIC Phylakopi figures, but their mainland counterparts appear somewhat less standardized. It is hardly possible to speak of the stylistic development of wheelmade Cretan figures during LM IIIB since they are virtually non-existent. Wheelmade figures reach the height of their popularity in the Aegean during the 12th century, and it is only during this phase that they become widespread in Crete.

We cannot advocate a robust continuity for Cretan animal figures between the palatial and post-palatial periods, since the timespan between LM IB and LM IIIC is bridged by a handful of figures. On either side of this virtual *caesura* is a distinct phenomenon of figuration: MM III - LM I figures are primarily handformed and mouldmade, while the LM IIIC figures are wheelmade. Although the two Psychro figures show that the wheelmade technique was employed in LM IIIA2, it was hardly used until the 12th century, when demand was boosted by ritual prescriptions.

From our contextual analysis of manufacturing techniques, it appears that, as yet, there is no convincing evidence of the existence of MM III/LM I wheelmade figures proper in Crete (pp.130-131; 137-139) . Therefore, the wheelmade technique cannot be used as an argument to support an unbroken element of continuity from the palatial to the post-palatial period. If wheelmade animal figures occurred regularly before LM IB, they should have been identified in some numbers by now, despite the lack of published material.

Since the Mycenaean cultural sphere witnessed the more frequent manufacture and use of bovines (wheelmade and other) at an earlier stage than Crete, the impetus for the Cretan use of the bovine could conceivably be due to Mycenaean influences. At the very least the inhabitants of Crete must have been aware of the existence of material 'prototypes' on the mainland. The cultural-historical aspects of the 12th century Cretan-Mycenaean material and symbolic interaction are issues addressed in chapter V.

IV.3.3 CONCLUSIONS: THE CONTRIBUTION OF THE NEW EVIDENCE TO THE IDENTIFICATION AND DISTRIBUTION OF ANIMAL FIGURE STYLES

The Aegean figures' chronological and geographic distribution has been described traditionally in terms of the stylistic development of the figures' morphological characteristics. To date, the development of Aegean figures from LMI to LM IIIC has been based on the identification of two broad but distinct morphological styles with specific chronological and spatial associations, represented respectively by the 'naturalistic' LM I Cretan mouldmade figures, and the 'stylized' LBA IIIC Aegean figures (French 1985, 238; Renfrew 1985, 425). The Phylakopi figures are viewed as bridging the gap between these two periods because of their intermediary morphological characteristics (Renfrew *ibid.*; Guggisberg 1996, 370).

If we wish to continue using morphological indicators in the definition of Aegean animal figures' style, we have to recognize that two more stylistic groups must be integrated into such accounts. The existence of one, exemplified by the MM III-(LM I?) group 1 of 'schematic' animal figures from Juktas and Kophinas, has been substantiated in this thesis. The other style had already been defined by researchers who distinguish Cretan LM IIIC figures from their counterparts elsewhere in the Aegean, and was further analyzed here.

The recognition of one Cretan LMI naturalistic style during the palatial period can be superseded by the definition of two styles which, between them, span the whole

chronological breadth of the so-called 'Neopalatial' period, i.e. MMIII - LMI. While the 'schematic' style preceded the 'naturalistic' one, these trends are very likely not consecutive, since they probably overlapped in LMI.

To date, the spatial distribution of the Cretan 'schematic' figures is evidenced in north-central Crete (Juktas, Galatas and Tylissos), and south-central Crete (Kophinas, Aghia Triadha). This distribution extends beyond central into eastern Crete, if one can judge by the display in the Iraklion and Aghios Nikolaos Museums of animal figures from the unpublished peak sanctuaries. The identification of this substantial corpus of figures shows us that the manufacture and use of large figures was not restricted to the 'naturalistic' mouldmade figures, 'unmistakably tailored to the needs of the courtly palatial culture' (Guggisberg 1996, 370). MM III - LM I animal figuration was more broad-based and related to different production modes and outputs, sets of contexts and demands.

Regarding LBA IIIC, the notion of one generic Aegean style can be replaced by the recognition of two broad, individual styles in distinct geographic regions. While it is important to stress the pan-Aegean use of animal figures in LBA IIIC, it is no longer valid to ascribe a stylistic/morphological uniformity to Aegean animal figures. In this, the animal figures echo the different stylistic distributions of the Mycenaean and Cretan wheelmade Figures with Upraised Arms.

The recognition of these stylistic boundaries means that large scale animal figuration in the Aegean cannot be subsumed within an Aegean stylistic *koine* of the sort, for example, ascribed by Desborough to the Mycenaean animal and female figurines 'common to the whole [surviving Mycenaean] area, and not liable to stylistic change or variation in the same way as the pottery' (Desborough 1964, 225). In fact the decoration of the wheelmade bovines is one of the principal factors that renders them regionally distinct, and we in fact saw the great stylistic influence that pottery decoration had on both Cretan and Mycenaean animal figures.

Finally, the comparison of two closely dated (and for a time co-existing?) MMII(-LMI?) 'schematic' and LMI 'naturalistic' styles shows that the concept of the gradualist evolution from one style to another is not always applicable. The formal differences between these two styles are the result of a combination of factors, primarily associated with their forming techniques. It cannot be suggested that the Cretan 'naturalistic' style emerged through an increasing naturalism in the morphology of the 'schematic' figures. Rather the 'naturalistic' form is a direct outcome of the use of the mould.

Similarly the tendency to bridge neatly between MBA/LM I and LBA IIIC styles in order to find a thread of (usually cultural) continuity is also challenged by the evidence. It is commonly stated that the LBA III 'stylized' wheelmade figures developed from the Cretan LMI naturalistic style (Renfrew 1985, 425). Even within the narrower Cretan context, the morphology of the LMIIIC animal figures cannot be paralleled with, or derived from, that of the LMI 'naturalistic' figures. Apart from a basic adherence to plasticity (resulting in each case in a different type of 'realism') these two stylistic groups' formal similarities are minimal. Their morphological differences (including their respective anatomical proportions), combined with the use of different manufacturing techniques and a patchy chronological and quantitative record in LM II-III B, caution against the search for continuity. The realism shared by the mouldmade figures and the later LM IIIC figures does however reflect a recurrent Cretan propensity for realistic modelling (Kourou and Karetsou 1996, 129). This is indeed a stylistic trait which differentiates Cretan and Mainland/Cycladic figuration; yet the far more 'schematic' MM III - LM I bovine figures from peak sanctuaries caution against the assumption that Cretan plastic art was always naturalistic, even during the 'Neopalatial' period.

The recognition of four, rather than two, styles and the reconstruction of their spatial and temporal distribution (although not fully resolved) amply validate French's statement that 'the development from naturalistic to wheelmade figures is a mixed chronological/regional development' (French 1985, 238). In the above analysis it was

shown that this formulation can be filled out but that, in so doing, it is necessary to alter this stylistic picture and to re-consider the use of the term 'development'. The traditional search for stylistic continuity is not productive when applied to Aegean animal figures, irrespective of whether it is predicated on the equation of style with morphology, or a broader combination of attributes, including decoration and manufacturing technique.

CHAPTER V

THE TEMPORAL, SPATIAL AND SOCIAL CONTEXTS OF AEGEAN ANIMAL FIGURATION

V.1 THE CONTEXTUAL ANALYSIS OF THE ARCHAEOLOGICAL DATA RELATED TO THE CRETAN ANIMAL FIGURINES AND FIGURES

In chapter IV we improved our knowledge of the chronology, distribution, manufacture, decoration and style of Cretan animal figurines and figures by adding the Juktas and Kophinas evidence to previously known data. We are thus in a better position to identify the trends of Cretan animal figuration and to situate them, in this chapter, within the context of Aegean ritual and material culture. In placing the animal terracottas within this cultural-historical context, we try to show that they are ritual objects related to regional and inter-regional phenomena of figuration produced under certain social and cultural conditions.

We define more accurately Aegean phenomena of figuration by describing their material components (animal and human representations, etc.), and their chronological and geographical distributions. This is done in order to understand the social and cultural circumstances which brought about the creation, transmission and adoption of ritual objects like the animal figur(in)es.

In doing this we prepare the ground for the interpretation, in chapter VI, of the Juktas and Kophinas terracottas within two distinct figurational trends. One, dated to MM I - LM I, is part of a cultic phenomenon which is widespread and endogenously conceived. It features a broad range of anthropomorphic, zoomorphic, skeuomorphic and other representations associated exclusively with peak sanctuary ritual. The other figurational trend, dated to LM IIIC, is externally stimulated and selective in its representational repertoire, since it features primarily bovines.

In chapter IV, we showed that the Cretan figures' form and style in both MM I - LM I and LM IIIC are culturally specific. Here we wish to highlight the distinctive material form of regional cult practices and objects related to this class of Cretan artefacts. Particular emphasis is laid on this regional dimension in relation to the inception and use of bovine figures in 12th century Crete, when the island is clearly the recipient of external, Mycenaean stimuli which include the adoption of the bovine idiom.

It is necessary to start by examining the cultural-historical implications arising from the Juktas and Kophinas animal figures' 'participation' in phenomena of figuration and cult practices which occur on a Cretan and, at times, on a broader Aegean scale.

This 'question of the scale ...of the field of analysis' (Renfrew 1985, 441) brings us to the methodological principle which informs and structures this and the next chapter: the contextual analysis of archaeological data related to cult practices, advocated by Renfrew in **The Archaeology of Cult** (1985). While derived from the analysis of the Phylakopi sanctuary evidence, this scheme can frame the study of individual classes of artefacts like our animal figures, and the narrative of Aegean cult practices to which these animal figures contribute.

Renfrew suggests that in order to utilize fully archaeological evidence related to cult practices and beliefs, it is necessary to situate it within a hierarchy of spatial, temporal and social contexts, ranging from its site-specific contextual and depositional evidence to its broader cultural-historical contextualization within the Aegean (Renfrew 1985, 394-402, 441-442). In following Renfrew's lead I here advocate that the Juktas and Kophinas animal figures, and the practices associated with these, must be grounded in such a hierarchical contextualization prior to their regional interpretation.

The understanding of the Juktas and Kophinas animal figur(in)es' function and meaning can be considerably bolstered by recognizing that analogous figur(in)es and attendant rituals exist elsewhere in Crete and the Aegean. This comparison

permits us to situate our site-specific figures within the wider sphere of Aegean cult practices, and to identify their contribution to ritual trends and transformations through the Bronze Age Aegean.

Strictly speaking, the Juktas and Kophinas animal figures constitute random samples of material culture, to the extent that they represent one of the symbolic components from only two of the Bronze Age Cretan sites featuring animal figures. Yet their interpretative potential is great, because such animal figures and their contexts are neither unique nor random. From formal analogies with other cult sites emerge consistent patternings which situate the Juktas and Kophinas animal figures within types of assemblages, classes of cult sites and patterns of symbolic behaviour. These site-specific animal figures thus exemplify the standard use of this artefactual category in particular cultic contexts corresponding with MM I-LM I and LM IIIC.

The study of their contexts shows that the animal figures are involved in material and symbolic patternings characterized by 'redundancy' and 'consistency' (Renfrew 1985, 14 and 394). Redundancy (ibid., 14) is the frequency of repetition of symbolic objects and expressive behaviour. Consistency is the constant association of artefacts, objects and practices which indicates the 'internal structure' of rituals and their contexts (ibid.). These characteristics are inherent in Renfrew's notion of context and fulfill two requirements essential to the interpretation of symbolic objects and practices. They show that the animal figures have an integral role in the meaning and symbolism of rituals. While this does not in itself explain their meaning, at least it shows that the potential to interpret it is there.

Redundancy is indicated by the sheer number of figures and figurines in contexts analogous to those at Kophinas and Juktas. The Juktas and Kophinas animal figures and figurines represent common artefactual categories, amounting respectively to hundreds and thousands of members, used at cult sites which share the same basic material components as those of Juktas and Kophinas. This

consistency extends to the repeated enactment of cult practices similar to those at Juktas and Kophinas. These analogies with the use and function of animal figures and the assemblages' other components in Kophinas and Juktas are paralleled in the MM I-MM II and/or MM III-LM I phases of some 25 peak sanctuaries; and with the LM III C phases of the open-air sanctuary sites of Kato Syme, Aghia Triadha, Phaistos, Tylissos and Tacheri, and the cave sites of Patsos, Psychro, and the Idaian cave.

The basic artefactual and ritual coherence shared by Juktas, Kophinas and other peak sanctuaries strongly points to the operation of a uniform expressive system of which animal figures form an important part. As will be seen in chapter VI, despite local differences, the common features of these sanctuaries (sharing a specific combination of objects, symbols, rituals and the integrated symbolic use of the landscape) provide one of the most convincing cases in the Aegean for unity of cult practices and symbolic expression. Peak sanctuaries and their ritual have a basic similarity which differentiates them from other forms and places of Minoan and Mycenaean religious activity.

The use of animal figures at Juktas in LM III C is also not isolated, but part of a wider phenomenon attested at a number of Cretan, non-peak sanctuary sites like Kato Syme, Aghia Triadha and Patsos. We still lack sufficient information on these cult sites to compare with confidence their individual components and rituals. From preliminary reports it is clear that these have a different range of symbolic components from those of peak sanctuaries. But one of the clearest common denominators in these sites is the presence of animal figures, and we can confidently say that these LM III C cultic assemblages share a consistent pattern of ritual linked with animal figures. However, the similarities amongst these Cretan sites would not appear to be as uniform as those shared by peak sanctuaries, despite the individual differences of the latter. One of the most striking differences between the LM III C sites is their topographic and spatial diversity: some are cave sites, others are open-air sites with different topographic settings: Kato Syme is (during this phase) an open-air

mountain sanctuary associated with a spring; Aghia Triadha is a low-lying open-air cult site.

Intra-regional contextualization

The redundancy of MM I-LM I peak sanctuary ritual shows that the animal figures are part of a symbolic coherence characteristic of a large part of the island, although much rarer in its western part. The distribution of the LM IIIC cult sites containing animal figures is more limited. Their distribution dominates the central part of Crete, the slightly more marginal sites being the Idaian cave to the west, the Psychro cave to the east and Kato Syme to the south. In neither chronological phase does this symbolic coherence extend to the entirety of the island, a point to which we shall return in this chapter.

The outcome of this intra-regional contextualization of the Juktas and Kophinas animal figures is that it removes them from their isolation as artefactual categories found in just two sites. It situates them within two classes of cultic phenomena dated to MM I-LM I and LM IIIC, associated with two broad classes of Cretan cultic contexts. In this thesis, the term 'cultic phenomenon' signifies the entirety of the assemblage and cult practices identified in a particular type of cult site during a particular timespan. The animal figures and their attendant practices are but part of these cultic phenomena.

At this point, we need to make explicit certain general principles regarding the extraction of the Juktas and Kophinas figures' function and meaning from these two classes of cultic phenomena within their regional, Cretan, contexts.

(1) The respective significance of the Juktas and Kophinas figures cannot be defined in isolation: they take their function and meaning from their contexts (French 1981, 173). Since they are components of assemblages and rituals characterized by a basic internal coherence, their meaning should be situated within the combined evidence of their contexts. Thus in chapter VI, we are assisted in understanding the

meaning of peak sanctuary animal figur(in)es by considering the function and symbolism of the human figures and other votive offerings like miniature flowers and fruit.

(2) Although found in two different sites, because the Juktas and Kophinas MM I-LM I figures belong to the same class of cultic phenomenon and type of context, we can safely assume that they share the same basic meaning. In contrast, although found in the same site, we cannot assume that the Juktas animal figures used respectively in MM I-LM I and LM IIIC share the same meaning. The Juktas MM III-LM I and LM IIIC animal figures are related to two discrete classes of cultic phenomena and contexts, each with its own meaning.

Compared with the MM I-LM I ritual, substantial material differences exist in the ritual enacted at Juktas in LM IIIC. This LM IIIC ritual is not attested at other peak sanctuaries and is closer materially and symbolically to the contemporary cult enacted in Patsos, Aghia Triadha and other such sites, than to the MM III-LM I peak sanctuary ritual. Strictly speaking, the LMIIIC ritual cannot be described as 'peak sanctuary cult'.

The repeated presence of animal figures in Bronze Age Juktas does not amount to a perpetuation of the same practices and beliefs. This distinction does not however undermine the enduring sanctification imparted by the mountain's uninterrupted ritual tradition.

3) Although in this thesis we are concentrating on two specific cultic contexts, it is possible to identify further distinct classes of contexts with discrete meanings featuring animal figures, e.g. funerary, domestic or palatial. Although somehow related (French 1981, 173), the function and meaning of their animal figures should be viewed as different (*ibid.*) from those at Juktas and Kophinas. Even in cases when these other Cretan contexts are contemporary with our two cultic phenomena, and

can also be shown to be cultic, this does not suffice to ascribe the same meaning to the figures associated with them.

(4) It is not sufficient to take the distribution in various contexts of the occurrence of a single ritual object or symbol, in this case the animal figures, as a significant indicator of meaning. Also, it is not methodologically sound to ascribe the same significance to the use and meaning of animal figures existing in distinct Cretan contexts simply on the basis of the existence in these of animal figures.

Inter-regional contextualization

So far, the identification of material, behavioural, conceptual and symbolic coherence of cultic phenomena associated with animal figures has been restricted to the Cretan region. In interpreting the meaning of Cretan animal figures within the two cultic phenomena noted above, we adhere to the principle exemplified by the material evidence that unity of objects, practices and beliefs can be sought within local and regional contexts. However, the inter-regional distribution patterns of the animal figures shows that it is possible to establish a broader geographic scale of contexts for the animal figures, in analogous cultic contexts.

As yet, the identification of animal figures found in cultic contexts analogous to the MM I-LM I Cretan ones is attested in only one certain instance outside the Cretan region: the peak sanctuary of Kythera, whose principal period of use dates to MM III - LM I (Sakellarakis 1996). While there may be some (less convincing) evidence of peak sanctuary ritual elsewhere in the Aegean, this category of cult site does not exist on the mainland (Hågg 1984, 120f, and Sakellarakis 1996, 97 contra Bintliff 1977, 151-154). The comparison of the Apollo Maleatas sanctuary with the Kytheran and Cretan peak sanctuaries leaves us in no doubt that this mainland cult site is not a peak sanctuary¹.

¹For further references to possible instances of peak sanctuaries outside Crete, see compilation in Sakellarakis 1996 (pp. 92-98). However, caution should be exercised in the selection of certain elements as sufficient in the identification of peak sanctuary ritual. A particular constellation of material elements and topographic features is

During the 12th century B. C., the distribution of cult places featuring rituals with animal figures analogous to those of contemporary Cretan sites includes both the Cyclades (Phylakopi) and the mainland: Tiryns: Unterburg, the Argive Heraion (Prosymna), Apollo Maleatas (Epidauros), the Menelaion and Amyklai (Lakonia) and Delphi. With the exception of Phylakopi, the ritual in these sites was exclusively open-air.

The distribution of animal figures in distinct sociopolitical and cultural regions exemplifies one of the main problems in the interpretation of Aegean cult objects, practices and meaning. Tension is caused by the fact that their meaning is derived from a discrete, regional cultic context which is, at the same time, part of an inter-regional network of contexts. To what extent are the cultic phenomena of two MM I-LM I Cretan and the one MM II/III - LM I Kytheran site featuring animal figures similar, analogous or different from each other? The same question needs to be asked of the LM IIIC Cretan, Melian and mainland sites.

We cannot hypothesize about the similarity or difference of meaning of objects and practices found in different regions without first having a clear idea of the material differences/similarities of the cultic phenomena with which they are associated, firstly, because as shown above, objects, practices and meaning are interlinked; secondly because the material evidence is the only indicator of meaning in the absence of written texts.

The archaeological evidence shows that the material correlates between the Cretan cultic phenomena and their Aegean counterparts differ in MM III/LM I and LM IIIC respectively. These differences are brought out by assessing the degree of difference/similarity between Aegean cultic phenomena featuring animal figures through a comparison of the assemblages' components and their quantities.

necessary (Peatfield 1983; 1990), and there are Cretan sites featuring elements found in peak sanctuary ritual which however cannot be included in this cultic category.

The few animal figures and figurines found in the Kytheran peak sanctuary contrast with their plethora in contemporary Cretan peak sanctuaries (Sakellarakis 1996, 84 and 88), a difference which is significant in its own right. Despite this, it is possible to subsume the Kytheran cultic phenomenon featuring animal figures within that of peak sanctuaries. The topography and the totality of the material components in the Kythera peak sanctuary indicate that this shrine's cult shares the same essential, material and symbolic coherence as its contemporary Cretan peak sanctuaries (Sakellarakis 1996). The differences in the quantification of the material components are due to the contextual specifics of this overseas cult place, but this does not detract from its identification as a peak sanctuary.

In contrast, the comparison of the Cretan LM IIIC sanctuaries' assemblages and practices with those of their Aegean counterparts points to material differences (which may or may not indicate cognitive and symbolic differences). While the principal common denominator between the Cretan and other Aegean sites is the large scale animal figuration, their other material components and range of locations differ considerably. While on the whole these mainland sanctuaries comprise a unitary category of contexts, they do not share with their Cretan counterparts the deep similarities that the MM III-LM I Kytheran peak sanctuary shares with its Cretan counterparts. Certainly the identification of one common symbolic component (large scale animal figures) is not sufficient to ascribe contextual or material coherence to these contemporary LBA IIIC Aegean cult sites, nor can we automatically assume that the meaning and purpose of the animal figures was the same across the LBA IIIC Aegean.

These different sets of relations linking the cultic phenomena of the MBA - LBA I Cretan and Kytheran peak sanctuaries on the one hand, and the LBA IIIC Cretan and other Aegean sanctuaries on the other must be assimilated into the interpretation of the Cretan animal figures. However, the basic comparison of the Aegean sites' material components does not in itself explain the nature or the causes of these sets

of relations. To find clues as to why, rather than how, these Aegean cultic phenomena are linked, we must look at patterns of material evidence which extend beyond the comparison of artefactual components. These patterns hint at the parameters which structure these different sets of inter-regional relations.

Differing regional patterns of material evidence

Some patterning provide clues to the degree of the containment or transmission of material elements related to religion within the Aegean. For example, it is not accidental that the MM III- LM I inter-regional distribution of the peak sanctuary cultic phenomenon, characterized by a 'deep' coherence of objects and practices, is far more restricted, numerically and geographically, than the LBA IIIC inter-regional distribution of considerably different cultic assemblages sharing the presence of animal figures².

It is also of note that the 'degree' of similarity of non-Cretan cultic phenomena with Cretan ones featuring animal figures is inversely linked to the frequency of non-Cretan animal figures' contexts. This suggests that the distribution of ritual practices associated with one artefactual type (i.e. animal figures) is more 'susceptible' to trans-regional adaptability than the totality of a cultic phenomenon (i.e. peak sanctuary ritual) with all its attendant components and ritual practices. These structural differences in the material evidence have important implications in the reconstruction of the meaning of objects and practices since they attest to the difference between the total and selective transmission of cultic phenomena.

Further clues about the factors affecting the transmission of religious material traits within the Aegean are provided by the distribution patterns of the components of the cultic phenomena. Our knowledge of the history of Aegean animal figuration (chapter IV) can provide an insight into the spatial and temporal origins of animal figures, and

²Even if more peak sanctuaries were securely identified outside Crete, I greatly doubt that they would be so plentiful as to alter this quantitative contrast, or that their distribution would extend to the mainland.

the regional containment or transmission to other regions of this artefactual category. These data provide valuable information about the inception (endogenous or 'imported') of the animal figures, and the nature of symbolic inter-regional relations (interactive relations, or independent internal phenomena). For example, large scale animal figures were first manufactured in Crete and their (limited) use spread to Kythera and the Cyclades. In the LBA III however the directional shift changed. The precedence for the more frequent use of large animal figures is ascribed first to the mainland, whence the trend spread to Crete. These patterns tell us about the nature and direction of cultural relations between regions.

The importance of the regional level of evidence

From the above it can be seen that the Aegean contextualization of Cretan animal figuration helps us to better situate and define the nature of regional, and not just inter-regional, figuration.

Yet while helpful in many respects, the Aegean contextualization of the Cretan animal figures renders the concept of discrete meaning problematic. The principle of discrete meaning makes immediate sense when we isolate either the MM III-LM I or LM IIIC animal figures within the Cretan region. The discrete meaning of MM I-LM I Cretan figures is not challenged by the fact that LBA I Minoan-type animal figures are found elsewhere in the Aegean because we know that the Cretan figures and their attendant practices and beliefs were engendered within Minoan society and on occasions spread to other regions. But difficulties emerge in the definition of the discrete context of LM IIIC Cretan animal figures. On the one hand, their Cretan contextualization affords them a discrete regional meaning; on the other hand, it could be argued that this discrete regional meaning is challenged because these Cretan figures are modelled on external stimuli, i.e. figures found in other Aegean regions. The problem arises because, in a sense, the context and meaning of these LM IIIC figures is simultaneously discrete but not discrete. The challenge faced in this thesis is to define what renders the MM III-LM I animal figures discrete within the

Cretan context, and what renders the LM IIIC figures discrete within the Cretan context despite their inter-regional contextualization.

Irrespective of the original source of inception of the LM IIIC animal figures and their simultaneous existence elsewhere, their meaning is contextualized within the society which produces and uses them. It will be argued that, similarly to the MM I-LM I figures, the significance of LM IIIC animal figuration is embedded in the material, cultic and sociopolitical circumstances of Crete and is coherent to participants within LM IIIC Cretan society. This definition of a discrete meaning within an Aegean context is pivotal to the interpretation of the animal figures and also exemplifies the difficulties in studying Aegean cult practices.

Conclusions

To recap, the clue to what shapes material culture and its meaning is the material evidence at our disposal. The inter-regional contextualization of the Cretan animal figures has shown us what determines the material differences between assemblages containing animal figures, and these figures' and assemblages' distributional, quantitative and contextual patternings. These inter - regional patterns are affected by the geographic origins of the animal figures; the nature (endogenous or 'imported') of their inception; the regional containment or transmission of animal figures and associated cultic phenomena; the degree of transmission of cultic phenomena (selective or total); the nature of inter-regional Aegean relations. To understand the nature of these material patterns and the differences between them, we have to situate them within the web of sociopolitical, temporal and spatial factors which structure them. This necessity has been expressed lucidly by Renfrew:

'We shall not adequately understand the cults of the Bronze Age Aegean without giving adequate attention to spatial and temporal variation, and to the interactions which occurred between religious practices and socio-political organisation at that time' (Renfrew 1981, 33).

These aims are in fact integrated in the descriptive narrative of Aegean cult practices presented below.

V.2 THE TEMPORAL, SPATIAL AND SOCIAL FRAMEWORK OF AEGEAN RELIGION AND CULT PRACTICES

Current narratives of Aegean religious practices and beliefs aim to define prevailing regional and inter-regional trends; and to identify transformations with a view to explaining change in ritual and beliefs.

These narratives take the form of a sequence of broad chronological phases, each exemplifying characteristic regional and inter-regional trends (e.g. Renfrew 1982; 1985, 397-398, 431-441). The differences between these phases' trends are believed to indicate 'the successive changes, the transformations in cult practice and in belief structure' in the Aegean (Renfrew 1985, 431). Because these trends also apply to animal figuration, and colour our understanding of them, we outline them below³.

V.2.1 THE NARRATIVE FRAMEWORK

The main trends in Aegean cultic practices identified by scholars are associated with three broad temporal phases.

PHASE 1: c. (MBA -) LBA I

(Hagg 1996, 602-604, 611; Renfrew 1981, 27-28, 31-32; 1985, 434-5). Characteristic of this period in the Aegean is the prominence of Minoan or Minoan-inspired *material*

³These syntheses of regional and inter-regional Aegean cult practices deal primarily with the material and formal aspects of symbolic systems, and in so doing prepare the ground for, rather than venture directly into, the content and meaning of these symbolic systems (Renfrew and Bahn 1991, 336). This is implied in the following statement by Renfrew: 'The distinction between the different cult practices at different periods and in different regions is a crucial one if we hope to proceed to gain some insights into the transformations of belief which shaped them' (Renfrew 1985, 402).

evidence related to religion: 'the finds from the mainland as well as the islands mainly reflect the symbolism of Crete' (Renfrew 1985, 398). This phase witnesses plentiful endogenously produced evidence in Crete itself, and the impact of these Minoan-inspired material aspects on both the Cycladic and mainland religions. This phase attests to the cultic phenomenon featuring animal figures in Cretan peak sanctuaries and its spread to Kythera.

The Minoan dominance in this phase's evidence is linked to the 'palatial' level of organization with its centrally administered religion (Renfrew 1985, 401), and to the island's economic (and political?) dynamism in the Aegean. This led Renfrew to note, 'the development in the rest of the Aegean, prior to and during the Late Bronze I period, of cult practices reflecting *in some respects* those of Crete' (Renfrew 1985, 436) (my italics). While regional differences are recognized, prominence is given in most accounts to the Minoan-inspired material evidence. This is because the indigenous evidence of mainland religious activities is sparse, a fact which underscores the differences between these regions' expressive activities.

PHASE 2: c. LM II/LH IIIA - LM/LH IIIB

(Hägg 1996, 604-608, 611-612; Renfrew 1981, 28-30, 32; 1985, 436-438). Characteristic of this period is the prominence of religious material evidence of Mycenaean inception or influence. In terms of inter-regional relations the roles are viewed as reversed, and it is the Mycenaean material aspects of religion that impact on the Cretan and Cycladic religions. So certain cultic objects and practices found in the Aegean are believed to reflect 'the acceptance of what were fundamentally Mycenaean cult practices' (Renfrew 1985, 437), although again regional differences are recognized. This phase witnesses the Mycenaean-inspired inception of cult practices associated with animal figures. During this phase, this artefactual category has limited impact on Crete.

The nature of this phase's specific material manifestations is linked to the collapse of the central administrative organisation and the fragmentation of religious institutions in Crete (Renfrew 1981, 29-30). As a result there was a quantitative and qualitative diminishing of Cretan material culture in many fields. This phase is characterized by a lack of innovation in the material manifestations of religion, and the presence of 'folk elements' (Renfrew 1981, 30; 1985, 436). This Cretan picture contrasts with the increasing sophistication of the material aspects of religion in the Mainland, commensurate with the emergence of palatial society.

PHASE 3 (with possible sub-divisions?): c. LBA IIIC

(Hägg 1996, 608-610; Renfrew 1981, 31; 1985, 438-439).

By LBA IIIC, the Aegean has undergone another major sociopolitical transformation, following the demise of the Mycenaean palatial centres in the latter half of LH IIIB. Renfrew views this as a period of Mainland impoverishment in religious material terms but indicates that the material evidence justifies a further sub-division in late LBA IIIC when cult objects and practices are seen as representing new schemes, characteristic of the emergence of common material elements evident in the religious activities of the whole Aegean (Renfrew 1985, 439-440). It is believed that, in comparison with the previous phases, regional diversity becomes blurred in late LBA IIIC. It is during the 12th century that the use of the animal figures becomes very popular in Cretan and mainland cult.

In the absence of a state society in the Aegean, Renfrew avoids ascribing, during this phase, the diffusion of material culture to a more 'advanced' region, but in any case he believes that the changes in the material religious evidence (particularly those related to the later LBA IIIC) are not fortuitous but somehow associated with the absence in the Aegean, for the first time in about a thousand years, of any palatial state society (*ibid.*).

V.2.2 THE ATTITUDE TO MATERIAL CULTURE

Our interpretation of regional and inter-regional Aegean animal figuration and its related practices is, consciously or indirectly, affected by generic, broad-based accounts of Aegean religious practices which were formulated prior to the publication of detailed archaeological data related to the animal figures. Inherent in these accounts are certain attitudes to material culture, including artefacts like the animal figures, and the way they are interlinked with sociopolitical and regional factors, outlined below.

Sociopolitical factors: Religion and polity

It is recognized that in each Aegean region, changes in the sociopolitical conditions and transformations in the ideational and material manifestations of religion are interlinked. Thus correlations are made between the diachronic differences in a society's religious manifestations and the evolution of its sociopolitical phases (formative, state, post-state) (Renfrew 1981, 29-31). It is also accepted that when inter-regional similarities occur in the material aspects of religion, these are determined by the relations between regions of differing sociopolitical circumstances and material cultures.

There is a clear distinction in the material/polity relations between state and post-state society Aegean. During Aegean state society, the regions which have achieved a more advanced or dominant sociopolitical level are viewed as having not only an abundance of religious material but also the prerogative of conceptual and consequently material innovation. The material manifestations of the religions of contemporary, less developed, regions are considered to be fewer and/or not retrievable archaeologically, either because they have suffered from 'the aftermath' of a systems collapse (Minoan society in phase 2) (Renfrew 1981, 30; 1985, 436), or because they are not yet fully fledged states (Mycenaean society in phase 1). A region is viewed as the recipient of material cultural idioms (objects and practices) when it is in a position of a certain disadvantage, be it political, economic, cultural, or

usually a combination of these. However, this acceptance does not amount to the material, or conceptual, uniformity of the religions of different regions.

It is the reversal of direction in symbolic material influence during the two broad phases 1 and 2 that prompted Renfrew to formulate his 'flux-reflux' theory (Renfrew 1981, 31-33). However, it should be noted that the 'reflux' is also viewed as extending into phase 3 (French 1981, 173), but under different sociopolitical circumstances and mechanisms of transmission of cult objects and practices.

Interestingly, it is in Aegean post-state society that it is suggested that the uniformity of regions is greater than during the existence of a state society. During this phase Renfrew is less concerned to identify innovators and recipients, although as we shall see this is a point which cannot be ignored.

Spatial factors: religion and regionalism

While recognizing, as Nilsson did, that there are common elements in the material aspects of Aegean religion, it is stressed that inter-regional differences can be identified in religious practices, structures and beliefs. The question 'was there a "Minoan-Mycenean" religion' is now posed less frequently; occasionally it is asked whether there was ever sufficient material uniformity to warrant the identification of a single religion (Renfrew 1981, 27). It has been argued that we need detailed evidence of the material aspects of the cult practices, symbolism and beliefs of individual regions before we attempt a more ambitious Aegean synthesis of religious practices and beliefs (Renfrew 1985, 442).

Despite this plea, most accounts of Aegean cult practices and beliefs are generic because of the lack of publication of detailed regional evidence. In this thesis we hope to contribute to these general accounts by providing site-specific and region-specific evidence on the Cretan phenomena of animal figuration. In the future this evidence might contribute to the construction of a more detailed, interpretative, synthesis of Aegean religious practices and beliefs.

Critique of the use of material culture

One characteristic of the above narrative of religious trends is the bias in the presentation of the material evidence. The description of the three phases outlined above is dominated by the endogenously produced material evidence of more advanced regions, and by the features 'imported' into pre- or post-state regions. Thus prominent in the LBA I (phase 1) mainland and Cycladic evidence is that of Cretan origins. Similarly, accounts of LM IIIB (phase 2) but also LM IIIC (phase 3) Cretan religion are dominated by artefacts and practices which owe something to Mycenaean cult objects and practices. This approach is exemplified by the concepts underlying the terms Minoanizing and Mycenaeanizing.

Although the above phasing of Aegean cult practices is far more 'factually constrained' (Tilley 1990, 77) than earlier accounts based on the traditional diffusionist model, it could be more closely tailored to the archaeological data. Two methodological shortcomings can be detected in the use of the material evidence. Firstly, our (justifiable) emphasis on well-attested material trends is often at the exclusion of more marginal evidence, and secondly the absence of material evidence is not sufficiently highlighted. It is felt that these aspects of the evidence should be further integrated into such descriptive narratives. They contribute to a more detailed description of the mechanism of transformation of religions. In this way they potentially challenge the prescriptive relations between religion and polity outlined above, and ultimately affect our interpretation of Aegean cult practices. We demonstrate with examples how our narrative of religion can be altered with attention to such aspects (or non-aspects) of the evidence.

The need to re-instate *lacunae*

In narratives of Aegean cult, successive changes in material trends are believed to represent transformations in cult practices and in belief structures (Renfrew 1985, 431). These transformations are defined by comparing successive material trends. Sometimes though a timespan practically devoid of cultic evidence intervenes

between identifiable material trends. If we ignore this *lacuna*, we misguidedly describe the mechanism of transformation by comparing two material trends which are in fact not sequential.

In the LBA Aegean these *lacunae* occur in LH II - LH IIIA2 on the mainland, and in LM II - LM IIIA Crete. They are not the result of an accident of preservation, nor do they denote a lack of religiosity (Hagg 1985, 204). Rather the materially simple religious expression during these periods is not retrievable archaeologically⁴.

In Crete such gaps of cultic evidence remain almost unnoticed. While the final Knossos palace destruction yields a wealth of ritual artefacts and wall paintings, we tend to forget that this is an exceptional instance: after the earlier destructive events of LM IB, there was a sharp fall-off of material evidence related to cult practices. This Cretan LM II-III A2 *lacuna* has hardly ever been discussed, primarily because of the absence of published negative evidence related to such cult places as peak sanctuaries and caves. These 'silent' phases tend to be obliterated within broad phases like those noted in the above narrative of trends. As a result they are not fully recognised for what they are: periods devoid of much material evidence which however featured sociopolitical structures, no doubt instrumental in the trajectory of religion and somehow embedded into the succeeding phases' cult evidence.

I would like to give an example of how emphasizing, rather than glossing over, a lack of material evidence can significantly alter our description of the mechanism of regional transformation of cult.

The *lacuna* in LM II-LM IIIA2 Cretan religious material is usually under-emphasized and subsumed within phase 2 described above. This *lacuna* extends to the virtual halt, compared with MM III-LM I, of the production of animal (and human) figuration.

⁴Renfrew mentions the absence of evidence in passing (Renfrew 1985, 436) and Högg is more explicit about recognizing the *caesurae* in the mainland (Högg 1985, 213 LH II *caesura*; 1996, 604 and 611: LH II and IIIA1 *caesurae*).

We have seen how the recognition of this virtual LM II-III A2 lacuna in animal figuration (and the LM III B sparsity of these figures) results in the acceptance that LM III Cretan figuration was the result of an external material stimulus, rather than an endogenous feature as is supported by advocates of continuity (chapter IV). The recognition of this virtual *lacuna* in the evidence changes our interpretation of the mechanism of inception of figuration and contextualizes it in inter-regional, rather than regional, terms. This lack of LM II- III A2 material evidence, which extends to other religious elements, has not been fully integrated into narratives of Cretan religion. Thus, religious activity in Crete after the demise of the palaces is associated with the practice of religious 'folk' cults' (as the ritual associated with Females with Upraised Arms has been described) (Renfrew 1981, 30; 1985, 436, also 439). While the Knossian palace has yielded rich material, it is not adequately stressed that there is a virtual LM II - III A2 gap in cult evidence between the material trends associated respectively with palatial and post-palatial society. The demise of the multi-state palatial structure did not result in a change from a rich material trend associated with a palatial society to a folk trend, but rather in a *lacuna*. The 'folk element' trends are in fact the LM III B outcome of the sociopolitical conditions of LM II-III A2, rather than the immediate material repercussion of the demise of the palaces in LM IB. This finer diachronic evidence can result in a more detailed description of the socio-political parameters affecting the transformation of cult.

The need to re-instate 'marginal' evidence

Chronological *lacunae* are also present in the narrative of Aegean cult practices because of the uncertain identification of some evidence as religious. It cannot be denied that from LH II to LH III A2 the Mycenaean mainland produced little archaeological evidence which would qualify as religious (Hägg 1985); yet this remains a significant phase because it features the inception and early use of the quintessentially Mycenaean phenomenon of figuration. This aspect of material culture is virtually left out of Hägg's account of Mycenaean religion, presumably because it cannot be securely identified as religious. But these human and animal figurines are the very same artefactual types which are later found in LH III B and III C

cultic contexts, and their earlier contexts in dwellings and burials is expressive of ritual (and at times religious) activity. Without reference to these figurational and contextual precedents, the appearance of such figurines in LBA IIIB - IIIC cultic contexts is not fully contextualized. Their presence in cultic contexts is not 'parthenogenic'. It constitutes a contextual and symbolic transformation that is fully appreciated when related to the figurational evidence that preceded it in LH IIIA1-2⁵.

V.3 THE CULTURAL-HISTORICAL FRAMEWORK OF AEGEAN ANIMAL FIGURATION

V.3.1 INTRODUCTION

So far we have outlined the reconstruction of the broad chronological phases of Aegean cult practices and shown how they feature some basic associations between religion and polity, and religion and region. Evident in each phase are patterns of material evidence representing the indigenous inception of cult objects and practices, the acceptance of external stimuli and the diffusional directions of material culture. We suggested that, in order to provide a more accurate description of the transformation of cultic activity and the reasons underlying changes in material culture, the evidence has to be looked at in a more detailed way.

The aim of this section is to look at the material evidence in more detail by integrating trends associated with animal terracottas within these broad chronological phases. It will be seen that the generic trends identified at times in Aegean symbolic objects

⁵There is a marked contrast in the approach to material evidence between generic diachronic accounts of religion and accounts of the histories of individual artefactual types. For example in accounts of figuration by French (1971) and Guggisberg (1996) there is a greater emphasis on finer chronological distinctions and an inclusion of material which has deliberately not been integrated into more generic accounts of the history of Aegean cult practices. The outcome of these two approaches is a plurality of narratives which use the material evidence differently. Rather alarmingly, some researchers find evidence where others see but *lacunae*. However, the potential to partly integrate these different accounts is there.

and ritual practices need at times to be modified on the basis of the material evidence.

We try to re-instate the evidence related to figuration which we feel has not always been included in generic accounts of Aegean cult practices. This entails making finer chronological distinctions, highlighting the absence of material evidence, and bringing in the more 'marginal' evidence by associating the animal figures within the broader phenomenon of figuration of which our animal figures in cultic contexts are but a part.

In order to contextualize the regional and inter-regional patterns of the two Cretan cultic phenomena featuring the Juktas and Kophinas animal figures, we need to comprehend the conditions which engendered them. It is here suggested that it is necessary to draw a distinction between phenomena of widespread and selective figuration because these are engendered by different sets of circumstances during MBA - LBA III. The MM I-LM I animal figures should to be comprehended within the context of widespread figuration, whereas the LM IIIC animal figures provide an example of selective figuration.

Widespread figuration is endogenously conceived, and entails the frequent production and use of clay representational figures made in a plurality of forms and types. In the Aegean MBA - LBA III, such phenomena occur twice: in MM I-LM I Crete, and in LH IIIA2-LH IIIC mainland. Both these phenomena are characterized by a variety of anthropomorphic, zoomorphic and, to a lesser degree, other miniature representations. Minoan widespread figuration is most frequently attested in MM I-LM I peak sanctuary ritual and far more rarely in funerary and domestic contexts. The main categories of representations are female, male and animal figurines and figures, miniature skeuomorphs, fruits, flowers.

Characteristic of the LH IIIA2-LH IIIC mainland phenomenon of figuration is the typical repertoire of Phi, Tau and Psi female figurines, Wavy, Linear, Ladder animal figurines,

female and animal figures, group figurines and miniature skeuomorphs. These figures and figurines are found in settlements, tombs and cultic contexts.⁶

It is here suggested that in MBA - LBA the inception of widespread figuration is an endogenous feature of early Aegean state societies. While these cultures may have produced representational figures before the emergence of early state society, these were restricted in both quantity and variety.

We hope to show that widespread figuration in its totality is never transferred to another region because it is an aspect of material culture that is internally conceived and produced. However, a selective transference of figuration can occur between regions under specific circumstances. A region can adopt selectively certain figure types (or can use in a more limited way a wider range of figurine types) when it has not yet attained, or has fallen out of early statehood. Examples of selective figuration are provided by the occasional LBA I use in the mainland and the Cyclades of animal head rhyta and animal askoid vessels, and the not too frequent use in the Cyclades of human figurines resembling Minoan ones which are far more popular and frequently used in their place of origin.

Good Cretan examples of the selective adoption of a limited repertoire of figure types which become popular are provided by the adoption of the idioms of wheelmade Female Figures with Upraised Arms and wheelmade bovine figures.

From the above examples, it can be seen that selective figuration is externally influenced and described as such because it never equals the range of types and/or quantity of figur(in)es found in the country of origin. Now that we have established more securely the regional history of wheelmade animal figuration, we are in a better

⁶In this part of the discussion, we will ignore the internal diachronic differences of figures and types within these two broad phenomena. However in chapter VI, the chronological sub-divisions between MM I - MM II and MM III - LM I are crucial to the interpretation.

position to identify patterns of widespread and selective figuration and situate them within the sociopolitical conditions which brought them about.

We will first concentrate on the inception of the widespread phenomena and then look at the selective transference of figuration to other regions.

V.3.2 WIDESPREAD FIGURATION: REGIONAL PATTERNS

THE ENDOGENOUS INCEPTION OF WIDESPREAD FIGURATION

First it is necessary to demonstrate that the inception of the widespread and varied phenomena of figuration in MM I-LM I Crete and in LH IIIA2-IIIB mainland were not copied or diffused from neighbouring regions.

The Minoan inception of widespread figuration in MM I

In Crete, widespread figuration commenced in MM I when it was mainly attested at peak sanctuaries. It is important to distinguish this phenomenon from the more limited figuration which preceded (and carried on alongside) peak sanctuary ritual. Earlier animal terracottas are attested at the EM II settlement of Myrtos: Phournou Korifi, and EM III/MM I - MM II bird and bovine askoid figures have been found in the context of the Messara tombs.

It is a straightforward task to ascribe the inception of widespread Cretan figuration to internal conditions. When this first emerged in MM I Crete, no figures were evident elsewhere in the Aegean interactive sphere which could have served as physical models; nor did the Cyclades or the mainland have other material aspects of ritual activity which could have indirectly provided a conceptual stimulus for Cretan figuration. In MM I Crete, the impetus for the inception of widespread figuration can be ascribed to the needs of peak sanctuary ritual, of which it became a hallmark.

The Mycenaean inception of figuration in LH IIB/IIIA1, and widespread figuration in LH IIIA1/2.

French asserts that 'the spread and popularity of figurines on the mainland must be dissociated from their physical origins' (French 1971, 106). This statement is made because (in contrast to Minoan figuration) a chronological distinction needs to be drawn on the mainland between the emergence of figuration as a material medium of expression, and the inception of widespread figuration: the earliest Mycenaean human and animal figurines are found in LH IIB/IIIA1 but it is not until LH IIIA2 that the overwhelming popularity of Mycenaean figuration starts (French 1971, 106). The first stage (initial innovation) is linked with Crete, the second (widespread figuration) is viewed as independent from Cretan associations. My aim is to show that, despite the external stimulus, the initial introduction of figuration was actively induced by the Mycenaean; and to confirm that widespread Mycenaean figuration is an endogenously induced phenomenon.

The LH /LH IIIA1 inception of figuration

In chronological terms, 'the origin of figurines is to be sought in the conditions of the end of LH II' (French 1971, 104). French finds it unlikely that 'the origin of Late Helladic figurines is to be found in any internal impulse' (French 1971, 104). Certainly because of the austerity of MH figuration, we cannot ascribe it to an unbroken Helladic tradition. French rightly associates the inception of mainland figuration with the special relations between the mainland and Crete which followed the Mycenaean take-over of the palace of Knossos (French 1971, 105-6, and 174; 1985, 279). We need to analyse further the conditions which brought about this major Mycenaean innovation.

In the absence of LH II mainland figuration (ibid., 174), French searches for possible models in contemporary Crete. In this respect it is noteworthy that by far the largest number of early female figurines come from Laconia (French 1985, 279), and that a female figurine with clear Minoan formal similarities was found in tholos 2 at Peristeria in Messenia (Högg 1984, 37, fig. 2).

Undoubtedly it is significant that Crete had a precedence in figuration. But a direct association between this tradition and the inception of Mycenaean figuration would be misguided. In fact during the period contemporary with LH IIB (i.e. LM II) there is very little Cretan figuration. This is because widespread Cretan figuration, which commenced in MM I, suffered a serious set-back after LM IB. The few figurines and figures of LM II and LM IIIA contrast sharply with the sheer quantity and variety of MM I-LM IB figuration found primarily in peak sanctuaries. While more contemporary Cretan figurines will no doubt be published, I believe this sharp fall-off of figuration will remain a firm fact. Therefore, with the exception of the rather few LM II female figurines (French 1971, 105 and 174), which the earliest Mycenaean figures resemble (ibid, 105; *ArchRep*1974-75, 14, fig. 20; *ArchRep*1976-77, 32, fig. 56), there is virtually no Cretan evidence of direct physical models for large scale female figuration, or for large and small scale animal figuration.

So in the case of both Cretan and mainland widespread figuration, it is possible to show that, in the absence or the virtual absence elsewhere in the Aegean of suitable models, other regions did not provide direct material models which would initiate these phenomena.

There is no debate about the endogenous nature of MM I-LM I Cretan figuration; however it is necessary to substantiate why the Mycenaean phenomenon was actively engendered endogenously within its own society. Despite the earlier Cretan tradition of figuration, it is the Mycenaean initiative which brought about the inception of mainland figuration. Firstly, ideational and, to a lesser degree, material interaction related to figuration was virtually non-existent during the period of Minoan influence on the mainland; rather it occurred when the Mycenaean arrived in Crete. Cretan influence was actively assimilated at first hand by the Mycenaean themselves.

Secondly, the earliest LH IIIA1 forms and types of mainland figures had 'already acquired a fundamentally Mycenaean character' and were not found in Crete (French

ibid., 174). This applies to anthropomorphic and zoomorphic figuration, both small and large scale, for which there are virtually no Cretan material models anyway. In fact the LM II predecessors of the mainland female figurines are viewed as 'one of the common products' of these special relations between Crete and the mainland (French 1971, 106).

Thirdly, Cretan impact on mainland figuration was primarily conceptual. The physical/formal attributes of Minoan inspiration in Mycenaean figuration were probably limited to the gestures of Mycenaean female figuration. Even so, it was a Mycenaean, and not a Minoan, innovation to associate the (pre-existing Minoan) gesture of the upraised arms with three-dimensional, clay female figuration (French 1981, 178). The gesture of the upraised arms is an ideational influence, and not one modelled on pre-existing clay Cretan figuration. In my opinion, the conceptual influences that eventually manifested themselves in mainland figuration (derived from contact with Crete) provided more profound influences than direct physical models. The Mycenaeans were profoundly influenced by surviving Minoan institutions (including aspects related to female divinity and possibly bull symbolism) which they emulated in their palatial environments.

The LH IIIA1/2 inception of widespread figuration

Because of the timespan which elapsed in the mainland between the inception of figuration in LH IIB/LH IIIA1 and its widespread popularity towards the end of LH IIIA2 and early LH IIIB, I agree with French's assertion that 'the spread and popularity of figurines on the mainland must be dissociated from their physical origins' (French 1971, 106). There are significant chronological and geographic differences. The inception occurs during the special Knossian/Mainland relationship but the overwhelming popularity of mainland figuration emerged once central Cretan and mainland relations had been severed.

According to French, 'The use of figurines received a new impetus in a wave of popularity during the LH IIIA2 period' (ibid.). Certainly this fresh impetus could not

have been induced by LM IIIA2 Crete where animal and human figuration continues to be much diminished since LM IB, as astutely noted by Nicholls (Nicholls 1970, 10). While the eastern connection was no doubt significant, this in itself could not have brought about widespread Mycenaean figuration.

On the basis of the above I believe that a strong case can be made for the endogenous inception of widespread figuration in both Crete and the mainland, during the early state phase in each area.

Differences between MM I - LM I and LH IIIA - IIIC figuration

Indigenous phenomena are initiated by internal sociopolitical conditions and exemplify regional social strategies. I would now like to highlight this fact by showing that, while sharing certain generic patterns of similarity and occurring within analogous sociopolitical circumstances, the two phenomena of figuration attested respectively in Crete and the mainland are very different in substantial terms.

While both widespread phenomena feature the same basic representational categories (i.e. anthropomorphic, zoomorphic and skeuomorphic figuration) their contexts, uses and representational attributes render them entirely distinct. Mainland LH IIIA-IIIB small scale zoomorphic, anthropomorphic and skeuomorphic figuration is found in different types of contexts from those of MM I-LM I Minoan small scale figuration. Mycenaean figurines are ubiquitous in settlements (French 1981, 173) and they are also found in tombs. In domestic contexts, figurines and miniature skeuomorphs are concentrated around hearths and doorways, intimating that some at least served an apotropaic function (Kilian 1986, 142 fig. 16, 148). While in LH IIIB and IIIC mainland figurines are found in open-air 'public' spaces dedicated to ritual, they amount to a far smaller proportion than those in the settlement and burial contexts. In comparison with the mainland, MM I-LM I Cretan figurines are found in three analogous types of contexts but the proportions of figurines corresponding with these is inverse (Hágg 1985, 213). Cretan figurines are found primarily in peak sanctuary contexts, allocated exclusively to religious activity with a broad based

participation, while their presence in settlements and tombs is proportionately negligible. In addition to these differences, the mainland human figurines show that their significance is grounded in an entirely different conceptual scheme from those of Minoan Crete. This is clearly evident in the small scale figuration. Firstly, there is a virtual absence of male figuration (which on the basis of preliminary reports from peak sanctuaries would appear to be more popular than female figuration in Minoan Crete). Secondly, if correctly interpreted, LH IIIA - IIIC Mycenaean figurines represent divinities whereas Minoan MM I - LM I figurines represent humans, a fact partly corroborated by the innovative use of the Minoan gesture of upraised arms in Mycenaean figuration. This is a gesture never attested in clay MM I - LM I human figurines. The association of this gesture with the faience snake figures in the Temple Repositories at Knossos shows however that the gesture was of Minoan origins. The principal reason why it is not found on Cretan MM I - LM I figurines is because these represented mortals and not divinities/goddess impersonators.

Therefore, in Minoan Crete anthropomorphs representing male and female members of society, zoomorphs and skeuomorphs are placed primarily in public cult places whereas the Mycenaeans placed anthropomorphs representing female divinity (-ies), zoomorphs and skeuomorphs within their households. The combined differences in the context, function, conceptual and symbolic schemes indicate that in Mycenaean and Minoan societies figuration is used in different strategies which hint at different patterns of social and symbolic behaviour and organisation. These differences are of course due to culturally specific circumstances, not just chronological differences. In each region, social structures affect differently society's and the individual's manipulation of material culture and ritual expression.

Now that we have dealt with the regional inception of figuration (including of course animal figures), we need to know more about the conditions favouring its inter-regional distribution.

V.3.3 SELECTIVE FIGURATION: INTER-REGIONAL PATTERNS

THE ADOPTION OF ENDOGENOUS FIGURATION

1) The impact of MM III-LM I Minoan figuration on the Aegean

Although widespread Cretan figuration was established from MM I, we limit ourselves to MBA III-LBA I, when Crete had the greatest symbolic impact on the Aegean.

The influence of Cretan figuration on the mainland

On the mainland, endogenous MH-LH I figuration is virtually non-existent, and Cretan influence barely extends to figuration. In the 16th century it is restricted to the deposition in Shaft Grave IV of two fine animal head rhyta (bull and lion heads) and a stag rhyton, all made of fine materials rather than clay (see Koehl 1981, 179 and ft. 5 for references), and a lion-headed rhyton of white, marble-like limestone found at Delphi. These artefactual types are marginal to the main body of figuration that interests us⁷.

Although, according to Hägg, the influence of Minoan symbols and cult paraphernalia in the 15th century amounted to a *koine* of official cultic expression (Hägg 1985, 213-214), it has yielded virtually no evidence of animal figuration. Presumably the restricted official impact of religion partly contributed to the non-transmission of figuration⁸.

The influence of Cretan figuration on the Cyclades

Unlike the mainland, the Cyclades feature figuration in MBA - LBA, which we would define as selective. Not enough is known of this, however it is far more limited in terms of scope, quantities and types than the widespread and ubiquitous Cretan and

⁷The deposition of the rhyta in Shaft Grave IV may well indicate that in their final contexts, they served as prestige funerary goods rather than ritual objects.

⁸The term *koine* may be more aptly applied to the Minoan/Theran religious connections at an official level.

mainland phenomena we described above. Because of its limited scale and presumably not widespread impact on Cycladic social life, it is difficult to describe as a widespread phenomenon of figuration. Furthermore, it cannot be described as endogenously produced since it is heavily influenced successively by Cretan and mainland figuration, and severed chronologically from the rich EC figurational tradition. It is therefore best to describe it as a phenomenon of selective figuration.

Minoan figural influence is not uniform in the Cyclades; this is partly due to the nature of archaeological discovery, but also to the degree of relations with individual islands. Little is known of the locally produced figurines other than to say that they are not particularly frequent and that Cretan affinities have been noted in at least some of these. French mentions the presence of 'imported and local figurines from MM and LM I' (French 1985, 279) in Kea, Phylakopi and Thera. The Theran figures feature a range of locally made human figurines of both sexes (*ibid.*). Some human, but no animal, figurines are reported from the sites believed by some to be from possible peak sanctuaries. These also have Cretan features (Sakellarakis 1996, 95). There is one well-known, fine example of a polychrome female figurine from Phylakopi town (Myres 1903, 369, fig. 1; Renfrew 1985, 376, fig. 9.2).

The attributes of the unique (to the whole Aegean) female figures at Aghia Irene, Kea, most likely afford evidence of the impact of Minoan religion in an official ritual context. In the absence of direct formal or contextual parallels in Crete, we can only safely say that there is a direct conceptual impact, and an indirect material impact on these figures⁹.

Evidence of Minoan - inspired large scale animal figuration is primarily limited to urban settings. The most substantial influence of Minoan religion in the Aegean is witnessed at Thera. This impact is not just limited to artefactual emulation or

⁹While large scale figures have been found at Kophinas these are all male (Rethemiotakis 1997). While the height of the largest exceeded 0.5 m (*ibid.*, 118 and ft. 7), they are much smaller than the Kea figures which range from 0.70 to 1.35 m (Dickinson 1994, 175). Petsophas is a possible, but unconfirmed, candidate for large scale female figuration.

importation, but to the function and significance of architectural features like the lustral basin, the sharing of iconographic themes and cycles, and of the ritual practices depicted in these (e.g. crocus gathering). To date the following animal figures have been reported from Akrotiri (Koehl 1990 , 353 and 355): two boar's head rhyta, two lioness-head rhyta; a fragment of a bull's head rhyton, and a bull askoid rhyton (Marinatos *PAE* 1969, pl. 232: like the Juktas and Kophinas group 2 figures), all Cretan types. Phylakopi town has yielded portions of at least two bovine figures (Atkinson et al 1904, 204, fig. 176, no. 31 pl. 40; Renfrew 1985, 375 and fig. 9.1; Guggisberg 1997, 116-7, nos. 406-7, pls. 29,1-2), both akin to Juktas and Kophinas group 1 figures (section IV.3). The contexts of these Theran and Melian examples are analogous to those of the animal and animal head rhyta found in Cretan prestigious urban, rather than palatial, settings. In this, they differ from the animal head rhyta of Shaft Grave IV whose material of manufacture and prestigious context are more analogous, in Cretan terms, to the palatial setting.

At Kythera, the presence of human figurines, and animal figures and figurines at a peak sanctuary is, to date, an exceptional occurrence in the Aegean. It is not accidental that these were found in a cultic context of quintessentially Minoan origin since Kythera affords the most convincing instance of a Minoan overseas community.

In the absence of endogenously conceived widespread figuration outside Crete in MBA - LBA , the figurational types identified in the Aegean (with the exception of the Kea female figures) are directly emulated and perhaps occasionally imported from Crete. During the period of Crete's greatest symbolic impact in the Aegean in (MM III-LM I), the quantities and range of figure types identified in other Aegean regions are dependent on the degree and nature of Cretan interaction with these areas. The impact on the mainland is more limited than that on the Cyclades. Compared with the mainland, which features only (non-clay) animal head rhyta, the Cyclades have a larger typological range. They also feature animal rhyta of both 'schematic' and 'naturalistic' type, at least one fine imported human figurine (Phylakopi), and other anthropomorphic figures with Minoan features. The large scale female figures from

Kea cannot be directly paralleled in the absence of Cretan large scale female figuration in clay; however, the Cretan conceptual influence is marked by the figures' attire, bare breasts, and gestures.

The impact of large scale, animal and human, Minoan figuration in the Mycenaean Shaft Graves, Aghia Irene and other Cycladic settlements is linked with prestigious ritual, probably both official and private. This pattern fits in very well with certain aspects of the peer polity model whereby the symbolic interaction between regions is based on emulation (Renfrew 1986, 8). The presence of zoomorphic rhyta in Shaft Grave IV probably evidences interaction associated with gift exchange (and ritual?) at the highest social level. The human figurines found in Cycladic settlements were presumably associated directly or indirectly with domestic contexts.

Kythera has produced the more complete overseas range of terracotta Minoan-type figuration, characteristic of endogenous Cretan society, gathered in one location; but here, compared with their Cretan counterparts, they are negligible in quantity, presumably because this form of ritual has been engendered by social strategies which differ from those of Minoan Crete. By contrast, the large number of female figures in Kea stand out not only because they attest to a scale of female figuration not yet found in Crete (Renfrew 1985, 434), but because of their sheer number, reaching a total of over 50. It is clear that in the mainland and even in the Cyclades, Cretan-inspired figuration does not follow the same quantitative or contextual patterns as it does in Minoan Crete where its use ranges from the rarer, limitational elite contexts to the more common, peak sanctuary contexts which permit a broader community-based participation, i.e. peak sanctuaries. Finally, the Minoan figurational types with the broadest geographic distribution are the zoomorphic.

2) The impact of LH IIIA2-IIIC Mycenaean figuration on Crete within the broader Aegean context

While the inception of Mycenaean figuration is linked with Crete, once fully fledged and widespread in the mainland it has a restricted impact back on Crete. It follows patterns analogous to the earlier impact of Minoan figuration on the Aegean, in that it has a restricted distribution in the island. Beyond that though, the impact of Mycenaean figuration has a distinct trajectory.

The impact of small-scale figuration on Crete

This is minimal throughout the LBA IIIA - B and, with the data at our disposal, one would be hard pressed to make a case for a notable increase in LMIIIC.

On the mainland, the overwhelming popularity of small scale figuration starts in LH IIIA2 (French 1971, 106) and there is a gradual tailing off in LH IIIB (ibid., 153). The types characteristic of this peak of popularity are represented by the female Psi type, and the animal Wavy 2 and Linear 1 types. The climax of figuration on the mainland coincides with the apogee of Mycenaean power and overseas contacts (ibid, 175), and the distribution of these figures elsewhere in the Aegean during this period is said to mark a climax of expansion never exceeded (ibid., 164). A further 'dispersal' of figurines occurred in LBA IIIC following the disruptive mainland events of LH IIIB (French 1981, 173; Popham 1965, 335 and ft. 45; Renfrew 1985, 439). Such a spread is documented in Rhodes and further east.

Despite the overseas spread in LH IIIA2-IIIB and the renewed dispersal in LBA IIIC, the sparseness in Crete of small scale human figuration of Mycenaean type has been commented on by several scholars (Nicholls 1970, 3; Desborough 1964, 166; Renfrew 1985, 407 and 417). The same applies to animal figurines (Renfrew 1985, 428). French stated in 1971 that 'there are no animal figurines exactly of mainland decorative types, and so such figurines as there are can best be considered as local'

(French 1971, 164). Higgins states, 'Although Mycenaean terracottas are not as rare on Minoan sites as was once believed, they are still far from frequent' (Higgins 1984, 200). Since then the known numbers of either imported or emulated animal or human figurines has hardly increased.

The absence of Mycenaean type figuration during LM IIIA2 and IIIB fits with patterns of Cretan/mainland interaction, and internal Cretan sociopolitical conditions. During LM IIIA2 and IIIB Crete had reverted to independent small polities, following the demise of Mycenaean rule. There were fewer direct associations between central Crete and the Mycenaean world in post-III A2, when figuration in the Mycenaean world was at its most frequent and varied. When Crete reverts to its own sociopolitical conditions, following the Mycenaean administrative withdrawal, it does not adopt Mycenaean-type figurines. There is barely an increase in these figurines in Crete during LM IIIC, when the whole Aegean reverted to a post-palatial society and witnessed LH IIIC population movements. While the distribution in LBA IIIC of the late Psi figurines and 'to a lesser extent' the late linear animal figurines may be 'very wide' (Renfrew 1985, 439), the small numbers of such figures found in Crete has to be stressed. I believe this cannot be ascribed to an accident of preservation. Although publications from LBA habitation sites will boost the numbers of Mycenaean type figurines noted here, this should not greatly alter the picture. In addition, the small number of such figurines found in cult sites remains undisputed to date.

Human figurines of Mycenaean type

Atsipadhes: three Phi 'Mycenaean style figurines', according to Kanta; although the cemetery contains LM IIIC pottery, the figures are LM IIIA2-B. Pendelbury 1939, 255; French 1971, 185; Kanta 1980, 209 and figs. 86.1-3.

Minoan Unexplored Mansion: three Phi and two indeterminate (imports?), one figurine group fragment; the Phi types are stylistically dated to LM IIIA2/B. Higgins 1984, 200 and 202, nos. 28-32.

Khania: LM IIIB; several figurines around hearth;
Hallager 1987, 183.

Phaistos: Psi LM IIIC: nos unspecified, one certain.

Pernier 1902, fig. 52.1; Popham 1965, 335 and ft. 45 on French's dating; Kanta 1980, 96 (does not specify numbers).

Aghia Triadha: Psi LM IIIC; nos unspecified. Banti 1943; Borda 1946, pl. 43, 9; Kanta 1980, 103 and pls. 38,7 and 9 (upraised arms; a Cretan version?); Popham 1965, 335 and ft. 45 on French's dating. When cataloguing some of this material at the Archaeological Museum of Iraklion, I did not find Mycenaean type figurines.

Animal figurines of Mycenaean type

Phaistos: 'bovid figurines of Mycenaean appearance' (Renfrew 1985, 407: Maraghiannis n.d., pl. XV, 3 and 5).

Aghia Triadha, Piazzale dei Sacelli: no certain LMIIIC figurine; most are post-Minoan, and the one suggested by Renfrew to be of possible Mycenaean type is most likely PG in date (Renfrew 1985, 407; Banti 1943, fig. 37).

Juktas three portions of small figures, with decoration akin to that of Mycenaean figurines (**J161**, pl. 111: LM IIIC or later?; **J162**, fig. 68: LM IIIC or later?; **J163**, fig. 69: LM IIIC). None of these are however very similar either in form or scale to their Mycenaean counterparts.

There are no references to the finding of Mycenaean type figurines at the following cult sites:

Patsos: While containing several large scale figures, this site hardly contains any local figurines of LBA III date; the figurines are mainly post-Minoan in date.

Kato Syme: No reference to such figurines in the preliminary reports.

The lack of Mycenaean-inspired small-scale figuration in Crete, including chariot (Renfrew 1985, 419) and other composite groups, should also be viewed within the virtual *lacuna* of archaeologically retrievable cultic evidence between LM II and LM IIIA2 and possibly even part of IIIB. During this period the quantities of Minoan figuration of any type is minimal. But it is significant that even in LM IIIB and especially LM IIIC, when there is an upswing of cultic activities including large scale figuration, figurines (of local or emulated Mycenaean types) never regained a hold in Crete after the end of the multipalatial system in the LM IB destruction.

Large scale figuration

While small scale Mycenaean figuration hardly impacted on Crete during the entirety of LM III, we have already suggested that the impetus for the Cretan LM III creation and use of large scale animal figuration (despite their distinct regional Aegean style) is to be sought in the mainland (chapter IV). Until disproved, I believe that the same applies to the female figures with upraised arms since, in contrast to the mainland, there is a marked absence in Crete of LMII-III A2 female figuration in any scale, of either Mycenaean or local form.

The temporal and spatial distribution of these two classes of large scale figures indicate different trajectories. The female figures are found predominantly in central and eastern Crete during LM IIIB and IIIC, while the great majority of animal figures is found in LM IIIC central Crete (Kourou and Karetsou 1997, 107). Therefore the phenomenon of large scale female figuration became more widely established earlier than the large scale animal figuration. No doubt different sociocultural conditions are interlinked with these two distinct distributions. Certainly, as stressed by Renfrew

(Renfrew 1985, 439), the animal figures are most popular when the whole of the Aegean has reverted to smaller independent polities. However, we may need to express reservations about the nature of Aegean sociopolitical conditions during which the female figures with upraised arms emerged in Crete. Due to the lack of sufficient ceramic evidence in their contexts (the earliest of which are LM IIIB), we do not know with certainty whether the female figures became popular in Crete before (Renfrew 1985, 398), during or after the upheavals related to the destruction of the administrative centres in the mainland. What is certain is that the LBA III inception of the Aegean *koine* of respectively large scale animal and female figures are each related to different sets of intra- and inter-regional circumstances.

At this point it is necessary to sum up the impact of Mycenaean figuration on Crete. The figurines, independently of the sequence of sociopolitical circumstances witnessed between LM IIIA to LM IIIC, have had very little impact in diffusional terms. What can be said with confidence is that there is evidence of the selective impact of certain forms of large scale figuration in Crete. In the case of the large animal figures this occurred during the period of the fall-off, rather than the apogee, of widespread figuration on the mainland (see also chapter IV, on the history of Aegean wheelmade animal figures). While it is conceivable that the same could be said of human figures, this certainly cannot be proved. In contrast to the figurines' minimal impact, the adoption of large scale figuration had a significant impact in the religious sphere: the females with upraised arms and the bovine figures became the principal form of expression of cultic activity during respectively LM IIIB-IIIC and IIIC. Despite the popularity of large scale figuration in LM IIIB-C Crete, we describe it as selective because it contrasts with the varied repertoire of both the contemporary mainland and earlier, MM I - LM I, Crete.

3) Comparison of impact of Mycenaean figuration on Crete and the Cyclades

In the Cyclades the Mycenaean impact of figuration commenced in LH IIIA1 (French 1985, 279). Although we lack detailed evidence on quantification it would appear to be far more frequent than in Crete. The most detailed evidence of the impact of

Mycenaean figuration outside Crete is in the Phylakopi sanctuary (Renfrew 1985), where we find the whole range of Mycenaean figuration, dated to primarily LH IIIA2-III B but also some to LH IIIC, gathered in an official religious context: female and animal figurines and figures, male figures, small-scale chariot groups (see table 8). The combination, typology and quantity of these figures shows a Mycenaean impact which differs significantly from that on Crete. However, we should not take the Phylakopi sanctuary to be representative of the whole of the Cyclades. Rather like the peak sanctuary at Kythera with its Cretan MM III-LM I affinities, its range of Mycenaean figurational elements and its architectural setting are exceptional.

The only other quantification of Mycenaean type figurines known to us is from the Phylakopi town, and these are far more plentiful than the figurines published from Minoan Crete (see table 8).

TABLE 8: The Mycenaean-type figurines found at Phylakopi (after French 1985, 278, table 6.1).

	SANCTUARY	REST OF SITE
FEMALE FIGURINES		
Naturalistic	2	2
Proto-Phi	0	2
Phi	1	13
Psi	0	5
Late Psi/Phi	9	15
Fragments	8	9
TOTAL	20	46
ANIMAL FIGURINES		
Wavy 2	3	2
Linear 1	7	0
Linear 2	4	2
Spine 1	8	3
Spine 2	1	0
Late Linear	12	2
Ladder	1	1
Fragment	5	24
TOTAL	41	34

Aegina, admittedly a significant interface between the mainland and the Cyclades, has yielded 'many Mycenaean figures of a vast range of types' (French 1985, 279).

In both cases, the quantity of LBA III Mycenaean type figurines found in these islands contrasts with the dearth of Cretan evidence. It could rightly be argued that because of their special associations with the mainland, Phylakopi and Aegina should not be used to highlight the sparseness of such figures in Crete. Ideally we should compare the Cretan evidence with the yield of LBA III (and especially LBA IIIC) figurines from other islands, like Rhodes. We lack quantified information, but it would appear that Crete has yielded less LBA IIIA-B, and very likely LBA IIIC, evidence than these other Aegean locations. The greater number of LBA IIIA-B figurines is hardly surprising in view of the close affinities during this period of the mainland with the Cycladic region.

There are consistent figurational differences between the Cyclades and Crete which override the changing sociopolitical fortunes of the Aegean between LBA IIIA and IIIC. Throughout LBA III, Cretan figuration and its Mycenaean affinities can be described as selective because it is virtually restricted to a large scale repertoire. The lack of detailed quantification makes it difficult to define fully the impact of Mycenaean terracottas on the Cyclades, but I would hesitate to describe it as a phenomenon with a widespread impact during either LH IIIA-B or LH IIIC. Clearly during the whole of LBA III, the greater impact of small scale figuration on the Cyclades is certain, although this is far from ubiquitous, as in the Mycenaean mainland. Unlike Crete, the LBA IIIA-B and IIIC impact of large scale figuration on the Cyclades is virtually limited to the Phylakopi sanctuary, where the quantity of these artefacts renders it unique in the Mycenaean world. In the Cyclades, large terracottas are virtually restricted to this instance of official ritual during a period when Mycenaean impact was probably not restricted to the material and symbolic, but also the economic and very possibly administrative sphere. While some large scale animal figures in the sanctuary might be dated to LBA IIIC¹⁰, there is a downturn in the

¹⁰French believes that the stylistically latest animal figures date to LH IIIB (French 1985, 239), but Guggisberg (1996, 111-114: catalogue entries) dates the following figures/portions to LH IIIB -C : 375 (SF 836), 376 (SF), 386 (SF 847), 389 (SF 2689),

presence of large scale human and animal clay representations after its phase 2b destruction¹¹.

It would appear that the patterning in the rest of the Aegean is closer akin to that of the Cyclades than Crete. As already said, there is a greater impact of small scale (non-ubiquitous) figuration than in Crete during the whole of the LBA III. Evidence of large scale figuration occurs during LBAIIIC, when according to French there is also an influx of small scale Mycenaean-type terracottas. The 12 th century figures are few in numbers, and mostly found in tombs¹².

V.3.4 CONCLUSIONS

From the above patterning of animal figuration it is clear that Cretan MM I-LM I and Mycenaean LH III animal figures and figurines can be subsumed within widespread phenomena of figuration, whereas the animal figures found in the LBA I Cyclades and LBA III Crete are part of a more restricted phenomenon stimulated by external factors.

390 (SF 2234), **391** (SF 2690), **392** (SF 2670), **395** (SF 2235), **408** (Atkinson et al., 1904, 203), **409** (SF *ibid.*). To LH IIIIC: **377** (SF 850), **378** (SF 822), **379** (SF 76), **380** (SF 502), **381** (SF 68), **382** (SF 1732), **383** (SF 1561), **384** (SF 2236), **385** (SF 2377), **390** (SF 2234), **393** (SF 2174), **397** (SF 1079), **398** (SF 2161), **399** (SF 2254), **400** (SF 2255), **401** (SF 2277), **411** (Phylakopi town).

¹¹After the Phylakopi sanctuary's collapse, it appears that no new large scale figures, either animal or human, were introduced in the shrine. During succeeding phases 3a-3c, large human figures were re-used, but 'the absence of animal figures may represent their breakage during the collapse' (Renfrew 1985, 381).

¹²LM IIIIC figures found in the eastern Aegean (after Guggisberg's 1997 compilation).
Samos (**343**: p. 103, bovine, LH IIIIC - Sub - Myc?)
Samos (**344**: p. 104, bovine, LH IIIIC - Sub - Myc?)
Aghia Irene, Kea: (**371**: p. 110, bovine?, LH IIIIC)
Kamini, Naxos: (**412**: p. 118, bird vase, LH IIIIC - Sub - Myc)
Kamini, Naxos: (**413**: p. 118, bird vase, LH IIIIC - Sub - Myc)
Makra Vounara, lalysos: (**438**: p. 128, horse, LH IIIIC)
Moschou Vounara, lalysos: (**439**, **440**, **441**: pp. 128-129, three horses, LH IIIIC)
lalysos: Female figure (Catling 1995, 193)

We can apply Renfrew's generic associations between material culture and polity to Aegean figuration. Widespread figuration is characteristic of a hierarchical state society; and regions only adopted another area's large scale figuration when they had eclipsed from, or not attained, statehood: in LM IIIB and IIIC, Crete had reverted to smaller independent states, and in (MB III-)LBA I the mainland had not yet attained the level of a state society.

While in the mainland the earliest figures emerged at an early phase of state society, it took some time for their widespread use to become established. This delay may be due to the fact that the origins of figuration are associated with an external, albeit Mycenaean-induced, impetus. Despite this, it is clear that the impetus for widespread figuration is endogenous.

State society is in fact a prerequisite for the maintenance of widespread figuration. The Cycladic polities, whose level of sociopolitical structure remains problematic, did not witness such a phenomenon. In both the mainland and Crete, the end of state society had a detrimental effect on this aspect of material culture, and in this respect we have noted the virtual halt to figuration in post-LM IB Crete.

Widespread figuration cannot be transmitted or simply 'acquired' through emulation, which partly explains why it did not exist simultaneously in two regions. Each society attained at a different point in time the circumstances favouring widespread figuration.

One might assume that the phenomenon of selective adoption of figuration provides examples of the 'passive/dominant' relationship between regions implied by the use of the terms 'Minoanizing' and 'Mycenaeanizing' (section V.2.2). Yet the evidence related to figuration does not substantiate a relationship of this order in the relations between Crete and the mainland. We saw there was virtually no impact on the mainland of Cretan figuration. Also, by the time Crete adopted the idiom of wheelmade bovine figures, the mainland had entered a post-state phase. In fact I

believe that the impact of Crete on Mainland ritual and religion was much more profound in post- (rather than in pre-) LM IB when the production and use of symbolic artefacts like figur(in)es was on the wane in Crete.

If we were to look for a more apt scenario for the 'passive' acceptance of figuration one would have to turn to the Cyclades (and the Dodecanese) which did not at any point in (MBA-) LBA I - LBA IIIC invent their own figuration. It is these islands which featured the most varied (albeit limited in quantity) overseas repertoire of Minoan and Mycenaean figur(in)e types, due to their close, successive, associations with these two state societies. Unlike LM IIIB and LM IIIC Crete, which also adopted from the mainland the idiom of the Female with Upraised Arms and wheelmade bovines, these islands also emulated the form and decoration of the mainland prototypes.

In the section that follows we demonstrate the distinctive regional aspect of Cretan 12th century figuration and the material form of rituals, despite the fact that the idioms used were probably externally stimulated. This in turn obliges us to modify somewhat the picture of the material and symbolic *koine* which is considered a characteristic trait of the 12th century Aegean (section V.2.1).

V.4 THE DISTINCTIVE REGIONAL ASPECT OF LM IIIC CRETAN FIGURATION AND RITUAL, WITH SPECIAL REFERENCE TO WHEELMADE BOVINE FIGURES

From the above descriptions of trends, it is clear that Cretan MM I - LM I and Mycenaean LH III animal figures are associated with internally generated, widespread phenomena of figuration, while those of the LBA I Cyclades and LBA II Crete are part of a more restricted repertoire which is however found elsewhere in the Aegean.

Because the use and meaning of MM I - LM I animal figures and figurines are internally produced, we need look no further than Crete when interpreting them. However, in comprehending the use and significance of the wheelmade LM IIIC

bovine figures from Juktas and elsewhere in Crete, we must consider that these are aspects of inter-regional cult practices in the 12th century. The aim of this section is to highlight the distinctive nature of the local practices associated with the Cretan bovines, while acknowledging analogies with mainland practices and the likelihood of an initial Mycenaean stimulus. We here advocate that the Cretan bovines must be placed within a cultural and ritual environment with a distinctively regional character. .

The LBA IIIC was a period of considerable cultic activity in the mainland, and Crete experienced a major regeneration in religious practices.

In the Cyclades, the use of wheelmade figures ended with the Phylakopi sanctuary's phase 2b destruction in LH IIIC, when the prominent links with mainland cult were severed. Although the 12th century is viewed as a period of pan-Aegean symbolic expression, with the exception of Phylakopi, there is little evidence of religion from elsewhere in the Cyclades and the Dodecanese, either local or akin to that of the mainland (or Crete). While the dispersal of Mycenaean terracottas in the Dodecanese is further viewed as indicative of common forms of Aegean symbolic expression, the little evidence of ritual is restricted to burial customs. Although wheelmade horses and a bull's head rhyton have been found in burial contexts, bovines did not feature (Kos: Morricone *ASAtene*, 50-51. 1965-66, 128, fig 111; 235 fig. 256; 249 fig. 275; Ialysos, Rhodes: Mee 1982, 44).

The 12th c. religions of both the mainland and Crete share basic analogies in both artefacts and practices, not witnessed elsewhere in the Aegean. The principal cultic innovations of both these regions are associated with wheelmade bovines. These changes can best be brought out by comparing, in both regions, the differences between LBA IIIA-III B and late LBA IIIB-IIIC cultic trends. Here I would like to reiterate my debt to the work of M. Guggisberg (1996), who has identified previously unquantified chronological and geographic patterns related to mainland animal figures, of which I make use.

As already shown, the greatest variety and quantity of human and animal terracottas on the mainland occurred in LH IIIA - IIIB. Although not exclusive among figurines, bovines were dominant. Among the figures, there were also many bovines and far fewer representations of horses, hedgehogs, fish, deer/stags and birds (in the form of bird vases) (see table 9). The large human figures were used in shrines (e.g. Mycenae), and while figurines did occur in LH IIIA - IIIB open-air cultic contexts (sanctuary of Athena Pronaia and Aghia Triadha near Aghios Vasilios), the vast majority of these terracottas were used in settlements and tombs.

TABLE 9: Collation of numbers of mainland animal figures from cultic, funerary, and other contexts compiled from Guggisberg's catalogue entries (Guggisberg 1996).

SPECIES	LH II-III A	LH III A-B	LH III B	LH III B-C	LH III C
Bovine	4	3	26	39	64
Horse	0	0	1	1	2
Bird	0	9	2	10	11
Hedgehog	0	5	2	0	0
Fish	0	1	1	0	0
Snake	0	0	10	0	0
Deer/Stag	0	0	0	1	0

Before the end of the LH III B, there was a reduction in the quantities and types of human and animal representations (table 9). Among the animal figures, the discontinued species are those which had never been particularly popular (snakes; fish; hedgehogs). These changes, which coincide with the 'rather static' phase of Aegean ceramics (Sherratt 1982, 187), reflect the wider upheavals associated with the end of state society. Horses and birds continued to be used primarily in tombs, as before (Guggisberg, table 6). The one notable exception to this general downturn in terracottas is the incremental production throughout LH III B of large scale wheelmade bovines and their notable increase in LH III C. This increase in bovines is inextricably linked with a new emphasis on open-air activity, a pattern first noted by

Nicholls (Nicholls 1970; Renfrew 1985, 439-440). These new open-air cult practices took place in the Unterburg: Tiryns, the Argive Heraion (Prosymna), Apollo Maleatas (Epidauros), Menelaion and Amyklai (Lakonia) and Delphi. Essential ingredients in these open-air sites (which feature the innovative use of figurines) are the wheelmade bovines. With the exception of the earlier and partly contemporary, mainland-influenced Phylakopi, this is the first time that large bovines feature in mainland cult places. At the same time, the use of Female Figures with Upraised Arms attests to the continuity of previous cult practices. These can be found in open air sites featuring bovines. At LH IIIC Tiryns the bench sanctuary ritual featuring Females with Upraised Arms continues, but the importance of the bovine is evidenced in the ritual of the adjacent courtyards.

In Crete, the LM IIIC period was one of intensified cultic activity, with some basic analogies with mainland cult. It witnessed the continuing use of Female Figures with Upraised Arms, and a phenomenal increase in previously rare wheelmade bovines (see p. 172 and table 6, p. 167).

As on the mainland, these bovines are found primarily in open air cult sites, while some are also found in caves. These cult sites are either newly founded (e.g. Aghia Triadha, Phaistos), or have had a long history of ritual activities which changed form in LM IIIC (e.g. Juktas, Kato Syme)¹³. The numbers of LM IIIC bovine figures have been greatly underrated due to lack of publications. The concentration of figures in Juktas is far greater than in any of the mainland sites. The catalogued figure portions alone amount to 103, more than double the 45 mainland figures listed by Guggisberg as found in LH IIIC cult sites (Guggisberg 1996, table 5 top). Undoubtedly the finds from Kato Syme and Aghia Triadha will boost substantially the Cretan numbers. It is highly unlikely that these quantitative differences are due entirely to an accident of preservation, or the vicissitudes of publication. The conditions of preservation of the

¹³For a discussion of the possible use of the Juktas row of rooms in LM III and the possible use in these of 12th century wheelmade bovines, see pp. 60-64, 67-68. It is suggested that these figures were primarily (exclusively?) used in an open - air context.

bovines were similar in both the mainland and Crete: the sites are open-air; the use of several extends into the Iron Age; and a proportion of the material has since been lost (Guggisberg 1996, 369, ft. 1831).

We have already seen that the history of wheelmade bovines is not identical on the mainland and Crete (pp. 166-173). I feel that, unless otherwise proven, we must accept that the mainland, and Mycenaean-influenced Phylakopi, witnessed the more frequent manufacture and use of bovines at an earlier stage than Crete. Therefore the impetus for the Cretan use of the bovine could conceivably be due to Mycenaean influences. Both regions experienced a significant rise in 12th century open-air cultic activity associated with bovines, but because in the mainland this was preceded by a steady increase in LH IIIB and LH IIIB-C, this change seems rather less abrupt there than in Crete, which had far fewer LM IIIB wheelmade bovines.

An issue which remains unresolved is the more precise history of the open-air cult featuring bovines in Crete, a problem which occurs because we have to rely on the stylistic dating of figures from mixed deposits. The few LM IIIA and IIIB wheelmade bovines cannot be ascribed to such typical open-air cult activities. It seems that the open-air cultic contexts featuring a quantity of bovines started in LM IIIC. The chronological histories of Juktas, Kato Syme and Aghia Triadha need not coincide fully, but there are some indications that bovines were popular at these sites in the latter half of LM IIIC. What remains problematic is whether the cult became more popular later, rather than earlier, in LM IIIC. Such a suggestion would however require solid substantiation. At Aghia Triadha, this late date seems to be corroborated directly by the decoration of most of the bovines, and indirectly by their continued production into Sub-Minoan. While mention is made in earlier archaeological reports of bovines at Kato Syme in LM IIIB layers (Lebessi 1972, 198, pl. 186.3), Lebessi seems to ascribe a LM IIIC date to the cult practices featuring animal figures and in her discussion emphasizes later LM IIIC (Lebessi, Cretological Congress, 1997). The Juktas evidence cannot provide definitive answers either on this question of date, but it is possible to identify with greater confidence the Juktas

figures whose decoration points to a later LM IIIC, and a Sub-Minoan date. This does not necessarily mean that the bovines were less plentiful in Juktas in early LM IIIC. So although Cretan bovines perhaps became more popular later in LM IIIC, we need more proof of this.

Irrespective of when in LM IIIC the Cretan figures reached their greatest popularity, the existence of more LH IIIB and LH IIIB-C mainland figures shows that the Cretan bovines may have lagged behind, not only in their development but also their popularity. It seems likely that the presence in Crete of the wheelmade bovines and their use owed something to Mycenaean influences. If one wanted to associate a Mycenaean influence with their early use (but not necessarily widespread popularity), it would be tempting to place it early in LM IIIC. This date coincides with the dispersal in the Aegean of Mycenaean-type figures and figurines, as evidenced by terracottas in the Dodecanese, Cyprus and elsewhere (French 1981, 174; Popham 1965, 335 and n. 45). More importantly, this period in Crete witnessed changes in settlement patterns and material culture. The latter included a strong Mycenaean element in Cretan pottery shapes like the deep bowl and krater, and pottery decoration of panels and antithetic spirals (Popham 1965, 335; Warren 1982-83, 74 and 1997, 181-183; Kanta 1997, 97). We have seen that the adoption of panelled decoration is also evidenced in the Juktas figures (section IV. 2).

What emerges from the above comparison is that the mainland and Crete shared basic affinities in two strands of LBA IIIC cult activities. One, which is a continuation of earlier LBA IIIC, is the open-air cult activity in which bovines feature prominently. As the Females with Upraised Arms had already existed in both these regions from LBA IIIB, it is the bovine analogy which renders this material and symbolic relationship unique in LBA IIIC.

In Crete, the two strands of cult practices associated respectively with Females with Upraised Arms and bovines are rarely combined as on the mainland. While some Mycenaean locations feature only bovines, open-air sites like the Amyklaion and

Tiryas: Unterburg (the latter with open-air spaces and bench sanctuaries) have female figures together with bovines. Such combinations are rarer in Crete (Renfrew 1985, 406; Hayden 1991, 143). Juktas is the only open-air site which yielded three fragments of a Female(s) with Upraised Arms (pp. 61, 67-68). Two other instances occur in built LM III B (rather than III C) contexts. A bovine portion, and figurines, were found in the bench sanctuary complex at Kannia: Mitropolis; and a wheelmade animal with a Female with Upraised Arms was in the Minoan Unexplored Mansion. These unusual exceptions only serve to highlight the frequency with which bovines are found without the female figures in Cretan contexts. So from their inception in Crete, bovines are part of cult practices distinct from the Females with Upraised Arms¹⁴.

The importance of the bovine figures in Cretan sites is even more striking, given the evidence of their large numbers at Juktas (and very likely Kato Syme and Aghia Triadha), the rarity of small scale bovine terracottas and the occasional use of wheelmade horns of consecration, very likely produced in the same workshops as the animal figures. The minimal presence of Mycenaean-type or local figurines further shows that 'Aegean' features shared by the mainland and Crete are largely restricted to the basic use of the large bovines. The other shared features (not exclusive to open-air sites) are eastern elements, like sphinxes (possibly Asine, also Aghia Triadha and Juktas), and smiting gods (e.g. at Phylakopi and Patsos). Otherwise, each region's cult has a combination of distinct elements. No case can be made for the straightforward adoption or emulation of mainland ritual in Crete. This verifies our earlier assertion that the transmission of widespread figuration from one culture to another (by whatever means) does not occur.

This distinction between the two strands of evidence on LM III C Crete is underlined by their distinct spatial distributions: open-air sites with many wheelmade bovines are

¹⁴ I believe that on the mainland, the LH III C co-existence of bovines with females is related to their pre-existing symbolic link in domestic and burial contexts (and in the Phylakopi sanctuary), mostly in small scale form.

found primarily in central Crete (Kourou and Karetsou 1997, 107), and bench sanctuaries with Females with Upraised Arms are mostly found in eastern Crete (Karphi, Kavousi: Vronda and a new low-lying site in the Aghios Nikolaos Lasithiou area).

This is a good point to return to the question of the mainland impact on Crete. We suggested above that the use of the bovines in Crete may have been associated with the renewed Mycenaean impact on Crete in early LM III C, and we have seen that some of the Juktas figures feature Mycenaean-inspired panelled decoration. The bovines, like the few Mycenaean figurines and Mycenaean - inspired pottery vessels and decoration, need to be integrated as evidence into the debate on the nature of 12th century mainland influence on Crete. This discussion divides scholars into those advocating substantial migrations in the Aegean including Crete (e.g. French 1985a, 299), or those viewing the material culture as evidence of new types of trade relations following the demise of the palatial economies (Sherratt and Sherratt 1991, 373).

The identification of Mycenaeans on an ethnic-cultural level through material evidence is very difficult to assess (Sherratt 1982), but this is not an adequate reason to reject the possibility of Mycenaean settlement in Crete. I believe no one facet of material evidence on its own can be used to resolve this matter. With regard to the bovines, we are ill-equipped to comprehend the symbolic (and stylistic) implications of regional and inter-regional cult practices. Our comparison of the cultic contexts of bovines on the mainland and Crete has shown distinct geographic distributions, associations of artefacts, and cult practices. These differences could be interpreted in one of two ways. They could indicate the Cretan adoption of basic Mycenaean idioms through a cultural impetus; or the subsuming of Mycenaean immigrants' cult practices within a hybrid cultural setting. Both these scenarios have the advantage of taking into consideration the distinctive nature of the Cretan evidence.

It would be tempting to identify certain cultic patterns as supporting Mycenaean immigrations. These are the unique degree of cultic affinities between the mainland and Crete, not witnessed elsewhere in the Aegean; and the distinct geographic distributions within Crete of respectively bovines and Females with Upraised Arms. However, as shown below, these features cannot in themselves prove the advent of the Mycenaeans, or their 'cultural' identification.

In other areas where the Mycenaeans are also believed to have settled, like the Dodecanese and Cyprus, such cultic activities were not carried out¹⁵. But presumably the higher degree of cultic similarity between the mainland and Crete does not mean that migrants would have only arrived only in Crete. Granted we accept the Mycenaean presence in these Aegean and Cypriot locations, the virtual absence of Mycenaean-type patterns there would show that the local Dodecanesian and Cypriot sociopolitical conditions prevailed. Similarly, I feel that, whatever initiated their popularity, the Cretan bovines are so many and their assemblages so distinct that they cannot be considered normative of Mycenaeans on their own. They very likely reflect the cult practices of a regional, syncretized population.

The frequent use of the bovines in LM IIIC shows that these cult practices are part of the fabric of local society, which acquired quite a different momentum and form from

¹⁵While Cyprus is outside the interactive Aegean sphere of immediate interest to us, the search for cultic analogies is valid since it is the location of renewed Mycenaean influence in Late Cypriot III, and since it has links with the Aegean throughout the 12th century. The occurrence in Cyprus of Mycenaean figurines is comparatively rare (French 1971, 106). The architectural forms of the temples and the ritual practices are closer to the East than the Aegean. These cult places have yielded little evidence that can be ascribed to Aegean influences. The certain candidates are several female Psi figurines found west of the temple enclosure at Enkomi (Courtois 1971, figs. 141-154; Renfrew 1985, 413), and the Cretan-inspired horns of consecration at Myrtou Pigadhes. The handful of bovine figures from the Idalion, Aghia Triadha and Myrtou Pigadhes temples, which might be stylistically ascribable to the 12th century, are not from reliably dated contexts (Nicholls 1970, 9 and figs. 78-81). Should these figures have been inspired by Aegean ritual practices, their small numbers are significant and it is clear that they have been subsumed within local cult forms and practices. If anything, the 12th century yields more evidence of Cypriot impact on Aegean cult.

that of the mainland. The distinct regional distributions of the bovines and Females with Upraised Arms in LM IIIC cannot be shown to represent distinct political, linguistic or ethnic differences between incoming Mycenaeans and local, already mixed, Cretan populations. The eastern site of Karphi provides evidence of Females with Upraised Arms dated to a later phase in LM IIIC than that corresponding with the suggested advent of the Mycenaeans. These patterns could be the outcome of later, rather than earlier, LM IIIC upheavals.

In any case, by late LM IIIC the use of the bovine in open-air ritual is linked with sociopolitical conditions which are far removed from those of the earlier part of this period. The particularity of Cretan conditions is exemplified by the continuing use of bovines in this region (Nicholls 1970, 12) which contrasts with their conspicuous disappearance from the mainland's zoomorphic repertoire at the end of the Bronze Age (Guggisberg 1996, 371 and Coulson 1985, 64 contra Nicholls 1970, 10). Aghia Triadha, and Juktas to a lesser extent, have yielded sub-Minoan figures.

Conclusions

By examining more closely Cretan 12th century figuration and comparing it with that of other regions, we saw that local material and ritual differences underlie the analogies with the mainland and the rest of the Aegean. While showing that matters of origin and diffusion are important, the material evidence highlights the regional practices and social conditions that should be taken into account in the interpretation of the use and meaning of bovines within Crete.

How does the above regional picture fit into the descriptions of the 12th century (phase 3) cult practices described in section V.2.1? The Late Bronze Age IIIC Aegean is believed to have many artefactual, contextual and stylistic features in common. Wheelmade bovine figures and human and animal figurines are viewed as types common to the Aegean, and the common LM IIIC style of these figures is believed to contrast with the diverse styles of figurational types during the previous periods.

From the regional evidence it is clear that, beyond the use of certain idioms like the bovines and the Females with Upraised Arms, uniformity of material culture is very much more restricted (Renfrew 1985, 396).

In the Aegean, the 12th century distribution of terracottas attests to a network of criss-crossing inter-regional, artefactual and stylistic patterns which are not easy to translate in historical terms, each indicating different degrees of symbolic interaction but also distinct regional patterns. Thus the distribution of Mycenaean-type artefacts in the Dodecanese provides limited evidence of inter-regional burial customs featuring these artefacts. The distinct inter-regional mainland and Cretan patterns show that the bovines and Females with Upraised Arms are limited to these regions, and not the whole of the Aegean. In fact the uniform presence in the Aegean of figurational types is not as great as had been thought, and the differences between mainland and Cretan cult practices are significant.

The complexity of 12th c. Aegean patterns of material culture is further highlighted by the regional stylistic patterns of the terracottas. We have already noted the limited impact in Crete of Mycenaean-type (imported or emulated) figurines. While the creation of the Cretan wheelmade figures might have been influenced by Mycenaean ones, they are morphologically distinct from these. The further complexity of inter-regional styles is however brought out by the fact that, while morphologically distinct, the decoration of these figures can be either entirely Minoan in conception (contour decoration) or of Mycenaean origins, as evidenced by the use of panelled patterns.

The distinctive regional aspect of LM IIIC Cretan evidence related to figuration and ritual shows that, to understand the symbolic interaction between regions, it is necessary to look beyond distribution maps of classes of artefacts. These encourage a distorted reading of 12th century Aegean interaction that ignores the subtlety of regional stylistic differences among figures, and the quantification of figurines. Furthermore, the regional Cretan evidence has shown that the adoption of bovine

figuration is associated with local, ritual and social, strategies. This regional dimension has been somewhat underplayed by both the 'flux and reflux' model of Aegean cultural interaction, and the diffusionist models which it purports to replace.

CHAPTER VI

THE FUNCTION AND MEANING OF THE ANIMAL FIGURINES AND FIGURES

This chapter is divided into two sections. The first deals with the function and meaning of the animal figures within the context of the 'widespread' figuration of MM I - LM I peak sanctuary ritual, the second interprets the 'selective' phenomenon of LM IIIC bovine figuration.

VI. 1 THE FUNCTION AND MEANING OF THE FIGURINES AND FIGURES WITHIN THE CONTEXT OF MM I - LM I PEAK SANCTUARY RITUAL

VI.1.1 CHRONOLOGICAL FRAMEWORK

The history of peak sanctuary ritual can be shown to have three phases, identified on the basis of the chronology of the sites, differences in their material components and rituals, and changes in the demarcation of ritual space. We outline these three phases in order to situate the role of the animal figures within the changing history of peak sanctuary ritual.

While the cultic use of many peak sanctuaries commenced in MM IA, some had an earlier beginning. Activity started in Late Neolithic at Atsipadhes Korakies (*ArchRep* 1996-7, 120); EM II - III at Juktas; possibly EM III at Petsophas (Bintliff 1977, 148). MM I - II covers the most widespread period of use of peak sanctuaries. A significant change occurs in the end of MM II (Peatfield 1992) with the falling out of use of many sites but the continued use of others (see table 10). The next significant event in the history of these cult sites is the LM IB demise of all with the exception of Juktas. Finally, LM IIIC witnesses the more intensified use of Juktas and the renewal of cult in former peak sanctuaries like Kophinas. This last phase is of relevance to section VI. 2 of this chapter.

TABLE 10: Chronology of Minoan peak sanctuaries, after Peatfield 1990 and 1992, and Nowicki 1994.

SITE	PHASE I (Neolithic and) EM	PHASE II MMI and MMII	PHASE III MMIII and LMI
Vrysinas		+	+
Atsipadhes	+	+	
Spili	?	+	
Gonies		+	+
Keria		+	
Pyrgos		+	+
Juktas	+	+	+
Maza		+	
Karphi		+	
Tappes		+	
Thylakas		+	
Dhemati		+	
Kophinas			+
Roussos Dhetis		+	
Etiani Kephala		+	
Xykephalo		+	
Prinias (Sitia)		+	+
Kalamaki		+	
Modhi		+	+
Petsophas	?	+	+
Traostalos		+	+
Vigla		+	
Ambelos		+	
Korphi tou Mare		+	
Plagia		+	

The Juktas peak sanctuary, whose detailed phasing has been set out in chapter I, is unique in its continuous Bronze Age use from EM II to LM IIIC. After its low-key early inception it witnessed, like other peak sanctuaries, an intense period of activity in MM I - MM II, but its use continues on an even grander scale in MM III - LMI, as is shown by its prestigious architecture, votives and cult paraphernalia. In LM IIIC, activity on the site is particularly intense.

Although some of its pottery is stylistically dated to MM II, the main period of use at Kophinas is in MMIII-LMI, when the site witnesses a spectacular efflorescence. The history of Kophinas differs from the norm in that it does not feature the characteristic intense activity of MM I - MM II, so its MM III - LM I use is an innovation rather than a continuation of earlier activity. It is noteworthy that the Kythera peak sanctuary seems to have had a similar chronological history, with very little activity in MM I - MM II and a 'boom' in MM III - LM I (Sakellarakis 1996). We must await the publication of other Cretan peak sanctuaries used in MM III - LM I to see whether Kophinas and Kythera are unique in their late foundation date.

VI.1.2 THE FUNCTION OF THE ANIMAL FIGURINES AND FIGURES

We have shown that there is a marked enough difference in scale to merit the distinction between MM I - LM I figurines and MM III - LM I figures (chapter II). We will now also show that these two groupings, based on scale, are associated with distinct depositional patterns, symbolic functions and social considerations. The patterns of figuration from Juktas and Kophinas can be shown to fit into broader trends of use and meaning also identified from other peak sanctuaries.

MM I - LM I A animal figurines

In chapter II we outlined how at Juktas, as in other early peak sanctuaries, it seems most likely that figuration did not occur at the outset of its use (pp. 20-21). Although it is not possible to pinpoint stratigraphically when in MM I the use of figuration started,

we can safely say that by MM I, Juktas and all other extant peak sanctuaries feature a preponderance of miniature clay representations which are deposited ceremonially in the mountain fissures (Juktas **context 5**: pp. 24-25).

The use of miniature figuration and its attendant practices inaugurates widespread cultic activity of a popular nature in Crete. Some elements related to the use of miniatures can be found in ritual contexts serving different purposes. The use of miniature stone vessels in funerary contexts indicates that the manufacture of miniatures and their symbolic function were already well established. Many aspects characteristic of peak sanctuary ritual are found in the MM IA deposition at Gournes of hundreds of miniature clay vessels in the fissures of the *Ieros Lakkos*, in an area separated from the burials (Zoes 1969, 2-3, 23; Hazzidakis 1915, 61-62). Hazzidakis aptly likened the Gournes vessels to the Egyptian Early Dynastic miniature offerings to the dead. The MM IA dating of this offertory practice is of particular interest in view of our difficulty in pinpointing within MM I the advent of analogous practices in peak sanctuaries which served a different purpose. Similar activities contemporary with peak sanctuary cult occur in the cemetery at Phourni, Archanes, in a non-burial context. It has also been noted that figurines of the types found in peak sanctuaries have also been found in funerary contexts (Peatfield 1992) but the originality of the peak sanctuary ritual lies in the adoption of widespread miniature figuration. While contemporary and earlier burial contexts feature large scale figuration (the bull grappling scenes and the female skeuomorphic vessels) these are very rarely found in the MM I - MM II peak sanctuaries where the emphasis is on the token representation of the chosen subject, with no further narrative embellishment¹.

To comprehend the function of the MM I - II animal figurines we have to relate them to the other representational objects, namely human figurines, anatomical parts,

¹See pp. 129-130 for the early Juktas contexts (**5 and 6**) and the fragments of hollow figures found therein. In comparison with the large numbers of figurines, these fragments amount to a negligible proportion of the animal representations found in these strata.

miniature skeuomorphs and representations of flowers and fruit, and the ubiquitous clay balls found in the fissures of peak sanctuaries. Since the peak sanctuary does not constitute a domestic context, the animal and other figurines cannot be interpreted as toys, educational devices or ornamental objects (Ucko 1968; Talalay 1993; Postgate 1994). The invocatory gestures of the human figures and the votive limbs, sometimes shown as ailing, indicate that the figurines are tokens of human interaction with the superhuman. Furthermore, the repertoire of the peak sanctuary votives (compared with those associated with funerary offertory practices) reflects the concerns of the living, and their context indicates that the recipient supernatural being(s) are removed from the realm of the dead. Finally, the invocatory gestures of the human figurines and the lack of evidence of theriomorphic worship in the Aegean indicate that none of these figures would have been worshipped themselves.

The peak sanctuary context indicates that these figurines were not meant to be possessed, as one would a figurine in a domestic environment, but rather given to the divine recipient(s) through their deposition in the fissures. They can be convincingly subsumed under the category of votives: offerings made in fulfillment of a vow, in gratitude for deliverance from distress (physical or other), or in a pre-emptive strategy to secure the beneficence of the divinity or avert a calamity (Rouse 1902, 352). The fulfillment of such purposes is best exemplified by the figurines of ailing humans or anatomical parts (ailing or perfect).

I would now like to show that the functions of these figurines and miniatures are not identical. The purpose of the animal figurines is different from that of the human figurines and can best be understood by paralleling it with the purpose of the miniature vessels, fruits and flowers. Although in making this point I cannot employ the rigor of those who have literary texts at their disposal (Postgate 1994, 176-180), similar distinctions have been widely recognized in offerings found in cult places ranging from ancient Mesopotamian to modern Buddhist temples (Postgate, *ibid.*). To understand these differences in function it is necessary to make a distinction between effigies and substitutes.

The human figurines, often represented in an invocatory pose, are effigies of particular individuals, be they worshippers who were at the peak sanctuary in person, or people who could not themselves attend but whose effigies were deposited by others on their behalf. Similarly the votive limbs are effigies of the anatomical parts of specific individuals. Perhaps some of these figurines exemplify through the image of the praying worshipper the personal piety of the individual, a frequent practice in Mesopotamian temples. The anthropomorphic effigy is thus a projection of a particular human (Postgate 1994, 178-179).

The primary purpose of the animal figures, skeuomorphs, representations of fruits and flowers is that they are offered as gifts. Their purpose is not, like the effigies, to represent or be extensions of individual bovines, sheep, flowers, fruit. A sheep figure is a gift substituting for a sheep but not representing one in the way that an effigy represents an individual human. Similarly a flower miniature becomes through substitution a real flower but it is not an extension of an individual flower. Effigies are extensions of single, real individuals; substitutes are replacements for members of classes (bovines, flowers) but not individuals².

Animal figurines (and figures for that matter) are not effigies of particular animals which necessarily have a 'real-life' relationship (e.g. ownership) with the individual. It is commonplace to forget in the interpretation of animal figurines (like the miniature fruits and flowers) that these objects serve as gifts which have been promised, just like the *tamata* of modern Greece, the *anathemata* of ancient Greece and the *milagros* of Spain. If the Minoans gave as gifts representations of the animals they owned, their offerings would not include mainly bovines, as shown below, but also many more sheep or goats. Nor can the animal figurines simply reflect the desire for

²In Akkadian the word for substitute (*an*)*di/unanu* is quite distinct in meaning from the word for effigy *šalmu* (Postgate 1994, 179).

the protection of animals, unless we were to assume that the only species requiring protection is the bovine.

Since the animal figurines are small scale substitutes made in humble clay, the offering of these simulacra constitutes a token gesture of offering which does not undermine in any way the act of giving. In MM I - MM II peak sanctuaries these substitutes were all small in scale. Some of the skeuomorphic miniatures from Juktas can be so minute in scale (1-1.5 cms) that they cannot function as receptacles, unlike the Gournia miniature vessels and the miniature stone vases in tombs which could have held a token amount of food or unguent.

MM III - LM I animal figures

By MM III there is a change in peak sanctuary ritual which features a far greater representation of large scale figuration³. At Juktas, the long established tradition of small scale figuration was not superseded: large animal figures are found alongside the figurines. There is also some evidence that some large male figures may have also existed at Juktas. In the case of Kophinas, which did not have an earlier history in figuration, this new trend of large scale figuration is far more dominant, although not exclusive⁴. To date, the quantity and scale of bovine and male figures from this single site is unprecedented. Some of the human figures may have had a height of close to 1m. Rather surprisingly, there are far fewer animal than human figurines. As suggested in chapter IV it seems highly probable that the publication of other MM III - LM I peak sanctuaries will boost the numbers of animal (and human) figures considerably, but it remains to be seen whether any of these sites will match the Kophinas record.

³A comparison of the far larger quantity of the body sherds of bovine figures from **context 1** (MM III - LM I) and earlier **contexts 5 and 6** is instructive: p. 129.

⁴See chapter II for the preponderance of figures at Kophinas: pp. 79-80.

Despite the difference in scale, I believe that the basic function of the figurines and figures is the same. The human figures would have functioned as effigies of worshippers offered to the deity (-ies), and the animal figures as substitutes which served as gifts. However the innovative use of large scale figuration has an interesting impact on the form of ritual practices and the symbolic nature of representation. The use of figures would have required different patterns of deposition since their large scale could not always permit their placing in the rock fissures. This difference in scale also shows that the gift is no longer restricted to a token of great symbolic but little intrinsic value, devoid of personal projection or display. The act of virtually hiding the gift in the fissures is no longer a constant feature of the offertory symbolism. By virtue of its size, the gift can now be displayed. The conspicuous gesture of offering and the intrinsic value of the gift gain importance. This means that the emphasis on the social status and worldly power of the individual increases and his/her persona is no longer identical with the ailing or the convalescent, the contrite or the grateful worshipper.

An additional development is the use of some of the animal figures as rhyta⁵. This is of course not a new idea, since it occurred in both human and animal figures in a variety of contexts since EM II (Myrtos Phournou Korifi and funerary contexts), but it is of note that this practice had virtually no impact on peak sanctuary ritual until the MM III - LM I period. Through their function as rhyta, these animal figures show in an additional way that they are vehicles of communion with the divinity.

In the study of ritual practices, the distinction is often made between the disposable purpose of small objects and the curated function of the larger ones (Malone et al 1995, 6 fig. 2). I would categorize these less common animal rhyta as prestigious votive gifts which could be curated because of their pouring function. It seems likely that they served a more active function during the ritual because of their pouring function, but I think it possible that that these would have been handled by the

⁵Examples of rhyta from Juktas: J9 (pl. 2); J11 (pl. 4); Kophinas: K54-K55 (pls. 133-135); K61 (pls. 140-141); K62-K63 (pls. 142-143).

worshipper, rather than a priestly figure. It is possible that simple libations with non-specialized vessels were practiced by the average Minoan, but that the wealth of certain individuals would have permitted them to acquire such a specialized figure, giving those individuals a more active participatory role.

These animal rhyta may indicate a social dimension of MM III - LMI cult. The act of libation with specialized, luxury vessels is characteristic of elite cult and it permits the user to adopt a more prestigious ritual role. The large animal figures are one aspect of the increased investment in MM III - LM I in the manufacture of objects whose symbolic function was to mediate in the ritual act. It is during this period that votive offering tables were deposited at peak sanctuaries. The Linear A inscriptions, probably invocatory, on some of these highlight their mediating role. The animal figures had the advantage of combining the symbolism and tradition of MM I - MM II peak sanctuary ritual with the new emphasis on mediation and projection.

It is essential to stress that in MM III - LM I, large-scale does not replace small-scale figuration and its attendant depositional practices. The density of finds in the fissures at the southern part of the Kophinas sanctuary shows that they are *foci* of activity during MM III - LM I. However, it has to be said that once the MM II terraces were built in Juktas much of the natural bedrock became covered. The fissures to the southwest of the altar remained partly exposed in MM I - MM II and through MM III - LM I. We have expressed caution about the use of the chasm as a focal point of deposition of figurines and miniatures since it seems to have contained mostly pottery.

It is not necessarily the case that we should associate the animal figurines, and other small-scale offerings, exclusively with poorer worshippers. Religious prescriptions related to worshipper participation can in fact cut across wealth-related distinction and create different social groupings and divisions (Douglas 1991, 26). An established form of deposition is undoubtedly considered efficacious and the miniature offerings could have been used by worshippers of different wealth.

Certainly in pharaonic Egypt simplicity and even artistic crudity are not invariably good criteria for judging the social status of individuals who used them (Pinch 1993, 329-330). This however does not undermine the likelihood that more affluent members of society would have had privileged access to the MM III - LMI animal figures, as opposed to figurines. This is particularly so in the case of exceptionally large figures. It is known that Neo-Babylonian vendors sold animal votives 'to suit every pocket' (Postgate 1994, 177), and in contemporary rural India the fixed price of animal figures varies according to the species represented and the elaboration bestowed in its manufacture (Shah 1985, 37).

It should also be pointed out that the scale of the figures used can depend on the circumstance necessitating a gift, or the nature of the ritual event. In contemporary north Gujarat the ritual accompanying the weighing of the harvest yield requires the use of a horse figurine without a rider, whereas when a son is wanted an elephant is offered on a particular feast day (Shah 1985, 44 and 45).

VI.1.3 THE 'SUBJECT' OF PEAK SANCTUARY ANIMAL FIGURATION

Now that the basic function of the peak sanctuary animal figurines and figures has been outlined, a first step to understanding their meaning entails relating them to the 'subject' they represent. The first step is to identify the species of the animal figurines and figures and their proportional representations.

TABLE 11: The representation of the species of the animal figurines from Juktas.

BOVINES	
Type 1	254
Type 2	5
Type 3	367
Type 4	17
Type 4a	6
BOVINES ?	
Type 4b	3
Type 4c	4
Type 4d	5
AGRIMIA	
Type 5	41
SHEEP	
Type 6a	17
Type 6b	13
SHEEP/DOGS ?	
Type 7	15
RAMS	
Type 8a/b	8
SHEEP/RAMS	
Type 9	3
RAMS	
Type 10	14
DOGS	
Type 11	10
PIGS	
Type 12	10
UNKNOWN SPECIES	
Type 13	4
ANIMAL HEADS	54
BIRDS	
Type 1	27
Type 2	7
Type 3	9
Varia	11
SNAKES	22
BEETLE/HEDGEHOG/RABBIT	1
TOTAL	928

Kophinas figurines

118 (intact, broken and fragments).

Juktas and Kophinas figures⁶

With one possible exception from each site (respectively **J15** and **K108**), all the figures are bovines.

1) The identification of the species of the figurines and figures

The above quantification represents the numbers of figures whose species are securely identified because their state of preservation permits the identification of their original form. There are many more figurine fragments whose original form, and therefore species, is unknown because of fragmentation.

The description of the types and the identification of the species they are believed to represent have been set out in chapter IV. Because the recognition of species is a subjective matter, which is however of great importance in the interpretation of the figurines, I have illustrated as many of these as possible so that the reader can assess the validity of this classification.

I would like at this point to make some further comments about the identification as bovines of the few Kophinas figurines and the Juktas figurine types 1 to 4d. This was done through a process of inference. They do not feature any distinguishing attributes characteristic of other species like the unmistakably long, high-set horns of the agrimi (type 5), the low-set ears of sheep (types 6a and b), or the downward curve of the ram's powerful horns (type 8a). Their generic form is not unsuited to the shape of bovines. The stockiness of figurine types 4a and 4b could also be a reference to the bovine form. Furthermore, their identification as bovines is commensurate with the

⁶For quantification of figurines and figures from both sites see chapter II.

representational trends of the animal figures from both sites: with possibly two exceptions (**J15** and **K108**), these are all bovines. In addition, Peatfield and Morris, who have looked systematically at the MM I - MM II figurines from Atsipadhes, have identified all its figurines as bovines.

What alternatives are there to ascribing a specific species to figures with a rather generic appearance? It could be argued that such a 'non-committal' form allows the user to ascribe to a figurine the species of his/her choice during the act of deposition at the peak sanctuary, or even that the generic form is simply meant to exemplify 'animality'. I however find it much more probable that, from the moment of their creation, all the Juktas and Kophinas figurines and figures represented a specific, commonly identified, species prescribed from the moment of its manufacture. This is also the case with the ethnographic parallels I have found of the manufacture of figurines.

I know of only one certain instance of generic figurines rather similar to those from Juktas not used to represent bovines. These are the animals identified as sheep attended by their shepherd in the well known Palaikastro bowl (Zervos 1956, pls. 263-264), which are not remotely like the figurines identified as sheep among the Juktas figurines. Because of their larger number, it seems most likely that they do represent sheep; however had they been found singly, it would have been more difficult to describe these figurines as sheep than as bovines.

Finally, the identification of the species of the separately made animal heads is problematic. Since none of these have horns characteristic of caprids or rams, it would be tempting to identify these as bovine heads. We leave this, and the question of the identification of the species of birds, until later.

2) Numbers and percentages of the species represented by the Juktas figurines in order of frequency

The possible beetle and the four figures of unknown species were found in MM III - LMI layers. Each of the other species is attested in both MM I - MM II and MM III - LM I layers.

TABLE 12: The quantities and percentages represented by figurine species; based on the figurines used to establish the typology.

SPECIES	NUMBERS	PERCENTAGES
Bovines	649	69.93%
Animal heads (poss. bovines)	54	5.82%
Agrimia	41	4.41%
Birds	55	5.93%
Sheep	30	3.23%
Sheep/dogs ?	15	1.62%
Rams	14	2.37%
Bovines ?	12	1.29%
Dogs	10	1.08%
Pigs	10	1.08%
Snakes	22	2.37%
Unknown species	4	0.43%
Sheep/rams	3	0.32%
Beetle	1	0.1%

3) The composition, in terms of species, of the peak sanctuary animal figure assemblages

The immediately striking feature is the dominance of bovines. Excepting two figure heads which might represent ovicaprids, all the the figures from Juktas and Kophinas and the figurines from Kophinas are of this species. In fact I know of no peak sanctuary site which has yielded figures (as opposed to figurines) representing anything but 'cattle'.

The patternings of species from these two sites are different in that Kophinas features exclusively bovines, whereas 22.95% of the Juktas figurines feature a range of different animals (I have not included in this percentage the miniature animal heads (5.82%) which might be bovine, and the 1.29% of likely bovines). This difference may be partly due to the sites' different chronologies, Kophinas further emphasizing a trend which was well established since MM I - MM II. This is a conjectural suggestion since we lack quantification of species from other sites to prove this point. Peatfield, who has looked into this matter, distinguishes between sites whose animal figurines are 'overwhelmingly of cattle' (Atsipadhes, Vrysinas and Traostalos) and sites whose figurines represent other species as well (Peatfield 1992, 78-79). Kophinas would fall into the former category and Juktas, Petsophas and Maza into the latter.

Atsipadhes seems to have yielded primarily figurines, a trend in line with its early date. In comparison with their Juktas counterparts, these tend to be larger, no doubt due to the different 'mental templates' of local manufacturers. While it is not yet known whether other species are represented, the dominance of bovines is clear. The excavator sees this emphasis as indicative of the specialized breeding of cattle in the area, and not necessarily characteristic of the proportion of species at other sites. Without badly-needed quantification from other sites, we cannot know what constitutes a normal or an atypical peak sanctuary assemblage of species. It is however my impression that from as early as MM I - MM II the figurines from peak sanctuaries represent, in their great majority, bovines, a point also made by Nowicki

regarding MM I - MM II sanctuaries (Nowicki 1994, 42). While it may be possible to distinguish between sites featuring exclusively bovines and those featuring other species, we can say with some confidence that the combined evidence of Juktas, Kophinas and Atsipadhes, with their individual chronologies, locations and differing degrees of sophistication, shows that the preponderance of bovines was a common phenomenon which occurred consistently throughout MM I - LM I. This has important implications in the interpretation of peak sanctuary ritual. An offshoot of this trend seems to be the insignificant proportion of ovicaprids, species of great importance in Minoan subsistence and the economy. A mere 5.92% of Juktas figurines can be securely identified as ovicaprids.

While the basic repertoire of species and their proportional representation seems in line with other peak sanctuary assemblages, Juktas lacks the more unusual species like weasels (Petsophas) or scorpions (Kythera). It has produced only one questionable beetle although this species is well represented in Piskokephalo, Petsophas and Profitis Elias (Rutkowski 1986, 89).

VI.1.4 THE SYMBOLIC MEANING OF THE ANIMAL FIGURINES AND FIGURES

1) The role of peak sanctuary animal figurines and figures within the wider religious context

To comprehend why these animals were represented in peak sanctuary ritual and what they signified we need to better understand their symbolic function within the ritual and what made them suitable substitute gifts. While the symbolism of each species has to be understood on its own terms, it is also necessary to explain the striking differences in their proportional representation.

We follow two lines of inquiry. One is to derive as much useful evidence as we can from the role of these animals in the specific context of peak sanctuaries and the wider sphere of religion. The other is to consider why the bovine became with the MM

Inception of figuration in peak sanctuary cult such a potent symbol in Minoan society. In order to do this we examine how its cultic significance may be linked with economic and social aspects of Minoan society.

It is necessary to make a few cautionary comments about the retrieval of the symbolic meaning of animals and their representations.

We have already stressed that the animal figure constitutes a 'genuine' gift which however need not correspond with a specific real-life animal. This is one of the virtues of the substitute. It permits the worshipper to promise or make a gift (e.g. a bovine) which he/she would not normally have been able to make. Thus this means that the offering need not represent, or for that matter be hindered by, the real-life economic status of the worshipper. Also, a species can be chosen as a suitable substitute not because of its economic significance but because it has a symbolic value. This is very likely why agrimi, bird and snake votive offerings were made.

While the animal is part of the subsistence or hunting sphere of the Minoans, its representations, once they acquire symbolic value, may be only indirectly related to the real world. We will show that this is very much the case with the bovine.

The recovery of a native meaning is not an easy matter. A 'realistic' interpretation of animal representations may not account for the fluidity of a native account of meaning encompassing at times incompatible ideas⁷.

Meaning is particularly difficult to reconstruct when we lack the cultural context needed to explain its significance. The symbolic meaning of animals is embedded in prescriptions and values governing the relations between man and animal (Douglas

⁷A classic example of seemingly conflicting beliefs about animals is given by Sperber. The Dorzé of Ethiopia guard their flocks from leopards on fast days of the Coptic church although they believe that leopards are Christians (Sperber 1975, 95).

1991, 9-25). Because we are not familiar with Minoan prescriptions of this kind, we are for example still unable to say whether weasels were thought of as vermin (Myres 1902-3, 381-382) or something entirely different. As a result we are greatly hindered in comprehending the symbolism and function of weasel figurines in peak sanctuaries.

2) The cultic significance of the species of the animal figures and figurines

The representation of animals in peak sanctuaries provides an additional dimension to our understanding of their meaning in Aegean religion. When possible we will be enhancing our understanding of them by using Minoan iconography. This rich source of evidence provides additional referents by placing animals within real-life or emblematic settings. It is realized that these settings are frequently (although not always) different from those of the animal figures in our peak sanctuaries. And while the meaning of animals is discrete according to their setting, these additional clues are useful since meaning can overlap between these different contexts. Additional visual referents, helpful to the outsider, are not frequently provided by the animal figures and figurines which serve to represent in an emblematic (and in the case of the figurines a shorthand) way the animals they substitute.

The most frequently cited evidence on animal symbolism from Minoan Crete consists of some early bull- and bird-shaped askoid vessels from burial contexts, and the representation of animals in the rich MM III - LMI Minoan iconography (seals, rings, relief stone vases, frescoes) which relates primarily to religion and more generally ritual. One of the great interests of the Juktas and other peak sanctuaries is that they have yielded in their MM I - MM II layers animals which we know from other periods to be of great symbolic value, thus filling an important chronological and contextual gap.

Let us start with the animal figurines representing species which presumably were not important in the daily subsistence of Minoans and were most likely offered

because of their special cultic nature, namely the snakes, the birds and probably the agrimia.

Snakes

Myres has noted that snakes were probably symbolic rather than imprecatory votives (Myres 1902-3, 380). If we can judge by its infrequent representation at Juktas (2.37%), the role of the snake is minor in the ritual. We have no reason to doubt, on the available evidence, that the same applies to other peak sanctuaries (contra Branigan 1969, 36-38). It is probably the more central ritual role of the snake in low-lying sites (Nilsson 1950, 321) that has caused its infrequent use in peak sanctuaries. The interest in these votive snakes lies in the fact that they are found divorced from their more usual functional and symbolic referents (e.g. special pottery or female figuration). I think it unlikely that the peak sanctuary snakes had any chthonic associations because of the use of fissures. Snakes *in corpore* were probably not a feature of peak sanctuaries. Such an occurrence seems to be referred to in the later Linear B texts from Thebes.

Birds

Throughout the history of Bronze Age Crete, birds signify the epiphany of divinity (Nilsson 1950, 330-339), and it is very likely that this aspect is directly or indirectly reflected in the bird votives at the Juktas peak sanctuary. The heraldic presence of birds on either side of the peak sanctuary structure of the Zakros rhyton should be noted, and, for what it is worth, in the earlier part of the century Juktas was a veritable haven for doves.

The epiphanic meaning of the bird is shown by the birds (very likely doves) perched on the miniature columns from the Loomweight Basement Deposit. In the later ecstatic ritual scene on the Sellopoulo ring, the representation of the swooping bird shows that the presence of the divine is secured. With a couple of notable exceptions, it is not until the Post-Palatial period that birds (of indeterminate species) are shown with female, very likely divine, figures. One of the earlier instances of this

association, with a specific species, may be found in Xeste 3, where the theme of the ducks on the goddess's necklace is echoed by the ducks in their marshy habitat. This might be the earliest, and most secure, association of the *Potnia* with these particular birds. Bevan has discussed the Bronze Age and Archaic evidence related to this association (Bevan 1986, 28-57; 1989). It is not improbable that Juktas bird type 3 represents aquatic birds. The long neck of nos. 4 and 5, and the outline of the profile and wings of the other illustrated examples may be significant in this respect.

In view of the above associations, a bird offering would make a very suitable gift which perhaps alluded if not to a specific (female?) divinity to the more abstract presence of divinity. Perhaps such an offering would signify the desired outcome of a ritual invocation. The gift of a bird is made by the male votary in the (later) Shrine of the Double Axes. Unfortunately it is not known whether this is a purely emblematic scene or one reflecting the offering of a real or manufactured bird. However, the finding of the bird bones in a LM I deposit in room I at Juktas throws new light on this question. Presumably this means that the act of sacrificing and/or consuming birds in Minoan cult places did occur. We must await the identification of the species before making further comments on this specific instance. There is so much iconographic evidence on the ritual nature of birds which does not allude to sacrifice that I think it unlikely that the Juktas bird votives refer exclusively or directly to sacrifice, or function as sacrificial substitutes. The same probably applies to the snake figurines.

Agrimia

The Zakros peak sanctuary rhyton gives us direct evidence of the symbolic association of the agrimi with peak sanctuaries. Figurines of wild animals are not considered by Rouse or Myres to be sacrificial substitutes but rather to represent the 'first-fruit' of the chase (Myres 1902-3, 381). In truth we know very little of the circumstances of the killing of the agrimi during this period. Presumably the slaying in the hunt could constitute a sacrificial act, but we cannot be sure that this was the case. We know from later iconographic sources at the mountain site of Kato Syme

that the agrimi head was dedicated at the shrine (Lebessi et al 1990, 327-328 and fig. 16), and it may be inferred that this practice during the MM III - LM I Bronze Age was linked to agrimia. It remains an open question whether the agrimi votives referring specifically to the hunt or to the sacrificial act, to a symbolic nexus combining these, or to the sacred nature of this animal. No reference has been made to the finding of agrimi bones at the Juktas peak sanctuary.

Before we move to the bovines I should like to deal with the domesticated animals which, on the basis of Minoan iconographic evidence, do not seem to have a symbolic status analogous to that of the above species, or to the bovine.

Dogs

Platon believes that these were represented because of their role in guarding flocks of sheep (Platon 1951, 111). Myres prefers to think of them as related to the hunt (Myres 1902-3, 381). As the numbers of both ovicaprids and wild species are very few, these do not help us to choose which, if any, of these contexts may have been implied by the canine figures. As yet, there have been no references to dog bones found in peak sanctuaries.

Domesticates

The other domesticates identified among the Juktas animal figures (bovines, ovicaprids and pigs) are all related to the sphere of Minoan subsistence. In attempting to identify the socio-economic origins of peak sanctuaries, certain scholars have associated them with an increased emphasis on pastoralism and stockbreeding by suggesting that the animal figures reflect these trends (Rutkowski 1972; Rutkowski 1986, 93-94; Peatfield 1992, 78; Wright 1995, 347, ft. 41). If one wanted to support this theory with a 'realistic' representation of the species associated with pastoralism, the evidence is simply not there. The virtual lack of ovicaprid figures and figurines in Kophinas and Atsiphades, and their small numbers of figurines in Juktas are especially striking. The representation of these species in votive figures has been ascribed to the desire to promote and protect animal fertility,

a preoccupation which is also reflected in the human figures and anatomical parts (e.g. Myres 1902-3, 380-381; Rutkowski 1986, 87; Peatfield 1992, 78-79). If this were the principal purpose of the peak sanctuaries, one would expect more of these species and less of the bovines to be represented. Since the presence and percentages of animal figures cannot reflect in a direct way Minoan subsistence patterns related to animals we need to investigate more fully the ritual connotations of their symbolic use. In the case of the rams, their maleness and impressive horns may refer to male potency.

3) The relationship of the domesticated species represented by the figures with those of the animals found *in corpore* .

The real-life animals found in peak sanctuaries might have served a symbolic role of relevance in the interpretation of our figures. One possibility that needs to be investigated is whether the latter served as sacrificial substitutes.

First it is necessary to deal with the question of whether animal sacrifice occurred in peak sanctuaries. The evidence shows that this may have occurred but not invariably. I would first like to start with the negative evidence. Some peak sanctuaries, we do not yet know what proportion of the total, have yielded no evidence of bones or an ash layer. This can be said with confidence of the meticulously excavated MM I - MM II Atsipadhes peak sanctuary (Peatfield 1992, 70), and according to Nowicki this also applies to several other contemporary peak sanctuaries (Nowicki 1994, 40-41). These differences are not due to diachronic changes in the ritual. During both MM I - MM II and MM III - LM I there are peak sanctuaries which do not feature either bones or ash deposits. Nor is there a correlation between poor rural sanctuaries and more prestigious ones. Prestigious peak sanctuaries, in terms of their votives, like Aghios Georgios at Kythera and Kophinas do not feature these either. Karetsou and Rethemiotakis note in their excavation diaries of Kophinas the absence of bones or a Minoan ash deposit in the site.

These differences between the peak sanctuaries mean that neither animal sacrifice, nor the use of ashy deposits (nor the throwing of votive offerings in the live or dying embers of fires) were prerequisites of peak sanctuary ritual. This highlights the fact that peak sanctuaries served as popular cult places primarily through the communal expression of personal piety with votives, a practice which bonded together the worshippers; sacrifice was an additional but not imperative rite.

Having made this point clear, we can move to evidence possibly attesting to animal sacrifice in some sanctuaries. Its occurrence is not easy to prove archaeologically since the cooking and consumption of meat does not automatically signify the sacrifice of animals (Marinatos 1986). A case can be made for sacrificial activity in some peak sanctuaries with animal bones but the ashy deposits which contained them do not in themselves attest to animal sacrifice. These points have already been made in relation to the mountain shrine of Kato Syme (Lebessi et al 1990). The purpose of these Minoan ashy deposits was not to burn the flesh of sacrificial victims. No calcinated bones were found at Juktas, and I gather that the same can be said of other peak sanctuaries and the mountain shrine of Kato Syme. It is also worth stressing that of the animal figures and figurines found in the Juktas ashy layers only 9 fragments have traces of superficial burning. The many portions of tripod cooking pots found in the Juktas ash layers may well indicate that one of the purposes of the fires was to cook meat and other foodstuffs in these vessels.

We still lack detailed information on the patterns of animal consumption and bone deposition; however it can be confidently said that peak sanctuaries (and Kato Syme) contain bones which are predominantly from ovicaprids. Juktas has yielded ovicaprid, pig, and bovine bones in that order of frequency (Karetsou 1978, 258). Room I in Juktas contained a range of bones: ovicaprids, fragments of the goat head and its horns, some bones of small animals of unspecified species and bird(s) (Karetsou 1976, 410). Marine species are also present in the sanctuary. Fish bones were found and these were obviously offered up and/or eaten. However the 500 +

shells (and crab remains?) were votive since they had not been collected live from their habitat.

The iconographically attested practice of retaining animal heads is evidenced by the goat head portion from room I but this habit does not seem to be as frequent as in MM III - LM I Kato Syme (Lebessi et al 1990, 326-328). The presence of the caprid head at Juktas presumably indicates that animals were brought whole to the peak sanctuary. This makes it likely that some animals at least were slaughtered ceremonially in peak sanctuaries rather than carried up the mountain whole but dead, or already butchered. Ideally we would need more evidence of this sort to make a stronger case for the practice of sacrifice in these sites. In the future, the comparison between animal body parts in peak sanctuaries and settlements might permit a firmer identification in the former of religious observances related to meat consumption/sacrifice, as has been shown in relation to Levantine temple compounds of the Middle Bronze Age (Magness-Gardiner et al 1994). Even from Juktas, the most prestigious sanctuary of its class, we need more substantial evidence to prove that cattle/bulls were sacrificed, and to assess the frequency of sacrifice in general.

On balance, we can probably assume that sacrifice (and perhaps the consecration of already butchered animal parts?) did occur in certain peak sanctuaries, and that it was usually associated with ovicaprids and pigs. The miniature fruits and flowers probably show that many other of the actual products of the natural world may have been sacrificed/offered in peak sanctuaries, and our rigid differentiation between animal and other offerings may not be particularly valid for a culture that seems acutely aware of the unity of its cosmos⁸.

⁸In many cultures zoological and botanical classifications do not constitute separate domains (Levi-Strauss 1966, 139).

Most iconographic sources at our disposal represent the sacrifice of animals, but the later Aghia Triadha sarcophagus (with its bull sacrifice) and the fragment of a Minoan pithos with relief decoration from Psychro show vessels with fruit/vegetables deposited on altars.

In the case of Juktas, the comparison of the species represented by the animal bones and the figures shows a striking proportional contrast. Ovicaprids and pigs, the species most commonly attested by the bones, are rarely represented by the figures, whereas bovines, dominant among the figures, are much more rarely attested in the osteological evidence. It seems very likely that similar patterns will emerge with the fuller publication of sites which have yielded both bones and figures. In fact it would not be surprising if peak sanctuaries featuring many bovine figures did not yield any bones of this species at all.

The picture which has emerged from Juktas is not unique to the Bronze Age, but it is characteristic of most sanctuaries in the Greek world from the Geometric through to the Classical period and beyond (Bevan 1986; Lebessi 1992). In the case of later Greek sites this pattern has resulted in the reasonable interpretation of bovine and (very often clearly indicated) bull figures as sacrificial substitutes. These are believed to reflect the suitability of this species as the most prestigious offering to the divinity, but also the need for the use of substitutes, since its economic value does not permit its frequent sacrifice. Irrespective of the financial status of the individual, the clay (and less so the more valuable bronze) *simulacrum* permits the individual to make such a fine offering. Inversely, the smaller number of ovicaprid figures in these later cult sites is believed to reflect the more frequent sacrifice of these species, and their less desirable use as substitutes.

Since we accept the likelihood that animal sacrifice occurred in some peak sanctuaries and that animal figures served as gifts to the divinity (ies), a reasonable case can be made that Bronze Age figures of bovines, sheep, rams and pigs could have functioned as suitable sacrificial substitutes. However, ethnographic analogies

teach us that animal figures need not always substitute for animals destined to be sacrificed, even when these are deposited in cult places where sacrifice is practiced. For example this can be said of the hundreds of horse figurines offered in post-Bronze Age Greek sanctuaries, but also of figures representing species which are known on occasions to be sacrificed. The problem with making a suggestion of this sort regarding Bronze Age bovines, ovicaprids and sheep is that in certain contexts at least they are sacrificed. Despite this, peak sanctuary contexts show us that their role as substitutes may be more complex than we had first assumed. At sites like Atsipadhes and Kophinas, with no animal bones, figures cannot be referring to the *in situ* practice of sacrifice. This alters our more traditional impression that animal figures relate directly to the sacrificial activities of the site in which they were deposited. And once we accept this fact, we can open our mind to several alternative possibilities related to the symbolic power of the substitutes. The figures might still represent sacrificial animals but they could be alluding to the practice of sacrifice in a more circuitous way: they may be referring to the practice of sacrifice elsewhere, or they may be referring in an emblematic rather than a realist way to the practice of sacrifice. Alternatively, the domesticates represented by the figures may not be deriving their symbolic meaning from the act of sacrifice but from their broader roles as living animals. This is not denying the possibility that part of the significance of an animal may be its sacrificial use, but we are suggesting that its significance should not necessarily be restricted to sacrifice.

The meaning of animal figures need not be restricted to a single message. Of all the domesticated animals represented as votives possibly referring to sacrifice, the bovine is the one whose significance is the most difficult to determine because its meaning seems to be both emblematic and polysemous. This is of course due to the complex meaning of the animal that it is being substituted for.

From here on, we will be concentrating on the symbolism of the bovine. There is little in the other species' contribution to Minoan animal symbolism that was not known before their examination in the peak sanctuary context. The marginal presence of

birds, agrimia and snakes in these shrines is due to their symbolic role which has been established elsewhere. The rare presence of 'straightforward' domesticates like ovicaprids and pigs is commensurate with their marginal symbolic role in Minoan religion. In contrast, the role of the bovine is so vital to the understanding of peak sanctuary ritual that it adds a new dimension to the totality of our knowledge of bovine symbolism in Minoan cult and ideology.

VI.1.5 THE SYMBOLIC ROLE OF THE BOVINE/BULL IN MINOAN PEAK SANCTUARIES

We have seen that the interpretation of bovine figures as material reflections of human concern with livestock or as sacrificial substitutes does not adequately explain the symbolic significance of this species in peak sanctuaries. The difficulty in pinpointing the function and meaning of the bovine figures is further compounded by their varied representation of generic bovines, cattle (i.e. cows and bulls) or exclusively bulls. Furthermore, the significance of the 'bovine' as represented by peak sanctuary figures does not seem identical with that of the bull in other Minoan contexts. Yet by considering the additional evidence on bovine symbolism from peak sanctuaries, we can show that the bull symbolism with which we are more familiar is part of a broader symbolic nexus. It is possible to attain a better understanding of the significance of this species by recognizing that its meaning is grounded in a plurality of ritual and social contexts, including that of the peak sanctuary.

In order to understand better the contribution of peak sanctuary bovine symbolism to this broader picture, it is necessary to give an outline of what else is known of this from other sources.

1) The non-peak sanctuary bovine/bull symbolism

The most potent image exemplifying Minoan bovine symbolism between EM and LM II combines two essential elements: the male sex and physical power. It is a rather interesting contradiction in terms that the power of the bull can be represented in a

range of circumstances, from unvanquished and unfettered to slain. The consistent (but not common) image of the powerful bull man wishes to vanquish emerges during the early stages of Cretan Bronze Age society, as is shown by the bull askoids with human bull-grapplers from the Mesara tombs. Although the sex of these bovines is not indicated, there is no doubting that they are bulls. These early examples are of great importance because they show that the later palatial imagery was not original but utilized a well-established theme. By MM III - LMI, when we have archaeologically retrievable imagery related to palatial state ideology, the theme of the powerful bull has acquired an added dimension. Not only is it metaphoric of strength, power and presumably male potency, but it is metonymic of the power of the state. The finest examples of bull imagery are found in the palace of Knossos, where it has clearly become part of the iconography of state power (Hallager and Hallager, 1995). In the Near East, the Minoans were associated with the image of the powerful bull, and the prominence of bull grappling scenes in Tell el Dab'a is telling in this respect. The Toreador frescoes show that the theme of the powerful bull was retained by the last, Mycenaean, masters of the palace of Knossos. This potent image and its metaphoric associations with statehood were not lost on the mainland rulers who also represented on their palace walls bull-grappling scenes. However, the close association of statehood with this powerful creature was a uniquely Minoan social strategy, and I know of no other parallel in the contemporary Near East of such a close emblematic association of one culture with a single animal.

There is a strand of representations which shows the bull in a more static way, but this is closely linked to the same theme as the narratives above. This is the series of (MM III) - LM I clay bull askoids and bull head rhyta, in either clay or stone which function as rhyta. Among the tributes of the Keftiu represented in the Egyptian tombs of Useramon (tomb 131) and Menkheperreseneb (tomb 86) were fine bull head rhyta of this type, probably made of precious metal (and whole bull 'models') (Wachsmann 1987, 28-29 and pls. 27B, 35 and 36A). What aspect of bull symbolism is exemplified by these Minoan rhyta? The ceremonial garb or net on the bull askoids very likely indicates that the animal has been subjugated and is about to be sacrificed. It is

probable that the rhyton function of all these vessels could be a reference to the bull's sacrifice. The outcome of the sacrificial act is probably the raising of the horns, as exemplified by the relief fresco in the Great East Hall of the palace of Knossos (Hägg 1986, 48). The horns of consecration, another Minoan trademark, are probably a more abstract representation of the sacrificed bull's horns.

The elements most clearly evident in the symbolism of the bovine in non-peak sanctuary contexts are the invariable emphasis on the male sex; the emblematic association of the bull with power, including the political power of the state; and its sacrificial use. The more detailed iconographic imagery brings out more clearly the emblematic role of the bull than do the peak sanctuary bovine figur(in)es whose emblematic potential is intimated by their sheer numbers and the fact that they did not necessarily refer directly or exclusively to animal sacrifice. However, the emblematic role of the peak sanctuary bovines still needs to be elucidated.

2) The 'strands' of peak sanctuary bovine/bull symbolism

How does the evidence of bovine symbolism from peak sanctuaries compare with the above picture? The vast majority of figures have less visual referents to help us comprehend their symbolism than the rich palatial iconography or the naturalistic askoids, although the rhyton function of some MM III - LM I peak sanctuary figures provides an important functional overlap. However, it seems that at least two strands of evidence with different interpretative implications can be detected; the one has closer parallels with palatial/urban bull imagery; the other does not seem to relate exclusively to bulls, but more generally to cattle. It will be argued that, although different from each other, they are equally useful in creating a greater understanding of the role of the bovine in Minoan society, and part of the overall picture.

Because each of these strands depends on the sex determination of the figures, the first question that needs to be addressed is that of gender. The non-peak sanctuary evidence shows us that the male gender is a vital part of the symbolism, however the representation of the sex in peak sanctuary bovine imagery is less consistent.

The determination of an animal figurine's or figure's sex is made following four criteria. The figure or figurine is:

- 1) male if a penis and/or testicles are present
- 2) female if the udders are present
- 3) asexual if the sexually descriptive region of the body is preserved but displays no representation of either male or female genitalia
- 4) unsexable if no sexually descriptive regions of the body are preserved

Scale may be a significant factor in the representation of the male sex in animal figuration from Juktas and Kophinas. With the exception of one male, all of the sexable MM I - LM I figurines from both Juktas and Kophinas preserving the sexually descriptive regions are asexual. The figures are either asexual or male. Of the 20 bovine figure portions preserving the sexual region, 9 display the male genitalia. Of these only 1 is of MM III - LM I date, and 8 are of LM IIIC date. Among the Kophinas fragmented body parts I have examined, there are 4 indicating the male sex and none the female. The smaller body sherds from Kophinas have not yet been examined in their entirety. In the analysis that follows we leave out of the discussion the question of the gender of the later, LM IIIC figures.

It would be tempting to consider that all bovines from peak sanctuaries are shorthand versions for bulls (Lebessi 1992, 3 and footnote 11), and bolster this interpretation by ascribing the absence of sexual attributes to the schematic rendering of the figures which contrasts with the more realistic representation of the 'naturalistic' bull askoids.

Recent evidence from Atsipadhes however shows that this is an *a priori* assumption that cannot be made.

Atsipadhes is the only other peak sanctuary of which we have information on the gender distribution of bovine figures, and it is entirely different from that of Juktas

and Kophinas. Two thirds have their gender clearly indicated, and these are roughly equally divided into males and females (Peatfield 1996-7, 119). Peatfield reasonably describes the sexed Atsipadhes figures as cattle, presumably firstly because both sexes are represented, and secondly because there is no statistical bias in the representation of either of the two sexes. In contrast, the description of the many asexual Juktas and Kophinas figures and figurines as anything other than bovines would amount to a first interpretative step.

Gender is one of the determining factors in the explanation of these votive figures' meaning. It is because of the representation of both females and males at Atsipadhes, that Peatfield correctly considers there are 'certain differences between the symbolism of cattle figurines as offerings and the meaning of the bull in palatial iconography' (Peatfield 1996-7, 119). To a certain extent, the same can be said of the Juktas and Kophinas votives, since many do not feature the male sex. Our analysis of these greatly depends on whether we view them as representing generic bovines, or 'shorthand' versions of bulls or cattle. However, on balance, we shall see that the symbolism of the MM III - LM I Juktas and Kophinas figures is closer to the lowland symbolism because the male sex is more apparent, whereas the Atsiphades cattle figures diverge somewhat from this. In the case of Juktas the emphasis on bulls is reinforced by additional, indirect, evidence.

The sex of the Juktas and Kophinas figures may not be represented because it is of no interest, or because it is tacitly assumed to be of a sex which is not shown. For example the Porti and Koumasa bovine askoids clearly represent bulls although their sex is not indicated. Only indirect evidence may be used to show that the sexless MM III - LM I Kophinas and Juktas figures 'stand for' bulls. Firstly, their few sexed counterparts are all male; secondly, in the case of Juktas only, there are two rare examples whose additional features relate to the theme of the subjugation of the bull. The horns of a figurine (fig. 27), unfortunately from a mixed context, have been modeled deliberately to represent cut-off ends, a device denoting subjugation which might be attested on the far grander bull askoid from Pseira. A more direct reference

to the control of the bull is the head portion of a MM III - LM I (bull) figure featuring part of a human holding onto its horn (pl. 15a) (Karetsou 1977, 420).

Further material evidence, again only from Juktas, shows that the animal figures might fit into a wider symbolic nexus because of material evidence alluding to bull symbolism and the sacrificial act, but not directly associated with the site's bovine figuration. Found on site were fragments of LM IB vessels with relief bull heads (boukrania?) (Karetsou 1975, 338 and fig. 6); the fragment of a poros slab with a carved boucranium (ibid., 331) and a contemporary miniature votive hammer, very likely emblematic of the sacrificial act (Karetsou 1981, 405 and fig. 3). Other artefacts which constitute symbols traditionally associated with the sacrificial act are the fine hoard of bronze double axes found in a pit in the MM I - MM II ash layer, which may have served as a foundation deposit (of MM III - LM I date?), and horns of consecration. The latter range from miniature clay votives in the ash layers to large stone ones topping the facade of the row of rooms. So there would appear to be primarily in MM III - LM I an emphasis on cult paraphernalia and symbols metonymic of the bull and sacrifice. These symbolic associations may have existed in the site previously but, because of the less 'vocal' MM I - MM II material, they would not be archaeologically retrievable.

This is a suitable point to bring in the miniature votive animal heads, which were found in both MM I - MM II and MM III - LM I contexts. Votive human heads found in peak sanctuaries serve an analogous function of *pars pro toto*, but there is no reason to assume that they both served the same purpose. It would be tempting to identify these animal heads as boukrania attesting to a successful sacrificial act. To this day, we are faced with a similar problem when interpreting the meaning of the clay and stone animal head vessels found in low-lying sites. Symbolic meaning is not literal. For example it has never been suggested that the fine lion head rhyta are symbolic of sacrifice. If the MM III - LM I miniature animal heads are a reference to these other bull heads, it is more than likely that, despite their summary rendering, they represent bull heads. We have noted that they are not unlike the heads of the

bovine figurines. The frequency of these heads, which is greater than that of the non-bovine species, may add credence to the possibility that they are bovine heads. However, we must note that the miniature heads start in MM I - MM II, when other animal head vessels are less common than in MM III - LM I.

The emblematic nature of the above evidence increases the likelihood that the MM III - LM I Juktas bovines were, if not standing in for bulls, part of a milieu in which the bull may have been significant. While none of the evidence substantiates the actual practice of sacrifice on the site, it may be that the Juktas figures are referring to the act of sacrifice. While the Kophinas site lacks additional referents similar to those at Juktas, the representation of males alongside the sexless figures may also indicate that male figures are intended.

We are faced with a dual perspective on peak sanctuary figuration and symbolism. It would seem that the Juktas MM III - LM I figures have closer parallels with the palatial iconography than with the Atsipadhes figurines. The milieu of the Atsipadhes figures does not provide additional bull/sacrifice referents and the figures of cattle relate more directly to the 'real-life' context of these animals by representing both sexes.

The question has to be asked whether these differences between Atsipadhes and Juktas/Kophinas could be due to their chronological and topographical differences. Certainly the MM III - LM I evidence from Juktas coincides with the elaborate bull imagery of the Knossian palace, which very likely had close connections with Juktas. The symbolic referents at Juktas like the horns of consecration could be alluding to this symbolic link with Knossos. The earlier MM I - MM II figurines however, while not of a particular gender, are not associated with any additional symbolism of this sort, and in that sense are more reminiscent of the Atsipadhes material. This still does not explain why the Atsipadhes figures represent cows and neither of the two other sites do.

The suggestion that the Atsiphades figurines relate to local specialized cattle breeding is not very convincing, since bovines appear dominant in all peak sanctuaries (Nowicki 1994, 42). Peatfield is however right in ascribing a realist dimension to the indication of both sexes. And this aspect would be lost if we followed the argument of Nowicki that the representation of cattle is quite simply a reflection of the significance of the bull in Minoan religion (Nowicki, *ibid.*), particularly since the figures clearly do not represent only bulls. The tacit reference to the significance of cattle in a small rural sanctuary merits further consideration, partly because it draws our attention to the fact that we are traditionally predisposed to thinking of bovine symbolism in terms of the bull.

In exclusively ascribing the value of the bovine to the imminent death or the slaying of the bull (as admittedly is done in prestigious iconography), we ignore the fact that the symbolic value of the bull, as well as cattle, is ultimately derived from its role as a live animal. It is after all the power of the animal when alive that also instigated its death-related symbolism. So it is important to integrate into our understanding of its symbolism other important aspects of the live animal, like its economic power and its use by humans in social strategies. It is necessary to redress the long-standing habit of looking at the Minoan bovines as ritual resources which become significant at the moment of death of one of their sexes, and lay more emphasis on their economic roles while living. It is necessary to develop an awareness not just of the bull but generally of domestic cattle as assets (Bogucki 1993, 492). Presumably it is this aspect that might be coming out more clearly in the early and rural Atsipadhes sanctuary. The male sex is a metaphoric or a metonymic device related to ritual, and it is but one aspect of the broader phenomenon of cattle symbolism. It is by considering both these strands of evidence that we may achieve a greater understanding of bovine symbolism.

3) The social and economic role of bovines/bulls in Minoan Crete

To understand the role of the bovines and bulls in peak sanctuaries, we must think of bovine figures as being part of a phenomenon of widespread figuration associated

both with the foundation of new peak sanctuaries and changes in the ritual of earlier sanctuaries during a phase either contemporary with (MM IB) or possibly preceding (EM III/ MMI A) the establishment of state society. This wider social perspective permits us to make use of the information that can be gleaned from the human as well as the animal figures. The recognition that bovine/bull symbolism occurs during a period of social and political importance is a more useful approach than that of trying to find a 'realist' correlation between bovine figuration and a change related exclusively to either ritual changes or the animals' economic role.

Since the surviving animal bones in settlements do not reflect a dominance in cattle, the prominence of bovines in peak sanctuaries cannot constitute proof of a cattle-based economy, either regional or more widespread (Cherry 1988, 12). Nor can the sudden and widespread appearance of animal (and particularly bovine) figurines in MM I be directly ascribed to a major change in animal exploitation. In Crete, changes characteristic of the earlier Near Eastern secondary products 'revolution', including the start of plough agriculture introducing a new role for cattle, would have occurred in the later 4th and 3rd millennia (Cherry 1988, 24-25; Halstead 1992, 107, ft. 34), when there is no emphasis on animal figuration in Crete⁹.

By the time bovine imagery became popular in MM I peak sanctuaries, the novelty of the new relations between man and animals (the outcome of the secondary products revolution) associated with ownership of animals and land and physical control over animals, had well worn off.

If we were to search for a significant change in strategies of animal exploitation during MM I - MM II, and particularly during MM III - LM I, this would be related to the increased economic importance of ovicaprids. Minoan society, once centralized,

⁹An increased emphasis on models of animal figures and wagons is considered to be one of the changes of material culture accompanying the secondary products 'revolution' elsewhere (Sherratt 1981).

witnessed an increase in specialized ovicaprid pastoralism reflecting the importance of wool-bearing sheep and textile manufacture in the Minoan contribution to the international market (Sherratt et al., 1991, 359), although this was not at the intense level of the later highly specialized Mycenaean organization. But in comparison with their actual economic role, ovicaprids are strikingly under-represented in peak sanctuary animal figuration.

Peak sanctuaries have at times been described as cult places frequented by shepherds (Rutkowski 1972, 1986) but they are generally sited on low peaks, near the arable lowlands, rather than near the high mountain pastures (Halstead 1981, 205). Bintliff's suggestion that these regional sanctuaries would serve a territorial and integrative role in embracing large numbers of members of lowland communities (including shepherds) who shared an economic interest in the upland pastures seems to me more convincing. (Bintliff 1977, 630 and 653). These conjectured inter-communal links, extending beyond the ritual sphere, could be related to a range of other economic and social transactions like marriage relations and exchange of goods, all of which would have taken place in the lowland communities while being ritually sanctioned in the upland sanctuaries.

The 'over-representation' of bovine figures in peak sanctuaries needs to be interpreted within the context of a ritual which occurs during a period of social regrouping around emerging centralized states. The increase in Cretan animal figuration has previously been rather speculatively thought to reflect a rise in social complexity during EN II - MN (Broodbank 1992). In relation to MM I, we at least have the advantage of not needing to prove that this period coincides with a major social watershed since we know it is associated with the emergence of the state.

Here I would like to examine the correlation between bovine/bull figuration and social complexity by looking at two matters. The first, which is more speculative, is the examination of the EM III / MM I economic and social background to the rise of the

symbolic importance of bovines. The second matter is the study of the use of bovine/bull figures within the context of peak sanctuary ritual which can throw light on the relations between the individual and society during MM I - MM III and MM III - LM I and help us to better comprehend Minoan social structure and its changes. The latter is the least speculative of the two issues because, independently of the exact meaning of the bovine/bull figures, the material culture shows interesting patterns which can be empirically observed .

4) The EM III / MM I economic and social background to the rise of bovine/bull significance

The point has frequently been made that cattle become important symbols and possessions at times when there is an emergence of social complexity (e.g. Broodbank 1992; Bogucki 1993). The symbolic significance of the bovine/bull could be partly related not to a subsistence but a social watershed. Its more systematic use in ritual and the stratification of society might be associated with the increased emphasis on the ownership of land and animals, particularly prestigious ones. Basic subsistence and management might not have greatly changed.

The establishment of stratified palatial society was associated with the occurrence of social changes in EM III - MMI throughout Crete at a local level. Presumably social diversity emerged with the transition from kin-based to communal-based social structures, and it would have been based on the accumulation by certain individuals/groups of individuals of assets like land and cattle which were not equally distributed. The foundations of social differentiation had probably been forged in relations of dependence and independence initially established by kin groupings, related to land ownership and inheritance, and the owning (and loaning?) of cattle and other livestock.

In MM I - MM II, the symbolic relations between humans and land, and humans and livestock like cattle (rather than ovicaprids) which are closely associated with individually or group-owned arable land, rather than communal pasturage, may have

become more important since they were emblematic of differences in wealth and status. The rise of emerging elites is usually thought to be associated with self-definition through conspicuous consumption and ritual activity of the assets over which they had a monopoly and privileged access (Sherratt et al., 1991, 359). We still lack hard and fast evidence in MM I - MM II Crete of conspicuous consumption of prestige food like beef. While it seems likely that bovines were ceremonially killed and consumed during cultic and other social activities like marriages and other alliances, there is very little evidence of this in settlements, rural or urban. As we have already suggested it seems unlikely that these activities related to cattle or bulls would have occurred at peak sanctuaries

It has been suggested that the monopoly of the costly maintenance of animals like bovines for sacrificial purposes was probably the prerogative of the elite (Cherry 1988, 12). I do not believe that only the elite members of society owned cattle, but not all owners of cattle would have been in a position to have them killed for ritual purposes, since the returns for breeding bulls or cattle for sacrifice or meat consumption were not financially advantageous. It would appear that in Minoan Crete the status of the elite did not lie just in their ownership of many cattle but in their prerogative to kill these animals. The symbolic significance of this act is reflected in the symbolism of the horns of consecration and at a later date the figure of eight shield.

Although we do not have plentiful evidence, enough survives for us to surmise that the palatial elite had adopted already by MM I - MM II the ritual use and sacrifice of bovines (bulls?). The most convincing proof of this is *salle b* and its associated rooms beneath Quartiers III - IV of the west wing of the later Mallia palace in which were found bovine horns and two ceremonial swords. A likely venue for the associated sacrificial acts may have been the palace's central court (Marinatos 1987, 19-21). The symbolic significance of the bovine/bull is also shown on the stamped offering table in the Upper West Court shrine in the Phaistos palace, but to suggest

that the nearby outdoor pit was used for sacrificial purposes would be too speculative.

5) Bovine/bull symbolism and the relations of the individual and society

I would now like to focus on how the use of bovine/bull figures within the context of peak sanctuary ritual can throw light on the relations between the individual and society during respectively MM I - MM II and MM III - LM I and help us to better comprehend changes in peak sanctuary ritual.

MM I - MM II

Peak sanctuaries show us that during the earliest stages of the existence of central authorities in Crete, there was a surge in regional rituals in which the symbolism of the bovine/bull is a dominant element. Within the framework of a hierarchical political structure in MM I - MM II, these shrines are used to define ritual space on a regional basis (Warren in Peatfield 1992, 81). The invention of widespread peak sanctuary figuration is an integral part of this newly-emerged hierarchical society but (like the peak sanctuaries themselves) this new form of ritual is a product of the region and not the centre. In their aim to unite spiritually (and politically) local communities, peak sanctuaries fulfill a prerequisite of a politically centralized society which requires internal stability.

Peak sanctuary votives reflect two facets of peak sanctuary ritual. Because of their token value they serve as social levellers in the ritual and, in a sense, underplay the hierarchical nature of society. Entirely lacking from MM I - MM II peak sanctuaries are personal possessions like sealstones, knives etc. which reflect the status of the deceased in contemporary funerary contexts. While there are some finely executed and painted figures which could potentially be associated with more affluent members of society (e.g. the fine EM III polychrome female figurine from Petsophas), the ritual prescribes that all participants express their personal piety through the offering of small scale clay offerings.

There are no great differences among the small-scale, token votives which distinguish greatly, either in their subject matter or in their scale, the offerings of peak sanctuaries close to palatial establishments and /or nucleated settlements (e.g. Juktas) from those found in small rural settlements (e.g. Atsiphades). Mrs A. Karetsou has pointed out to me that many of the human figurines from Juktas are very simply, even crudely, made (Karetsou, pers. comm.). Although many of the participants in the cult, and users of the humble clay votives, were 'ordinary' people, mostly from rural communities, it seems unlikely that their economic status was as uniform as the votives lead us to believe. This is even more the case when it comes to peak sanctuaries like Juktas, located close to urban/palatial centers.

But peak sanctuary votives do not reflect only this 'equalizing' aspect of peak sanctuary ritual. Their other characteristic is that they exemplify the elements of a hierarchical society which reflect not just the role of the elite but of all members of society. MM I - MM II peak sanctuary cult provides essential information, not available elsewhere, on Minoan socialization in the early stages of statehood. The human figures show us that the Minoan dress code of males and females (elite and 'ordinary') was established (Pilali - Papasteriou 1989), as were the stylistic codes (e.g. scalplocks) which represent the biological stages, and possibly participation in ritual, of members of society. Even in the humble sanctuary at Atsipadhes, some female figurines wear headgear and some males have scalplocks (Peatfield 1992, 73 and 78, figs. 20-21). As early as MM I - MM II, peak sanctuary figures can occasionally represent the fashion of prestigious women showing that a sophisticated textile industry was underway. These visual references to fashion show that, even in most humble areas of rural Crete removed from the urban/palatial centres, the notion of style had seeped through all ranks of society, and applied not just to the elite but to the 'typical' Minoan male and female. While the figuration of MM I - MM II peak sanctuaries is not used to promote social differentiation among the participants of the cult it nevertheless reflects the existence of a stratified society expressed through the 'ideal' representation of the members of society. It remains to be seen whether the more finely decorated, fashionable effigies reflect the real or

the 'ideal' status of the individual worshipper. In cases where elaborate dress and hairstyles are associated with very finely made figures, it is likely that these had been deposited by better-off worshippers. However, we need more information on how frequently more crudely made figures also represent these trappings of status, in which case they may reflect the 'idealized' version of a Minoan person, irrespective of the status of the dedicator.

The bovine figurines combine admirably the two aspects of peak sanctuary ritual just described: their small scale means that they can be broadly used, but the choice of the bovine/bull is an example of a symbol whose increased prominence is linked with the emergence of a hierarchical society. The bovine figurine, the most popular of all votives found in the Juktas peak sanctuary (and very likely in most other such sites) is a device which alludes to the hierarchical structure of society through its representation of an animal that is of high status not just in economic, but also in social and ritual terms, as we hope was plausibly suggested in the previous section. The bovine/bull is the votive which is most commonly used to express collectively an ideal, a concept closely linked with the advent of state society. This notion of the ideal is further underlined by the likelihood that many of the bovine figurines would not have represented the personal possessions of worshippers. In addition, because they may be referring to the sacrifice of the bovine/bull which does not occur in many peak sanctuaries, they are probably emblematic of the prestigious elite activities that occur in settlements or even in palaces.

The bovine acquired in MM I an emblematic function which is not limited to its virility, economic value or sacrificial use. Its symbolic power lies in the suitability of its use, either as a 'real-life' or equally real simulacrum, by all the social levels which in their totality comprise a hierarchical society, from the peasant hinterland to the palatial environment. It is not a symbol imposed from the top, nor does it emerge out of nowhere. It is this broad ideological basis, apparent in MM I - MM II, that made it a dominant aspect of palatial ideology at the height of its power. The peak sanctuary bovine/bull figures of MM I - MM II show us that this is a religious element that was not

imposed by the centre, and that it is an ideological element that emerges during the early stages of state society.

My impression is that the symbolic devices and the localities of the peak sanctuaries were engendered at the level of the local community. I also feel that these cult sites were left to their own devices by the palatial establishments. The only convincing evidence of state intervention is very likely related to Juktas when the building programme was undertaken. But there is no evidence of appropriation in the ritual to the extent that it affects popular folk ritual in any significant way. The MM II structures at Juktas are very impressive; however what is equally important is that the objects deposited by the worshippers are, in terms of scale and symbolic repertoire, no different from those found in the more rural site of Atsipadhes.

MM III - LM I

The fall-off in numbers of peak sanctuaries shows a marked change in the demarcation of ritual space and the location of local-based rural ritual. The far fewer MM III - LM I peak sanctuaries are markers of ritual and spiritual focus, but the plurality of territorial definition is now a thing of the past; there is however a tenacity in the eastern part of the island. Due to the demise of many peak sanctuaries, the production of votives also halts in these regions since there is no longer a demand for them. The regional significance of bovine/bull symbolism in the form of figures, survives only where peak sanctuaries continue to be used, or new ones are founded as in Kophinas. The conceptual significance of the bovine/bull may have remained important, or taken other forms, but the material representation and ritual use of the bovine is a thing of the past in many Cretan regions.

Sites like Juktas with a long-established, pre-MM III history, carry on with the older tradition and repertoire of votives offerings. Animal figurines as explained earlier are accompanied by figures as well and more prestigious votives like offering tables. However at Kophinas, founded in MM II / MM III, the ritual is markedly different despite the common use of votives. The finds, other than pottery, include many

figurines of males and far fewer females, large male figures of worshippers, votive phalloi, votive boxing gloves (if correctly identified), votive miniature blades, stone offering tables, seals, dozens of beads (Karetsou and Rethemiotakis 1991-93). Bovine symbolism at Kophinas at least, with its limited range of symbols and other artefacts, is part of a rather different symbolic nexus, perhaps linked with a more restricted segment of society (male fraternities?). The offerings, including the large bovines, clearly project the status of the individual worshippers, many of whom might well be male and quite well-off if we can judge by the range of votives, including the large scale of the bovine figures. The projection of the ideal through the bovines and other prestigious votives is very much part of the Kophinas ritual, but it is being used differently from the MM I - MM II peak sanctuary ritual which appeared more 'egalitarian'. It is now used to project the individual dedicator.

In Kophinas, but also in surviving peak sanctuaries like Juktas, the votives are still indicative of the trappings of a hierarchical society, but now they are used differently by worshippers who project their individual status by using more prestigious votive offerings like large bovine figures and precious objects like seals and beads *in corpore*.

6) The reasons underlying the MM II demise of widespread peak sanctuary use and its attendant bovine/bull symbolism

We cannot ascribe this change in peak sanctuary ritual, which also affects the symbolic use of the bovine/bull, exclusively to transformations in the cultic sphere. We have already indicated that changes in the use of votives may reflect differences in the social projection of the individual. The demise of the peak sanctuaries may be inter-linked with the organizational transformations of the palace system.

There is an increased emphasis on the political and administrative demarcation of space since MM III inaugurates a period of greater centralization with the appearance of the villas. MM III-LMI is a period of increasing 'nucleation of towns and enlargement of territories' (Warren in Peatfield 1992, 91) and tighter centralization.

I am aware of two instances in different cultures which involve the fall-off of the manufacture and use of figurines in ritual activities, and in both these cases it was the outcome of the centralization of religious activities which put a halt to the practice of individual cultic expression. In second millennium Egypt, thousands of votive offerings were found in the shrines of the goddess Hathor, many showing a preoccupation with fertility. These declined in quantity towards the end of the 18th Dynasty when there was an increase in public (as opposed to personal) display of piety (Baines 1991, 180-184). In ancient Oaxaca, the rise of a more stratified society with standardized ritual organized by the Zapotec priesthood in temples resulted in the reduction of the role of household ritual at the village level and the virtual disappearance of figurine manufacture in these local contexts. These changes occurred under different sociopolitical conditions: Egyptians inhabited a heavily hierarchical society, whereas Oaxaca was evolving into a stratified society. What is important though in both instances is that the more tight centralization of cult had a detrimental effect on local ritual and the use and manufacture of figurines (Marcus 1996, 286-291). I believe an analogous scenario can be used to explain the demise of the local manufacture and use of Minoan figurines at the end of MM II. Yet, while the demise of many peak sanctuaries is related to centralization of the state (including its religion), I do not believe that peak sanctuary ritual itself becomes directly controlled by the palaces or subsumed within a centralizing plan specifically related to peak sanctuaries. In my opinion, Juktas, which since MM I - MM II was an unusual case, was the exception rather than the rule. The fertility element, less widespread in popular cult in view of the demise of so many peak sanctuaries, is clearly subsumed in the preoccupations of state religion, unlike in Egypt where it remains marginal in the religion of the hierarchy (Pinch 1993, 359). No doubt the bull symbolism is an aspect of the Knossian palace's preoccupation with fertility.

Unlike Egypt, where popular religion was controlled through the creation of special shrines within state-run temples, in the case of Juktas, the strong affiliations with the palace occurred in a site which emerged as sacred through its associations with

popular religion. When the more organized administration of the ritual occurred in MM II, it is noteworthy that the architectural surroundings became grander but the traditional types of offerings and their setting hardly changed.

We have to assume that, after these changes, the inhabitants of these regions no longer had a public context for their expression of personal piety. Alternatively, they may have participated in cult practices elsewhere, in either an urban or rural environment not known to us. My impression is that there is no question of the catchment areas of the remaining or newly-founded sanctuaries becoming larger. Certainly there is no commensurate quantity of artefacts to prove this.

The integration of peak sanctuary ritual within a straightforward socio-political model has proved elusive because it is an institution which cross-cuts sociopolitical changes through time. It is by focusing on this overlap that we can comprehend its social and ritual functions. We must recognize that the peak sanctuary phenomenon existed during both pre-state and state society, and that while spanning the entire duration of Minoan state society it reflects its changes. I hope that the study of the function of the animal figures, and especially the bovines, has shown how material culture in a ritual context plays an active role in the creation of these sociopolitical circumstances.

VI.2 THE FUNCTION AND MEANING OF ANIMAL FIGURINES AND FIGURES IN LBA IIIC CRETE AND THE AEGEAN

Birds

The bird figurines of type 2 were found in mixed layers containing much LM IIIC material. It is apt that, after a long gap in the deposition at Juktas of animal figures and figurines, these particular votives should appear when the bird re-emerges as a symbol adorning the tiara of the Females with Upraised Arms at LM IIIB Gazi and the

Shrine of the Double Axes and LM III C Karphi, and is offered in outstretched hands by the male votary in the shrine of the Double Axes. The bird figurines from Juktas are clearly independently made and therefore did not serve as attachments. It is however of note that one fragment of the head of a large female figure, very likely of the type with upraised arms, was found in Juktas. As in MM I - LM I, the bird figures probably denote presence or desire to communicate with the divinity (-ies).

Bovines/bulls

Apart from the bird figurines, these comprise the exclusive animal species dedicated in the sanctuary during LM III C. It has already been noted that some of these large wheelmade figures feature the male sex and thus represent bulls. This increases the likelihood that the other figures may also have been thought of as bulls. The clear indication of the sex of some of these Cretan figures distinguishes them further from their mainland counterparts.

The earlier discussion of the role of bovine/bulls animals within the ritual and sociopolitical context of the early Cretan state society and later stages of state society may prove useful in understanding the role of these figures in 12th century post-palatial Cretan and Aegean society.

We have already noted that when Cretan and Mycenaean societies were centralized, they specialized in ovicaprid pastoralism which was particularly intensive during Mycenaean rule in both the mainland and Crete. It has been argued that the demise of the palatial system resulted in a shift to a cattle-breeding economy, which is reflected by the advent of bovine wheelmade figures. We have already shown in relation to Crete that the rise of the symbolic significance of the bovine is one which is not linked exclusively with subsistence or animal exploitation, but that it is part of the symbolism of ritual practices suited to the sociopolitical circumstances of that society. Similarly, it would be more apt to search for the role of the bovine within this wider perspective than to interpret the resurgence of bovine symbolism in terms of a direct reflection of a shift in the agricultural economy (Cherry 1988, 12). We lack

solid archaeological evidence attesting to such a shift, and the history of animal figuration outlined in chapter V has shown that the increasing importance of wheelmade bovines in the mainland started in LH IIIB. It is best to leave out of the discussion the very earliest, LH IIIA, Phylakopi figures which are not yet part of a widespread phenomenon; however their Cycladic context shows it is unlikely that they were alluding, at this date and in this location, to a cattle-based economy.

While ovicaprids were of great importance in the economy of the LH IIIA - B mainland, agricultural economy producing staples like cereals and pulses, and requiring the use of oxen, continued unabated during both palatial and post-palatial society. The demise of the palatial system also sees the collapse of a complex agri-pastoralist system. Intensive pastoralism could not survive without the suitable administrative system and its local infrastructure, and in any case the fall-off in trade no longer makes it a desirable enterprise (Cherry 1988, 26).

The collapse of centralized administration means that there are large tracts of pasture and flocks of sheep no longer directly controlled by the palatial administration, but presumably the socio-political upheavals and fall-off of demand in ovicaprid secondary products would not have encouraged management strategies akin to those of state pastoralism. Presumably there would be a much greater emphasis on smaller-scale subsistence herding by individuals and groups of individuals, and possibly larger scale local herding (Gamble 1982; Halstead 1987; Cherry 1988, 25)

I would like to concentrate on the increased importance of bovine figuration in the mainland where it first became popular in the Aegean, and where its rise is more directly associated, in chronological terms, with the demise of palatial society. The low-lying land and livestock previously owned or controlled by the state would have created new opportunities of ownership, or at the least control. And under these difficult post- state conditions in the mainland, it is the tracts of arable land and the cattle providing a basic subsistence that would have been far more desirable. The power vacuum created by the fall of the elite rulers would have been filled in, and local

land owners and administrators would have benefitted from these circumstances. The segmentation of society would have resulted in the forging of new territorial boundaries, different relations of ownership between man and animal, and the re-organizing of the storage and distribution of surpluses, all within the regional context.

Cherry has noted that post-palatial society reverted to conditions not unlike those of the pre-state Bronze Age. The increased importance of cattle is very likely an indicator of the importance of localized agricultural subsistence rather than representative of new patterns of sedentism. But cattle could have been manipulated by local leaders seeking to consolidate their new-found success, by investing in their use in rituals, including cult practices. Sacrifice (alluded to in the iconography of Pylos palace for example) is one aspect of the former state religion that could have been kept up. The sub-structure was lacking for the elaborate palace-staged rituals which relied on the use of finery and luxury commodities. However cattle remained readily available. The ritual was narrowed down in scale but one of the culminating points of ritual, sacrifice, could go on. Since the bull seems to be throughout the Bronze Age the ideal sacrificial animal, it seems very probable that cattle of this sex might have been chosen to be sacrificed in the 12th century Mycenaean world. To my mind, it is during the 12th century, in the absence of the self-perpetuating state iconography and pageants featuring the bull, that the bovine comes to symbolize in a less convoluted and more direct way the sacrificial act. This has repercussions in our interpretation of the bovine figures which I would feel more confident in describing as sacrificial substitutes. While the Minoan themes featuring the bull had been adopted in a copy-cat manner by the Mycenaeans, the animal itself had never been used to personify power in the same way as in palatial Crete. One need but compare the manner in which the bull is represented in the Mycenaean palaces with how this was done during the height of Minoan state society. The difference is not simply one which can be explained away in terms of chronological or artistic differences.

I believe that the symbolism of the Cretan bovine figures can be interpreted in terms of its reference to the sacrificial act, and that they were used under regional

sociopolitical conditions. We have to recognize that the above model which sees an indirect correlation between Mycenaean bovine figures and the emergence of mainland post-state conditions is not applicable to Crete, which should have evolved along analogous (but not identical lines) at an earlier, post LM - IIIA stage. We must view the increased emphasis on ritual, and the use of bovines, against the background of 12th century conditions, rather than in terms of a continuation of LM IIIB. We suggested in chapter V that bovine figuration, which delayed having an impact in Crete, was introduced from the Mycenaean world.

It is interesting to draw a contrast between the rich peak sanctuary figuration which helped us to understand the role of the bovine in MM I - LM I and the same idiom's greater figurational isolation in Juktas and other Cretan LM III C sanctuaries. Yet the presence of clay wheelmade horns of consecration in these same sites shows the re-emergence of the time-honoured association between these two closely linked symbols.

In contrast to the mainland, the LM IIIC bovines are produced nearly exclusively in large scale form. Despite the large numbers of these figures, a case cannot be made for their popular, broad-based use. Although part of communal cult practices, it remains to be seen whether the sacrificial act and the use of clay substitutes are related to the community in its entirety, or whether the worshippers depositing these figures belonged to a more restricted section of society. In contrast to the rich peak sanctuary figurational evidence, we lack referents other than the horns of consecration. Because of the continuous deposition of bull and bovine votives at Kato Syme, and the association of the post-Bronze Age ones with male figures, Lebessi suggests that the LM IIIC bovines may be related to male maturation rites. The lack of similar indicators at Juktas prevent us from making an analogous assumption. My impression is that the Juktas bovines may come from a range of geographic regions, indicating that in this period (in contrast to MM I - LM I) the shrine may have served as an inter-regional spiritual focus. Petrographic analyses

may shed light on this matter, which will be instrumental in defining the social parameters of the LM III C ritual associated with bovines.

CHAPTER VII

CONCLUSIONS

THE EMPIRICAL RESULTS OF THE THESIS

Data analysis

The empirical task of this thesis, carried out in chapters I to IV, was to quantify the figurines and figures from the Juktas and Kophinas peak sanctuaries; examine their stratigraphic context; define their scale; and analyse their decoration, manufacture, form, style and chronology. In the case of the Juktas figurines, we established a morphological typology. Where possible, groupings of the site's animal figure portions were identified on the basis of unique combinations of attributes related to their fabric, manufacture, morphology, decoration, and scale.

The reconstruction of the history of Cretan animal figuration

The trends emerging from the combined evidence of these two sites, when associated with additional material from the Goulandris collection (most probably from Kophinas region), Galatas, Tylissos and the better-known data accumulated by other researchers, has permitted us to reconstruct a more accurate and detailed picture of Cretan animal figuration from MM I to (and including) LM IIIC (chapter IV). We have identified the 'episodes' of animal figuration, and the material innovations and prevailing sociopolitical circumstances associated with each of these.

While animal figurines occur in Crete from the Neolithic period, and figures are attested as early as Early Minoan II at the site of Myrtos Phournou Koriphi, there are two chronological periods during which the frequent manufacture and use of zoomorphic terracottas permit the identification of well-defined phenomena of figuration. The large quantity of figures in MM I-LM I and LM IIIC contrasts starkly with the minimal output of other phases. These widely-attested phenomena indicate that there are specific junctures in Cretan history when figuration (which includes human and other representational forms as well as the zoomorphic)

gains a social relevance. In Crete, these figurines and figures are most frequently, although not exclusively, found in contexts serving a cultic purpose, rather than habitation or burial sites. The vast majority of animal figures are found primarily in MM I - LM I peak sanctuaries (in this thesis exemplified by MM I - LM I Juktas and MM III-LM I Kophinas) and LM III C sanctuaries (like Juktas), where they function as votive gifts.

A closer look at the physical attributes (i.e. scale, form, manufacture) and quantification of the figurines and figures permits the identification of 3 episodes in the history of Cretan animal figuration. Two are consecutive and related historically to endogenous state society (MM I-MM II and MM III-LM I). The third, which dates to LM III C, is related to small-scale polities which are chronologically distant from the demise of mono-state society.

Each episode of figuration is distinct because it shows innovations in the scale, form and manufacture of the animal representations. The identification of these three phases is based contextually on the evidence of the Juktas sealed deposits of MM IB - MM IIB, MM IIB - MM IIIA and MM III - LM I (respectively contexts 5, 6 and 1); the exclusively MM III - LM I use of animal figures at Kophinas; and the rich LM III C material at Juktas (contexts 8-12). We have also shown that at Juktas figuration extends into the Iron Age.

The first 'episode' of MM I - MM II features handmade figurines, representing several species, and hardly any larger (bovine) figures. While animal figurines have been known to us from preliminary reports of peak sanctuary excavations, those from Juktas afford us the first opportunity to examine one of these assemblages in their entirety, establish a site-specific morphological typology, and identify the proportion of species represented. These tasks were a prerequisite for the interpretation of the function of the figurines.

The second phase of figuration commenced in MM III and witnessed significant changes. There is a continuation of miniature animal figuration; however in absolute terms this is diminished because of the falling out of use of many peak

sanctuaries. The major innovation of MM III lies in the marked presence in functioning peak sanctuaries of larger, exclusively bovine, figures, some of which functioned as rhyta. Following the demise of peak sanctuary ritual, and the sweeping sociopolitical changes which resulted from the LM IB destruction, there was a virtual halt in animal (and other) figuration in LM II - LM IIIB. While a handful of Cretan figures have been dated to LM IIIB, including possibly one from Juktas (J45), the resurgence of animal representation occurs in LM IIIC (third phase), when cult sites like Juktas feature bovine wheelmade figures, but the dearth of figurines is notable.

The new perspective afforded by the reconstruction of the history of animal figuration

The joint Juktas and Kophinas evidence significantly changes our understanding of the history of Cretan animal figuration. Its contribution lies in the identification of the production and use of many MM III (-LM I?) bovine figures whose 'schematic' form and handformed manufacture distinguish them from the far fewer, but better known, naturalistic figures of LM I date. Until now, the latter provided most of the Cretan evidence of large bovines from this period, with the exception of occasional allusions to the presence of large animal representations in peak sanctuaries (Myres 1902-3; Platon 1951). While not all peak sanctuaries (including Juktas) featured as many large figures as Kophinas, it can be said with confidence that handformed MM III-LM I bovine figuration is a pan-Cretan, rather than a more localized, phenomenon. This is currently evidenced by the Juktas material, earlier references to such figures found at Petsophas and Maza, and the occasional figure found in low-lying sites (Tylissos, Galatas and Aghia Triadha). The publication of sites like Traostalos and Vrysinas will boost these numbers considerably. The numerical and geographic patterning of the handformed and mouldmade figures is strikingly different and shows that the former were primarily manufactured to respond to the ritual requirements of peak sanctuaries, as of course do the figurines. Mouldmade figures, scarce at the best of times, are very rare in peak sanctuaries.

The rich LM III C Juktas evidence has shown to what degree the phenomenon of wheelmade bovine figuration has been underrated in comparison with the attention bestowed on the mainland figures. While probably unique in its quantity of material, the Juktas site alone has yielded more figure fragments than the totality of the mainland ones published so far. Equally important in the history of Cretan animal figuration has been the negative evidence from Juktas and Kophinas, namely the virtual absence of figuration in LM II - LM III B, and the dearth of figurines at LM III C Juktas. This *caesura* at Juktas, which continued to function as a cult site, combined with the recently collated evidence from the Mycenaean world (Guggisberg 1996), would seem to indicate that the manufacture of wheelmade animal figures had a precedence in the mainland and delayed becoming popular in Crete until the 12th century.

Should we wish to adhere to the definition of Aegean animal figures' style on the basis of their morphology, we have to amend traditional accounts of their stylistic history suggesting a monilinear development from the few naturalistic, mouldmade bull askoids of LM I Crete to the wheelmade figures which followed them and were produced all over the Aegean. It is possible to identify, on the strength of the Juktas and Kophinas handformed figures, a 'new' MM III (-LM I?) stylistic trend represented by the 'schematic' morphology of these figures. Also, the closer examination of the manufacture and decoration of the Juktas LM III C figures further substantiates other scholars' stylistic differentiation of LM III C wheelmade from their Mainland/Cycladic counterparts. The recognition of four, rather than two, styles and the reconstruction of their temporal and spatial distribution shows that the stylistic history of Aegean large scale animal figuration is far more complex than had been previously thought.

In identifying such broad stylistic trends, it was pointed out that the morphology of animal figures is closely connected to the manufacturing techniques used. We must not lose sight of the fact that formal variability amongst these material objects was the outcome of a range of different manufacturing processes, technological profiles and production modes.

THE CULTURAL - HISTORICAL INTERPRETATION OF THE DATA

Once the empirical groundwork was completed, and the animal figures were placed in a spatial and temporal framework, it was possible to turn to the more speculative interpretation of their function and meaning (chapters V and VI).

The inclusion of the Cretan animal figures within Aegean figurational trends

A first step in this interpretative task was to situate the animal figurines and figures within the broader figurational trends, of which they were a part. In order to accomplish this, we integrated into the history of Aegean figuration the 'new' and amended information on Cretan zoomorphs identified in chapter IV. At times this necessitated a re-assessment of the evidence. Thus, the realization that the LM IIIC Juktas assemblage hardly featured any animal figurines led to a re-analysis of the 12th century Cretan evidence. It was concluded that the calculation of the quantity of LM IIIC human and animal figurines (including those of Mycenaean type) found in Crete has been greatly inflated, while, in contrast, the proportion of large bovines has been under-rated. This led to the realization that 12th century Cretan figuration was more 'selective' than previously thought.

The highlighting of the differences between 'widespread' and 'selective' figuration (described below) and their correlations with the sociopolitical conditions which produced them provided a better understanding of the particular circumstances under which animal representations become significant as symbolic devices in Cretan, and other Aegean, societies.

It has been shown that, in the Aegean, 'widespread' figuration entails the frequent production and use of clay representational figur(in)es made in a plurality of forms and types, and was locally engendered by societies which were, or had been, state societies. Thus animal figuration in MM I - LM I was the product of a socially stratified, state society that was culturally independent. It was also

demonstrated that 'selective' figuration (because it involved the use of a limited number and / or range of figure types) was the hallmark of external cultural influences upon a non-state society. It is under such circumstances that Cretan LM IIIC wheelmade figures, modelled on their Mycenaean counterparts, became popular. Yet the lack of impact of other Mycenaean type figures (animal figurines; female Tau, Phi and Psi figurines) shows that the inhabitants of Crete were selective in their assimilation, and adopted the use of bovine figures because it suited the requirements of local open-air cult. The material and symbolic components of these Cretan assemblages are significantly different from those of the mainland hypaethral ritual, and we have advocated the active local assimilation of the bovine idiom in the belief that it does not run counter to the material evidence. There is no reason to exclude from these activities newly-arrived mainlanders. It has however been suggested that models proposing the passive acceptance by locals of ritual forms and objects introduced by Mycenaean emigrants cannot be sustained by the material evidence, partly because of the amendments made to it in chapter V.

The ritual and social function of Cretan animal figurines and figures within the context of peak sanctuary and later Cretan cult

While it is clear that the fortunes of figuration in the Aegean are closely linked with both the rise and fall of states, even more instructive are the transformations in animal figuration which can be linked with more subtle cultic and sociopolitical changes occurring during the history of the state. These differences were outlined in chapter VI.

We hope to have had some success in showing that the differences between MM I - MM II and MM III-LM I peak sanctuary animal figuration, related to scale, manufacture etc, do not simply constitute material differences but show functional differences in the use of the figures which have both ritual and social implications. For example, the physical differences in scale between MM I-MM II and MM III-LM I animal figuration reflect respectively token and more elaborate gestures of offerings, and the potential of depositional differences like the placing

of the figurine in a fissure (a ritual prescription) or the more prominent display of a larger figure (a socially motivated gesture). It is the physical properties (scale) and the deposition (context) of the animal figurines and figures which show the interpreter that these material artefacts could potentially have social properties (Miller 1987, 109).

We have seen that the votive offering in Crete does not function exclusively as a gift in a reciprocal relationship with the divinity, but that it is also a useful indicator of social strategies which project the individual differently from one period (MM I-MM II) to another (MM III-LM I). Ironically it is through the material aspects of the figures (scale; rhyton function), as much as their symbolic value, that we gained a privileged access to the social structure of society. In making this point, we are but re-iterating the assertion by Mauss that, as with all gifts, the offering up of animal figures is a complex social phenomenon which maintains relationships between individuals and society, and the deity (Mauss 1967, 76-81).

The animal figurines and figures, along with the other representational and symbolic devices used in sanctuaries, function as systems of signification which give information about ritual and society. In MM I - LM I, the more obvious information is the symbolic association of figures representing domesticates with sacrifice; the cultic associations of the snake, bird and agrimi; the domination of the bovine/bull; its emblematic associations with power and status. On a less obvious, and more conjectural level, we have suggested that bovine (and human) figures in peak sanctuaries serve to project the ideal, and reflect the hierarchical structure of society. While as prehistorians we cannot observe social relations, these can be reproduced to us through a system of signification (Hodder 1990, 13-14).

We hope to have shown that the social and symbolic meaning of the animal figures cannot be sought in 'literal' referents to real-life. It is their ability to transcend these realist associations that make them effective carriers of symbolic meaning. Interpretations which situate the meaning of the bovine in either a cultic or an economic sphere are not adequate. We tried to show that although sacrifice

was an important aspect of the meaning of bovine/bull figures, this element on its own cannot explain the symbolic potency of the species¹. Similarly, those searching for a direct correlation between economic preoccupations and the representation of ovicaprids are let down by the material evidence which shows an 'over-representation' of bovines and an 'under-representation' of other domesticates. It is best to recognize that the economic, the social and the ritual are all interwoven in the symbolism of the bovine/bull figures because in this combination lies the importance of the animal they represent. The emphasis on the symbolic significance of animals is confirmed by the dedication of agrimi and bird figurines, which is more frequent than that of figurines representing domesticates other than bovines; and the offering of snake representations which nearly equal in numbers those of sheep.

The symbolism and use of the bovine/bull figures in peak sanctuaries increase our understanding of the structure of early state society by, rather unpredictably, alluding to a thread of continuity between pre-state and state society, and reflecting changes of state society between MM II and MM III. These contributions of material culture are rather unexpected since we are conditioned to think in terms of differences between pre-state and state society. While there is a tendency to stress, correctly, the differences between kin-based and state-based society, the bovine/bull figures are part of an underlying thread of continuity that has not been given adequate attention. We have suggested that the relationships forged in kin-based societies are retained within the social structure of the following MM I-MM II period, and have tried to show that the use of animals in social and economic strategies is one aspect of society which bridges the transition between EM III and MM I. Without this already established role, it is unlikely that bovine/bull figuration would have emerged in MM I and become a hallmark of the earliest, MMI -MM II, phase of early state society. While these figures represent an innovation in the history of figuration and peak sanctuary ritual, to my mind, their creation is based on the already established importance of the animal represented.

¹It was demonstrated that animal sacrifice was not a prerequisite of peak sanctuary ritual.

Aegean Bronze Age patterns related to figuration and bovine/bull symbolism

From our study of Aegean figuration and the regionally specific interpretation of MM I - MM II bovine figurines and figures, it is possible to make a case for the recurrence in the Aegean of particular sociopolitical conditions surrounding the symbolic use of the bovine. These medium-term *conjonctures* relate to recurring social and political re-alignments which however brought about polities of different scales in different regions at different times. Phenomena of figuration in which the bovine plays a dominant role are culturally relevant during the emergence of new polities which coincide with, or immediately follow, social and political watersheds. These phenomena of figuration are evident in the Aegean during the early stages of state society in MM I - MM II Crete and LH IIIA mainland and in the early stages of post-palatial polities on the mainland. The nature and outcome of the 12th century social and political upheavals in Crete are more difficult to unravel and are not, as on the mainland, related to the demise of palatial state society, since that had happened some time before the 12th century in Crete.

Bovine figuration appears to become socially relevant when societies are experiencing newly-emergent sociopolitical structures still in the process of consolidation, or are at least still chronologically close to the more fluid period of social and political re-alignments which preceded. It is during these periods that the bovine symbolism, grounded in a ritual context, functions as a unifying ideological link.

The recurrent (but not permanent) widespread use of the bovine figur(in)e as a representational and symbolic device is linked to enduring structures of Aegean life: the agricultural basis of life in low-lying areas, ownership of land and livestock, the use of oxen in cultivating the land and maintaining the established social order (Braudel 1975, 77). Another constant is the ritual significance in the Aegean of cattle/bulls and their metaphoric associations with death and power. These

constant features form the backbone of Aegean society, irrespective of the scale of its polities.

Yet when its widespread use emerges, bovine figuration also relates to social and cultic changes. We hope to have shown that it is not the basic subsistence strategies related to cattle, nor the basic practices of rituals like sacrifice that change. Rather the change relates to the different interest groups in power and manipulating the rites and symbols (Bradley 1990, 202). Changes also occur in the members of society who use the figur(in)es in ritual activities.

Despite the basic similarities in the conditions which bring about figuration in the Aegean, it is essential to pinpoint the regional differences between the ritual use of the animal figures and the social strategies they represent. Thus, on MM I - LM IB Crete and the LH IIIA-III B mainland, bovine figuration is used in different strategies under analogous sociopolitical ('palatial') conditions. Throughout the Bronze Age, the 'social relevance' (Appadurai 1985, 12-13) of the Cretan figur(in)es is embedded in their value as gifts to the divinity (-ies) with a reciprocal function, in a cultic environment. In the mainland however, the bovine figurines are retained: they are closely associated with the physical environment of the members of society, in the household when alive, in the tomb when deceased. This means that the symbolic and social function of the mainland bovine figurines is entirely different from that of their Cretan counterparts. Furthermore, the comparison between assemblages (and contexts) featuring bovine figures in the 12th century mainland and Crete demonstrates that there are far greater differences than similarities in the ritual, even though bovine figures now function in both regions as votive substitutes in open-air cultic contexts.

We would like to end by underlining our 'active' attitude to material culture. The discussion of the cultural implications of Aegean figurational trends in chapter V, and the social dimension of the interpretation of chapter VI, are informed by an approach which views animal figur(in)es not only as classes of artefacts but as

material objects with a 'social life', situated in the regional culture that produced and used them.

APPENDIX I

THE CLASSIFICATION OF THE JUKTAS FIGURINES' FABRICS

This is based on observation with the naked eye. The initial criterion used for the identification of fabric variation is the absence or presence of aplastic inclusions. Further sub-division is made on the basis of differences in the inclusions and firing conditions. Since decoration and manufacturing technique do not vary much, these two aspects do not contribute to distinguishing fabrics. Therefore the classification of fabrics relies on a combination of aspects related to the components of the paste and firing conditions.

These principles are the same as those used for the classification of pottery fabrics; however, it is important to recognise that the scale of these figurines can affect the nature and range of the paste components. The distinction between a pure fabric and a fabric containing inclusions is clear in these figures. Yet the terms 'coarse' or 'semi-coarse' applied successfully to pottery fabrics, or many larger figures, cannot be applied to most of the fabrics of figurines whose inclusions are usually tiny to small in scale (more frequently up to 1mm, or a little larger). The term 'rough textured' has been used instead. It is hoped that this reflects two aspects of the fabrics so named. Firstly, the common (but not inevitable) presence of tiny or small inclusions in the paste; secondly, the rough feel of this paste which (even when it does not contain inclusions) contrasts with the smooth feel of the fine fabric's paste. The use of the term 'rough textured' is also a way of differentiating such fabrics from those of the few figurines which are genuinely semi-coarse because of the scale of their inclusions.

Four fabrics have been identified for the figurines. They are presented in order of frequency.

FINE PAINTED FABRIC

Pure; fine textured; hard fired; colour of biscuit and paint on external surface varies according to firing conditions.

Biscuit: This ranges in colour from light buff to light red. It is frequently not uniformly coloured. The following gradations are evident:

-exterior buff or light brown, interior pink (7.5YR 8/4)

-exterior pink (7.5YR 8/4), interior soft orange buff (7.5YR 8/6 reddish yellow)

-exterior soft orange buff (7.5YR 8/6 reddish yellow), interior darker orange (5YR 7/6 reddish yellow); this darker shade is rarely the colour of the external surface

-occasionally, the core can darken to light red (2.5YR 6/6)

-in a few cases, the core is light grey core (7.5YR 7/0). Even more rarely, the entire figure can be thus coloured

Inclusions: Tiny or small white and dark (grey and reddish brown/brown) inclusions occur rarely.

Slip ?: The frequent lighter shading of the biscuit near or at the surface gives the impression that the surface may have been slipped with a wash comprising a weak solution of the clay. However, it is difficult to distinguish with certainty a slip having the same colour as the paste from an unslipped, smoothed surface.

Paint: This is fugitive or worn. It ranges from light red to black, and varies in wear due to burial.

-black (7.5YR 2/0) which occurs (or survives?) rarely

-reddish brown or brown (10YR 3/1 very dark brown or 5YR 3/1 very dark grey)
which are attested less rarely

-light red or red (2.5YR 6/8 or 5/6); the most frequent colours

The frequency of reds (and particularly the lighter ones) is not necessarily a reflection of their original frequency. These are often fugitive remnants of either stronger shades or different colours which have flaked off or eroded. This is shown by the survival of patches of reddish brown, brown or red paint on some figurines alongside the more dull, discoloured red decoration.

Firing conditions affected the final colour of the paint. Although the paint is often fugitive, the association between the shading of the biscuit and the colour of the paint is attested. Black paint is found on a buff or pink biscuit, and red colours on a pink or orange biscuit. It seems certain that the frequency of brown or darker red colours with a pink or orange biscuit was originally greater.

As it survives, the decoration is monochrome or dark-on-light. It may be that the evidence of light-on-dark decoration has not survived.

Other surface treatment: This hard fabric lends itself to surface incision and punctation, of which there is occasional use.

PAINTED, ROUGH TEXTURED ORANGE FABRIC

Rough textured biscuit; fine grained feel; medium to hard fired; porous. Biscuit yellowish or, more frequently, orange; inclusions common, most frequently tiny brown and white, also grey; colour of biscuit and paint on external surface varies according to firing conditions. Its worn state is probably due to its firing and porous consistency.

Biscuit: this ranges in colour from yellowish buff to orange. The orange shades are similar to those of category I. The biscuit is often not uniformly coloured. As the gradations are within the orange range, they are less striking than those of the fine painted fabric which have a greater colour range. The following gradations are evident:

-exterior yellowish buff (10YR 8/7 yellow), interior soft orange buff (7.5YR 7.5/6 reddish yellow); rare

-exterior soft orange buff (7.5YR 7.5/6 reddish yellow),
interior dark orange buff (7.5YR 6.5/6 or 7.5 YR 7/7 reddish yellow)

-exterior orange (5YR 6.5/6 reddish yellow), interior orange (7.5YR 7.5/6 reddish yellow)

Inclusions: Paste contains few to frequent inclusions, up to no more than 5%; mostly tiny and small (up to 1mm or a little larger). They are brown, white/sub-white and grey, of varying proportions. These sub-rounded to rounded grains are reminiscent of sand materials.

Slip: As with the fine painted fabric, the shading of the biscuit near or at the surface is often lighter. It is not possible to verify the presence or absence of a slip because of the worn state of the external surface.

Paint: This survives rarely, most likely because the outer surface of the figurines is worn. Yet, painted decoration may have been the norm, as with the fine painted fabric. The thickly applied paint survives infrequently in tiny areas; however, the original colour of the paint is well preserved. The following shades are found: on one figurine orange red, on another red (2.5YR5/6), on some others reddish brown. The absence of fugitive paint (frequent in the fine painted fabric) is indicative of poor adherence. This may somehow be associated with the clay body and the firing as well as the post-depositional burial of the figurines.

In view of the flaking of the paint, the nature of the figurines' surface decoration cannot be surmised.

PAINTED, ROUGH TEXTURED BUFF FABRIC

Rough textured biscuit; fine grained feel; underfired; porous; friable; light in weight; leaves dust on the hand when touched; soft workability: the figurines are prone to deformation under the pressure of their own weight. Biscuit buff, with or without inclusions. Its worn state is probably due to its firing and porous consistency.

Biscuit:

Exterior: 10YR 8/2 or 10YR 8/3 (white or very pale brown);

Interior: 10YR 8/3 (very pale brown); or buff

Inclusions: paste either contains no inclusions visible to the naked eye; or tiny to small inclusions (up to 1mm or a little larger) which vary in density (few to no more than 5%). They are brown, sub-white and grey, of varying proportions. These sub-rounded to rounded grains are reminiscent of sand materials.

Paint: The surfaces are too worn to ascertain its presence; however, the evidence from the other rough textured fabrics would suggest that this fabric was also painted.

PAINTED, ROUGH TEXTURED ORANGE RED FABRIC

Rough textured biscuit; fine grained feel; hard fired; paste contains tiny or small reflecting white inclusions (possibly mica); it is good for modelling

Biscuit: Orange red (5YR 6/8 reddish yellow) in both interior and exterior surface; in some cases, this can have a deeper shade (10R 5/8 red), both inside and outside.

Inclusions: Tiny and/or small inclusions: reflecting white, possibly golden mica, occasionally with dark (brown?) inclusions. Their size is relative to the scale of the figurine. In the smallest ones, the inclusions are mostly tiny or small (up to 2mm); in the larger figurines, a little larger.

Slip: It is unknown whether this fabric was covered with a wash. In one example, the clear external surface contrasts with the interior which contains many inclusions [could this indicate the presence of a slip made of a clay wash?]

Paint: This has flaked off in all but one instant. An area of dark, thickly painted, reddish-brown paint survives on one figurine, but other figurines of this fabric most likely existed.

Proportionate representation of fabrics among figurines and fragments whose fabrics have been recorded.

Fine Painted Fabric:	1162
Painted Rough Textured Orange Fabric:	113
Painted Rough Textured Buff Fabric:	73
Other fine fabrics:	82
Painted Rough Textured Orange Red Fabric:	60
TOTAL:	1430

COMMENTS ON FABRIC CLASSIFICATION OF THE FIGURINES

The examination of the figurines' fabrics gives rise to a series of questions about "the nature of the raw materials and the effects of ceramic technology" (Whitbread 1989, 129). How can we account for the fabric variation suggested in the classification? What makes the fabrics I have identified different? At what stage of the manufacturing process do they become the product of different choices and

treatments? Below follows a series of questions which emerge from the classification; answers to these might be provided with provenance analyses.

First we must assess the primary division of the material into fine and rough textured fabrics. Do these two large categories have a common clay source, or do they represent different clay bodies? This question is asked because the colour values of the fine painted fabric and the rough textured orange fabric are quite similar. Also, while the fabric of a small minority of figurines is reminiscent of both fine and rough textured fabrics, it cannot be assigned exclusively to one of these.

If the fine and coarse fabrics have a common clay source, the differences between them could be due to the settling out of the aplastic, sand-like inclusions already present in the clay at its source. Thus, the rough textured fabrics would represent the same clay matrix as the fine fabric, but it would not have undergone the levigation resulting in the production of the latter. Alternatively, the rough textured fabrics (belonging to the same clay source as the fine fabric) would be tempered with added aplastic inclusions reminiscent of sand particles, not present in the original clay matrix.

If, on the other hand, the fine and rough textured fabrics have different clay bodies, this would be due either to the use of different clay sources at the outset, or to the subsequent actions of potters combining or altering clays, prior to the inclusion of temper. It has been noted that the clay matrix of the rough textured fabrics looks and feels different from that of the fine fabric. This seems so even when it contains no inclusions, as can be the case with the rough textured buff fabric. It would be tempting to suggest that the fine and rough textured fabrics have different clay matrices (and clay sources), but in the absence of analyses, this remains conjectural. This hypothesis would imply that variations in the clay compositions rather than firing conditions or inclusions result in the differences between the fine and rough textured fabrics.

Another question that needs to be addressed is the number of rough textured fabrics which contrasts with the one, large, fine fabric category. The criteria used

in distinguishing the rough textured fabrics of figurines are not based exclusively on differences in raw materials (clays and inclusions), but also reflect the actions of potters during other phases of production. For example, the differences between the rough textured buff and orange fabrics could at least be partly due to differential treatment in firing. Some might argue that these fabrics should be merged, since their colour differences seem (to the naked eye at least) related to firing conditions rather than differences in their clay sources or inclusions [it is not impossible that both colour variations would be found together in the same pottery vessel]. However, it is by virtue of their small scale that, although closely related in paste, two distinct groupings of figurines corresponding to different firing conditions are identified. The figurines do not combine the colouring of the two categories. In fact, as already described, the differences extend beyond colour to texture and workability.

The figurines in fine painted fabric were divided during their cataloguing on similar grounds. However, in terms of colouring, the sub-division is not so clear-cut, nor are there other accompanying variations in the fabric. Therefore, it was felt that a sub-division into further fabrics would not be convincing. However, the colour variations are noted in the fabric description above.

From the questions produced by the fabric classification, it can be seen that the material shows great potential in the examination of the interactions between potters and raw materials. This will, however, remain untapped until scientific analyses are carried out.

The validity of the fabric classification suggested here will be tested in the future with the study of the figurines' thin sections. It is hoped that petrographic analysis of the aplastic inclusions will be accompanied by the examination of the soil micromorphology. This combined approach could answer several questions which arise from the macroscopic classification of the fabrics. These are the ceramic processes and choices involved in the manufacture of the figurines (Whitbread 1989, 129, 137; Day 1989, 140-141), and the provenance of the raw materials. Hopefully the elucidation of these matters should lay the ground for the

construction of models of production and distribution which may account for the material's variation in fabric and typology (Day 1989, 146).

APPENDIX II

THE SELECTIVE CATALOGUE OF ANIMAL FIGURE PORTIONS FROM THE JUKTAS PEAK SANCTUARY

SECTION I

J1- J165: Figure portions which can be dated with certainty on a contextual or stylistic basis, or a combination of both.

MMIII/LMI ANIMAL FIGURES

(J1-J8) BODY FRAGMENTS FROM HOLLOW HANDMADE (BOVINE) FIGURES.

It is unknown whether **J1-J7** may have been rhyta since they do not preserve the area of the back or poll that could have featured the opening for the pouring in of liquids. **J8**, which does preserve this diagnostic area of the body, did not function as a rhyton.

(J1,J2a,J2b) THREE FRAGMENTS FROM AT LEAST TWO SIMILAR SMALL FIGURES

While the fabrics of these body fragments differ, they share scale and manufacturing technique, and feature similar legs. These are short and low-set on the body; their sections range from round to flattened.

Fig. 28

J1. A fragment of the underside with the back left leg; small (bovine) figure.

L 7.2; H 4.5

Fabric: Contains small and mostly sub-white inclusions.

Biscuit: Light brown.

Paint: No evidence.

Manufacture: Hollow, handmade body, solid legs; preserves part of an airing hole at rump. The leg was separately modelled and joined to the body with additional clay.

Treatment/decoration: Slightly curved leg, round section; chipped at tip where it perhaps ended in small foot.

Context 1: MMIII - LMI.

Date: Same.

Figs. 29-30

J2a-b. Two body fragments, each preserving a leg, from the same, or two similarly sized, small (bovine) figures.

J2a.

L 5.1; W 4; H 5.4

J2b.

L 4.1; W 3.5; H 4.2

Preservation: The leg of **J2b** is chipped at its end.

Fabric: Pure (occasional small grey and brown inclusions).

Biscuit: Internal 5YR 7/6 (reddish yellow) to 5YR 8/1 (white); internal surface 5YR 8/1 (white).

Slip: 10YR 8/3.5 (very pale brown).

Paint: 2.5Y N3/0 (very dark grey); worn.

Manufacture: Hollow, handmade body(ies); solid legs; the body walls are at right angle to each other. The inner surface of **2a** features the horizontal movement of the potter's hands along the body. The striations on its outer surface indicate that a tool was used in modelling.

Treatment/decoration: Short legs taper slightly at the end, oval section; solid painted.

Context 1: MMIII - LMI.

Date: Same.

Fig. 31

J3. Upper body portion, including rump and tail; from small (bovine) figure; schematic.

L 9.7; W 4.4

Preservation: Underside and legs broken off.

Fabric: Clear.

Biscuit: 'Sandwich' where thicker; internal 7.5YR 7/6 (reddish yellow) to 10YR 8/3 (very pale brown); core 10YR 7/2 (light grey).

Slip: ?

Paint: 2.5YR 5/6 (red), worn.

Manufacture: Hollow, handmade body; externally oval section; internally the walls meet in p shape. Internal surface irregular. Large round airing hole at rump. The plastic tail a round strip of clay which curls towards the right haunch; solid painted.

Context 1: MMIII - LMI.

Date: Same.

Fig. 32

J4. The front portion of body; small (bovine) figure.

H 4.8; L 5.9; W 5.1

Preservation: Stump of the left leg and half of the right leg preserved.

Fabric: Rough textured, sandy feel with small grey and sub-white inclusions.

Biscuit: Internal from 5YR 7/6 (reddish yellow) to 10YR 6/1 (light grey/grey); internal surface 10YR 8/2 (white).

Slip: Probably self-slipped.

Manufacture: Hollow, handmade body; solid legs. The legs separately manufactured and attached to body with additional clay.

Treatment/decoration: Sturdy body; the upper, pinched part of the plastic dewlap survives between the legs.

Context 1: MMIII - LMI.

Date: Same.

Fig. 33

J5. Rear body fragment with the end of tail (?); medium (bovine) figure.

H5; W4

Fabric: Values of biscuit, slip and paint identical to **J2a** and **J2b** above; however, unlike these, which contain sparse inclusions, it contains larger, medium grey and brown inclusions. Paint worn.

Manufacture: Hollow, handmade; closed at rear; on inner surface two finger marks which occurred during application of tail.

Treatment/decoration: Plastic tail a flattened strip of clay; dark on light decoration: tail solid painted; part of solid painted disk on haunch may represent dappling of skin.

Context 1: MM III - LMI.

Date: Same.

Fig. 34

J6. Front body portion with haunches; medium bovine figure.

H 9; W 8.9

Fabric: Contains brown and mostly sub-white inclusions.

Biscuit: Internal and internal surface 5YR 7/8 (reddish yellow);
external surface 7.5YR 8/5 (pink to reddish yellow).

Slip: ?

Paint: brown (7.5YR 4/2) to brownish-black (10YR 3/1; very dark grey); worn; in areas where it survives better, thickly applied and glossy.

Manufacture: Hollow, probably handmade body; solid legs. Open in front in area of neck juncture. The walls are at an angle internally. Fingerprints and the evidence of the movement of the fingers along the inner surface.

Treatment/decoration: Sturdy figure; solid painted.

Context 1: MMIII - LMI.

Date: Same.

Fig. 35

J7. Body sherd with angular walls; large (bovine) figure.

L 11; W 5.7

Preservation: Clay and paint dull and discoloured.

Biscuit: 'Sandwich' where thicker; internal and external surface: 7.5YR 8/4 (pink);
core 2.5YR 6/6 (light red).

Slip: 10YR 8/3 (very pale brown).

Paint: Was probably dark brown to black; worn, survives 10YR 3/2 (very dark grey to brown).

Manufacture: Hollow, possibly handmade; fingerprints on the inner surface.

Context 1: MMIII - LMI.

Date: Same.

Pl. 1 top view

J8. Portion of back from large (bovine) figure.

L 12.8

Preservation: Probably corresponds with the area of the withers.

Fabric: Small and medium inclusions; mainly grey internally and in internal surface, brown on external surface.

Biscuit: 'Sandwich', despite the thin walls; interior 5YR 7/6 (reddish yellow); core 7.5YR N8/0 (white).

Slip: 10YR 8/4 (very pale brown).

Manufacture: Uncertain; hollow; thin walls of uniform thickness, at an angle to each other; no wheelmarks.

Treatment/decoration: The area of the withers is represented by the angularity of the walls high up on the back, and the addition of clay on the external surface.

Context 1: MMIII - LMI.

Date: Same.

(J9-J11) HEADS POSSIBLY FROM BOVINE ASKOID RHYTA.

In the strict sense, an animal figure is a rhyton when it features two openings. In MMIII/LMI Aegean animal rhyta, the opening used for the introduction of liquids is on the figure's back, close to the poll. The other, for the draining of liquids, usually coincides with the animal's mouth (Koehl 1981, 179). The heads of animal figures in this section feature a mouth aperture which most likely communicated with the interior of the figure's body. Therefore these heads could potentially be termed

'animal askoid rhyta', which serve to channel or conduct the flow of a liquid, rather than 'animal askoi', which only feature an opening on the back and are more suited to the containment of liquid (Koehl, *ibid.*). Of the three heads presented here, **J11** is the one which can be identified with most certainty as belonging to a rhyton.

Pl.2 side view

J9. Head from medium (bovine) rhyton?

L 7; W 3.2; H 2.4

Preservation: The lower and upper parts of the head and the tip of the muzzle are broken off.

Fabric: Pure, fine textured; hard baked, burnished smooth.

Biscuit: 7.5YR 8/4 (pink) to 2.5YR 6/4 (light reddish brown); uneven firing.

Paint: Light-on-dark decoration. The dark ground 5YR 3/1 (very dark grey), with a hard lustrous surface.

Manufacture: Surviving part of head cavity hollow, of uncertain manufacture. Pinched at end to form solid muzzle.

Treatment/decoration: The surviving head is narrow and slightly curved. Small round eyes in relief. A narrow hole which renders the mouth communicates with the head cavity, indicating that this figure may have been a rhyton. Light-on-dark decoration. White circles around the eyes and possibly two rings around the muzzle originally. The outer surface of the head, the inner surface of the mouth hole and the head cavity are solid painted in black.

Interpretation: The dimension of this piece, the location of its mouth aperture and the paint on the interior, are reminiscent of similar features on the MMIIIB bull head rhyta from Kommos (Betancourt 1990 no. 1358, p.163, fig.54, pl.71) and Phaistos (Levi 1976, pls 162c and 220i). However, our piece cannot be identified as an animal head rhyton because the eyes are smaller and closer to the muzzle. It is

more likely part of a (bovine) rhyton featuring the entire animal. The presence of paint on the inner surface does not necessarily indicate that this was visible during its use, as with the bull head rhyta. This demonstrates that it was solid painted by being dipped into paint.

Context 2: MM I - LM I

Date: MMII - III on the basis of its decoration. The survival of a small fragment does not facilitate the dating. However, the simple bichrome decoration which survives may point to a MMIII rather than a MMII date.

Pl. 3 top view

J10. Left portion of bovine head; medium bovine figure (rhyton?).

L 6.9; W 3.1; H 3.8

Preservation: Muzzle and horn are broken; part of ear preserved.

Fabric: tiny and small inclusions.

Biscuit: Internal and internal surface between 5YR 6/8 (reddish yellow) to 2.5YR 6/8 (light red); external surface 7.5YR 8/4 (pink); uneven firing.

Paint: Black.

Manufacture: Hollow, handmade head which could potentially have communicated with the body. It is not known whether the muzzle was open in the front. Its preserved state does not permit its certain identification as a rhyton.

Treatment/decoration: A small part of the plastic ear survives at the base of the left horn; the eye is rendered in low relief. The muzzle is solid painted; a band of white differentiates it from the non-painted head. This band is beside the eye.

Context 7: Mixed MM I - LM I with some LM IIIC.

Date: MMIII, on the basis of its decoration.

Pl.4 front view

J11. The left half of head; large bovine rhyton.

L 6.3; H 6.4

Preservation: Half of the horn is broken off.

Fabric: Many tiny inclusions; it is made in the painted rough textured orange red represented by small and medium figures.

Biscuit: 'sandwich'; internal and external surface 5YR 7/7 (reddish yellow); core 10YR 8/2.5 (white to very pale brown).

Manufacture: Hollow, handmade head and muzzle, which form a unit. The short muzzle ends in an open round mouth with finished edge. This very likely indicates that the head ends here and that the mouth served as a pouring aperture communicating with the hollow body.

Treatment/decoration: The ear a vertical strip of clay beneath the horn.

No evidence of painted decoration; this could have easily frayed in view of the nature of the fabric.

Context 1: MMIII - LMI.

Date: Same, on the basis of context and well-dated parallels, Kophinas.

(J12-J15) HEADS FROM BOVINE FIGURES.

The figures to which these heads belonged could not have functioned as bovine askoid rhyta either because they do not feature a mouth aperture, or because this does not communicate with the interior of the body.

Pls. 5, and 6 left; front views

J12. Head with mouth aperture; medium bovine figure.

H (int.) 6.4; L (int.) 5.1; W (excl. horn stumps): 4.5

Preservation: The horns are broken off.

Fabric: it is made in the painted rough textured orange fabric of figurines.

Parallel: Fabric and biscuit like J13, but a little lighter in colour.

Manufacture: Solid, handmade head and horns. Its broken condition permits the reconstruction of its manufacture. First, a ball of clay was formed. Then the head and its features were fashioned around it with additional clay. A large aperture corresponding with the mouth was opened. A 'ball-and-socket' type join would have been suitable for the attachment of the head to the body, the head functioning as the 'ball', an aperture in the figure's neck as a socket. The mouth hole is blind and did not communicate with the body. Thus this figure, while probably emulating a rhyton, could not have functioned as one (cf Pl. 6 middle).

Treatment/decoration: The ears strips of clay, applied upright. The eyes were either not indicated, or have not survived. No evidence of painted decoration, very likely due to the nature of the fabric.

Context 1: MMIII - LMI.

Date: Same.

Pl.6 right

J13. Head of medium bovine figure.

H 4.3; L 5.6; W (horn area) 5.9; D (muzzle) 2.8

Preservation: The horns are broken off.

Fabric: Painted rough textured orange fabric of figurines; 'sandwich'; darker shade in core.

Parallel: Fabric and biscuit colour like J12, but a little darker in colour.

Manufacture: Solid, handmade body and horns.

Treatment/decoration: The head tapers to a cylindrical muzzle. The eyes in relief (the right one an applied pellet; the left one pinched?). The ears strips of clay, applied upright. On the end of the muzzle, the nostrils are shallow holes, the mouth a shallow horizontal incision. No evidence of paint, very likely due to the nature of the fabric.

Context 1: MMIII - LMI.

Date: Same.

Pl.7

J14. Head of medium bovine figure.

H 4.1; L (int) 5.5; W (horns) 7.5

Preservation: Upper half of horns and left ear broken off.

Fabric: Tiny inclusions.

Have not recorded observations on fabric and clay.

Manufacture: Solid, handmade.

Treatment/decoration: The eyes applied discs with central hole. Holes for nostrils, a shallow horizontal incision for mouth; the ears vertically applied strips of clay. Solid painted with brown paint.

Context 1: MMIII - LMI.

Date: Same.

Pls. 8 (three-quarter view), and 9 right (underside)

J15. Head of medium animal figure (sheep/ram/bovine?).

L (int.) 6.2; H 4.5; W 4.2

Preservation: No surviving evidence of the presence of horns.

Fabric: Pure.

Biscuit: 'sandwich'; 7.5YR 8/6 (reddish yellow) to 5YR 7/1 (light grey); external surface 7.5 YR 7/6 (reddish yellow).

Slip: ?

Paint: Reddish brown to brownish black.

Manufacture: The head was fashioned with additional clay around the hollow handmade interior. It is unknown whether the hollow interior was part of a larger core, or manufactured separately from the body.

Treatment/decoration: Slender, triangular shaped head; narrow curved muzzle. Sides of head and the brow flat surfaced. A ridge between the brow and the face. On the muzzle, three horizontal incisions: one renders the mouth, a pair of shorter ones the nostrils (non-realistic representation). Two parallel incisions circle the edge of the muzzle. The eyes are not rendered, unless the round broken area on the left side of the brow is the remnant of an eye (it is too shallow to indicate the attachment of a horn).

Interpretation: The shape of the head and the muzzle are reminiscent of a ram or sheep. However, it is not known whether the head had horns and, if so, what they looked like. The schematic shape of the head does not facilitate the identification of the species.

Context 1: MMIII - LMI.

Date: Same.

(J16-J37) LEGS FROM (BOVINE) FIGURES

TYPES 1.a-c: LEGS

(J16-J23) LEGS WITH CLOVEN HOOVES; from medium and large (bovine) figures.

TYPE 1.a

Pl.10 left

J16. Leg with cloven hoof; from mould-made, medium bull rhyton.

This differs from the legs of the other two sub-categories in that it is by far the most realistic and carefully made example.

H 7.3

Preservation: External surface speckled with sub-white incrustation.

Fabric: Pure.

Biscuit: 7.5YR 8/6 (reddish yellow).

Slip: Light brown.

Paint: Red to dark brown.

Manufacture: Solid, smooth outer surface; handmade or mould-made?

Treatment/decoration: Round section. The cloven foot protrudes at a sharp angle from the ankle joint. The fetlock plastic, the knee joint in relief. Incised hoof. Paint on and above the hoof (solid painted?).

Parallels: Its scale and size are closely paralleled with the front legs of the mould-made bull rhyta from Crete (Pseira, Pachyammos, Vasiliki, Knossos), Thera (Akrotiri) and possibly Kythera (peak sanctuary of Agios Georgios). It probably belonged to a similar figure. The closest parallels are the front legs of the LMIB rhyton from Pseira without the net pattern.

Seager 1910 , 23, figs.7 and 31, pl.9 (Pseira);
Higgins 1984 no. 23, 200 and 202, pl.194.5 (Knossos, Minoan Unexplored Mansion; and ft. 26 for general references);
PAE 1969, pl.232 (Thera);
Sakellarakis 1996, pl.12, bottom row, left (Kythera, Agios Georgios).

Context 1: MMIII - LMI.

Date: LMI, based on context and parallels.

TYPE 1.b LEGS

(J17-J19) Similarly sized, more schematic legs than the type 1a example; from medium (bovine) figures. It remains unknown whether these legs belonged to rhyta.

Parallel: Sakellarakis 1996, pl.12. bottom row, right.

Pl.11 left

J17. The lower part of a leg with cloven hoof, partly broken; medium (bovine) figure.

L (hoof) 1.7

Fabric: Pure.

Biscuit: 5YR 7/6 (reddish yellow).

Slip: Light brown.

Paint: No evidence.

Manufacture: Solid, handmade.

Treatment/decoration: Incised hoof; fetlock plastic.

Context 3: MM IIIA *terminus ante quem*.

Date: Same, based on context and parallels.

Fig. 36

J18. Leg with cloven hoof; medium (bovine) figure.

H 5.9

Fabric: Pure.

Biscuit: Interior light brown to 7.5YR 7/0 (light grey); uneven firing.

Slip: Light brown.

Paint: Red to brown; preserved patchily.

Treatment/decoration: Incised hoof; plastic fetlock; solid painted strip down the front part of the leg and hoof.

Context 1: MMIII - LMI.

Date: Same.

Pl. 12 2nd left

J19. Leg, broken on top, with cloven hoof; medium (bovine) figure.

H 5.1

Fabric: Pure.

Biscuit: 7.5YR 8/6 (reddish yellow) to 7.5YR 7/0 (light grey); uneven firing.

Slip: Light brown.

Paint: No evidence.

Manufacture: Solid, handmade.

Treatment/decoration: Incised hoof; plastic fetlock.

Context 1: MMIII - LMI.

Date: Same.

TYPE 1.c LEGS

(J20-J23) These legs with cloven hooves differ from those of sub-categories 1.a and 1.b in that they are more schematic and from larger animal figures. They are ordered below in increasing scale.

Parallels: Sakellarakis 1996, 12b middle row left, and bottom row middle.

Fig. 37

J20. Lower part of leg with hoof; large (bovine) figure.

H 4.2

Fabric: Sandy feel, with small and slightly larger inclusions (brown, grey and white).

Biscuit: Light brown.

Context 1: MMIII - LMI.

Date: Same.

Pl.13 1st right

J21. Lower part of leg with hoof; large (bovine) figure.

H 4.7; D 2.8; L (hoof) 3.4

Fabric: Few brown and sub-white inclusions.

Biscuit: Light brown.

Slip: No evidence.

Paint: Black; thickly applied.

Preservation: Worn with superficial breakages. The external surface is speckled with white incrustation.

Treatment/decoration: Round section; the incision which renders the hoof cloven continues under its flat underside; solid painted.

Context 5: MM IB - MM IIB.

Date: Same.

Fig. 38

J22. The hoof with lower part of the leg; large (bovine) figure.

H 3.3; Dim (hoof): 3.1x2.4

Fabric: Pure.

Biscuit: 5YR 7/6 (reddish yellow).

Treatment/decoration: Oval section; the incision indicating the cloven hoof continues on the underside of the hoof.

Context 1: MMIII - LMI.

Date: Same.

Pl. 14 top right

J23. Cloven hoof from a particularly large (bovine) figure.

H 4.5; W 3.5; L 3.8

Fabric: Rough textured with many tiny inclusions, mostly grey also brown and sub-white.

Biscuit: 7.5YR 7/4 (pink) to 7.5YR 7/0 (light grey); uneven firing.

Slip and paint: No evidence.

Manufacture: Solid, handmade.

Treatment/decoration: Oval flat base; a circular horizontal incision separates the hoof from the leg; it is cloven with a vertical incision.

Context 1: MM III - LM I.

Date: Same.

(J24-J26) Three unique legs with cloven hooves.

Pl.15 2nd left

J24. Sturdy leg; from medium (bovine) figure.

H 5.7; D (leg) 3.9; W (above) 4.4

Preservation: Top part of leg and area of right hand side of the fetlock are broken off.

Fabric: Many tiny and small grey and brown inclusions; those on the outer surface are mainly grey.

Biscuit: Internal and internal surface light brown to 10YR 8/7 (yellowish buff).

Slip: 10YR 8/7 (yellowish buff).

Paint: Black, flaked off.

Manufacture: Hollow; manufacture uncertain (wheelmade or handmade?).

Treatment/decoration: On back of leg, near broken area of fetlock, the end of a flat strip of clay (tip of tail?). Incision forms the cloven hoof and demarcates it from the rest of the leg. The hoof (and maybe the entire leg) solid painted.

Context 1: MMIII - LMI.

Date: Same.

Pl.16 left

J25. Sturdy leg; from medium (bovine) figure.

H 6.7;

Fabric: Rough textured, sandy (?); no inclusions.

Biscuit: Internal 5YR 7/6 (reddish yellow) to 7.5YR 7/0 (light grey).

Paint: Orange red.

Manufacture: Hollow, handmade.

Treatment/decoration: Slanted leg; oval section; the end of the hoof is broken off. Evidence of one (or maybe two?) incisions at the broken end of the hoof. Two plastic pellets behind at different heights, the one flattened. These probably represent the fetlock.

Context 1: MMIII - LMI.

Date: Same.

Pl. 17 2nd right

J26. The bottom part of schematic leg with the hoof; from medium (bovine) figure.

H 4.4; D 2.3

Fabric: Contains gray and sub-white inclusions.

Biscuit: Light brown.

Manufacture: Solid, handmade.

Treatment/decoration: The hoof is divided into two oval parts, pinched with the fingers in the back, and by a tool in the front.

Context 1: MMIII - LMI.

Date: Same.

TYPE 2 LEGS

(J27-J28) STRAIGHT LEGS ENDING IN A FOOT; OVAL SECTION; from medium (bovine) figures.

Pl. 18 2nd right

27.

H 6.1; W (above) 2.9; W (foot) 1.8

Fabric: Brown and white inclusions on outer surface.

Biscuit: 10YR 8/3 (very pale brown) to 5YR 6.5/6 (reddish yellow)

Slip: Thick, 10YR 8/3 (very pale brown).

Paint: No evidence.

Manufacture: Solid.

Context 1: MMIII - LMI.

Date: Same.

Fig. 39

J28.

H 6.7; W (above) 3.7; W below 1.4

Fabric: Sandy feel; tiny brown and sub-white inclusions.

Biscuit: Internal 5YR 6.5/6 (reddish yellow).

Slip: 10YR 8/3 (very pale brown).

Paint: Very worn.

Manufacture: Solid.

Context 1: MM III - LM I.

Date: Same.

TYPE 3 LEGS

**(J29-J32) SLIGHTLY CURVED LEGS ENDING IN A FOOT; ROUND SECTION;
from medium (bovine) figures.**

Pl.19 middle

J29.

H 7.5; W (with body portion) 3.7; W (leg, above) 2.2

Preservation: Slight breakage at foot.

Fabric: Sandy feel.

Biscuit: Interior light brown to 7.5YR 7/0 (grey).

Slip: 10YR 8/2 (white).

Paint: No evidence.

Manufacture: Leg solid handmade; body hollow (possibly wheelmade?).

Context 1: MMIII - LMI.

Date: Same.

Pl.20 1st left

J30.

H 6.6; D (above) 3,3; D (below) 1.9

Fabric: Tiny grey and larger sub-white inclusions.

Biscuit: Light brown to 7.5YR 7/0 (light grey).

Manufacture: Solid, handmade.

Context 1: MMIII - LMI.

Date: Same.

Pl.18 2nd left

J31.

H 5.4; W (above) 3.1; D 1.6-2.3

The hoof is split.

Preservation: Breakage at foot.

Fabric: (Painted?) rough textured orange fabric.

Manufacture: Solid, handmade.

Context 2: MM I - LM I.

Date: Same.

Pl.21 2nd right

J32.

H 8.3; W 2-3.8

Preservation: Foot broken off.

Fabric: (Painted?) rough textured buff?; small grey and sub-white inclusions.

Treatment: Oval section.

Context 2: MMI -LM I.

Date: Same.

TYPE 4 LEGS

(33-36) LEGS WITH PLASTIC KNEE JOINT IN FRONT OF MID - LEG; SMALL FOOT; ROUND OR OVAL SECTION; from large (bovine) figures.

In the cases of j35 and j36, the foot is split.

Fig. 40

J33.

H 7.5

Fabric: Brown and grey inclusions.

Biscuit: 7.5YR 8/6 (reddish yellow).

Manufacture: Solid, handmade.

Context 1: MM III- LM I.

Date: Same.

Fig. 41

J34.

H 6.5

Fabric: Pure.

Biscuit: 7.5YR 8/6 (reddish yellow).

Manufacture: Solid, handmade.

Treatment: A pellet at the back of the foot (forlock?)

Context 1: MM III - LM I.

Date: Same.

Pl.22 right

J35.

H 6.3

Preservation: Worn; slight breakage at hoof.

Fabric: dense inclusions; tiny but also medium; grey, brown and few sub-white.

Biscuit: Uneven firing; 7.5YR 8/6 (reddish yellow) to grey.

Slip:?

Paint: Brown; solid painted.

Manufacture: Solid, handmade.

Context 5: MM IB - MM IIB

Date: MMI-II if it has not slipped down from overlying stone fill.

Pl.23 middle

J36.

H (int) 5.9; W (above) 3.3; D (above) 2.3 (below) 1.8

Fabric: (Painted?) rough textured orange; grey and sub-white inclusions.

Manufacture: Solid, handmade.

Context 3: MMIIIA *terminus ante quem*.

Date: Same.

TYPE 5 LEGS

(J37-J40) TAPERING LEGS; from large figures

Pl.16 right

J37.

H 9.2; W (above) 5.1; W (middle) 3.7

Fabric: Many small and medium inclusions, dark and sub-white.

Biscuit: 5YR 7/6 (reddish yellow).

Paint: No evidence.

Preservation: Broken at end.

Manufacture: Solid, handmade.

Treatment/decoration: Leg tapering, oval section with two clay pellets in rear indicating the fetlock, differentiating this from the leg of an ordinary tripod cooking pot.

Context 1: MM III - LM I.

Date: Same.

Pl. 24 2nd right

J38.

H 7.9; W (above) 4.2; W (knee) 2.9

Fabric: Rough textured, sandy feel; dense small and medium inclusions, mainly brownish and sub-white.

Biscuit:

Interior: 7.5YR 8/6 (reddish yellow).

Paint: No evidence.

Manufacture: Solid.

Treatment/decoration: Leg tapering, oval section; ends in slight foot; narrows at angles of knee and ankle joints.

Context: Mixed secondary context, including MMIII/LMI.

Date: MMIII - LMI?

Pl.25 2nd right

J39.

H 7.4; W 2.1-3.5

Fabric: pure

Paint: Brown, worn.

Manufacture: Solid, handmade.

Treatment/decoration: Leg tapering, oval section; narrows at foot. Solid painted.

Context 1: MM III - LM I.

Date: Same.

Pl.21 1st right

J40.

H 8.6; W (above) 4.3; W (below) 1.7; L (foot) 2.7

Preservation: Foot broken at end.

Fabric: Small sub-white and grey inclusions.

Biscuit: Interior brownish-grey.

Slip (?): Light brown.

Paint: Worn; originally solid painted.

Manufacture: Solid, handmade.

Treatment/decoration: Leg tapering, oval section; ridge at knee joint; below this tapers to foot; on its rear two clay pellets indicate the fetlock.

Context 1: MM III - LM I.

Date: Same.

Parallel: Not unlike leg illustrated in Myres 1902-3, pl. XIII, 82, where however clay pellets indicate the ankle joint rather than the fetlock.

TYPE 6

(J41-J44) TAPERING LEGS WITH PLASTIC KNEE JOINT; OVAL SECTION; from large (bovine) figures.

Pl.26 left

J41.

H 10.8; W (above) 5.1; W (at knee) 2.9

Preservation: Broken at end.

Fabric: Rough textured, sandy feel; few sub-white, medium and large inclusions, particularly on the outer surface.

Biscuit: Interior and exterior 10YR 8/3 (very pale brown).

Paint: Worn off; where it survives 5YR 3/1 (very dark grey).

Manufacture: Solid, handmade.

Treatment/decoration: Oval section above knee, round below this: knee joint is indicated with the pinching of the clay with the fingers at its rear; (a vertical band of?) paint on upper part of leg.

Context 3: MMIIIA *terminus ante quem.*

Date: Same.

Pl.27 1st left

J42. Similar leg missing its lower third with hoof.

H. 5.5; W (above) 4.4

Fabric: Grey and brown inclusions

Biscuit: brown

Paint: 5YR 3/1 (very dark grey); solid painted.

Context 1: MM III - LM I.

Date: Same.

Pl.28 right

J43. Middle portion of similar leg.

H 6.2; W (above) 3.6; W (below) 2.8

Fabric: Pure.

Biscuit: 7.5YR 6.5/6 (reddish yellow).

Paint: No evidence.

Context 1: MM III - LM I.

Date: Same.

Pl.19 left

J44.

H 10.4; W (above) 4.6; W (middle) 2.5

Fabric: Small, mostly brown, inclusions.

Biscuit: 7.5YR 6.5/6

Paint: Worn; orange hew.

Treatment/decoration: Leg curved, slender; round section; slight pinch on back renders the knee joint; on either side of the ankle joint a relief protrusion representing the fetlock. Original form of decoration unknown.

Context 1: MM III - LM I.

Date: Same.

(J45) LM II (?) (BULL?) FIGURE

Pls. 29 (three-quarter view) and 30 (front view); Fig. 42

J45. The front legs with part body of medium bovine figure.

H (right leg) 13.8; L 15; W 14

Preservation: the right leg, the tip of the left one and part of dewlap reconstructed.

Fabric: Pure, fine textured, hard fired.

Biscuit: internal: 10YR 8/3 (very pale brown) to 7.5YT+R 8/4 (pink) to 5YR 6.5/6 (reddish yellow).

Slip: 10YR 8/3 to 8/4 (very pale brown).

Paint: Fugitive in many areas: very cracked where it survives.

Manufacture: body stocky, foreshortened; formed with thick layering of additional clay around wheelmade cylinder. Solid handmade legs. The body was open in front with a round aperture at the neck juncture. The body was closed behind as was evidenced by a small non-joining fragment from this area with concentric finger marks). On the front of the left leg, an airing hole communicates with the body interior. The edge of its right-hand counterpart also survives.

Treatment/decoration: Unusually proportioned figure. Short and powerful body, strongly indicative of bull; area of genitals not preserved. Emphasis on plasticity in modelling. The sturdy legs are rather irregularly formed; round section; bow-shaped, tapering. The left one ends in a cloven hoof, deeply incised. The knee joint is formed with additional clay in the front. Between the legs, a relief ridge represents the beginning of the dewlap.

Dark-on-light decoration. Similar (but not identical) motifs on both haunches. That on the left one is better preserved. Because of its rough execution and frayed state, it is difficult to reconstruct its exact form; however, its general form is clear (Fig.11). It comprises a radiating motif outlined by a single circle (because it is frayed, the circular outline looks like a double circle filled with transverse dashes). Carelessly distributed inside the circle are (probably four) radiating 'spokes' with loops in their quadrants. The best preserved loop is that in the bottom left hand corner. Slanted dashes run down the front of the legs. The hooves were solid painted.

Parallels: for the motif on the haunches: four spoked wheel with a loop-like fill in each quadrant on either side of a shoulder zone on a LM II amphora from the Unexplored Mansion (*MUM*, 26 and 176, pl. 72b); a LM II wheel motif from from the Stratigraphic Museum Excavations with vegetal motifs radiating from its spokes (SEX EXCS T37 IIII) (I am grateful to P. Warren for showing me a drawing of this unpublished piece).

The powerful form of this figure is reminiscent of **J6** (fig.6), the front part of a hollow handmade MM III/LM I (bovine) figure with similar legs and neck opening at the front.

Dr G. Rethemiotakis is of the opinion that the fine clay and slip are reminiscent of LM II/IIIA pottery from Knossos and Poros. Although lighter in colour, it is also very similar to that of **J9**, the head portion probably from a rhyton of MM III date.

Bibliography: Karetsou 1975, 240, pl. 268β; Guggisberg 1996, **532**, 152-153.

Context 8: Mixed; including LM IIIC, Geometric, Orientalizing.

Date: LM II (on stylistic grounds?) or later?

Because of the frayed condition of the decoration, its dating is problematic. This piece has been included in Guggisberg's inventory of Cretan figures, where he dates it to LM IIIC-Sub-Minoan (*ibid.*) He likens the decoration on its haunch to a similarly positioned wheel motif on a horse figure from Tsoutsouros (*ibid.*, **612**, 177). However, it can be said safely that this motif is entirely different from what survives on the Juktas figure's haunch; and the stylistics and morphology of the Tsoutsouros figure are also incompatible with our figure. For a LM III wheel-like motif resembling more closely that of **J45**, see the false neck of a stirrup jar from the re-occupation level at Petras (Tsipopoulou 1997, 217, fig. 14j: 92. 349).

(J46) LM I-LMIIIA BOVINE FIGURE

Pl. 31

J46. Left side of head with neck, from large bovine figure.

L 10.8; H 6.2

Fabric: Tiny inclusions.

Biscuit: 7.5yr 7.5/6 (reddish yellow).

Slip: No evidence.

Paint: Ranges from 2.5YR 5/4 to 2.5YR 4/4 (reddish brown).

Preservation: Horn and part of ear broken off. External surface worn, particularly at muzzle.

Manufacture: Uncertain; hollow with solid muzzle. The hollow head and neck are a unit. The clear breakage at the base of the neck indicates that this was probably made separately from the body. Although there are no signs of wheelmade manufacture on the neck or head, this does not in itself prove that the figure is not thrown. But, the smooth inner surface of the head, its breakage down the middle, and the presence of a smooth edge along part of this may point to the manufacture of the head with a two-piece mould, corresponding with the left and right sides of the head and neck. If this is so, however, the features at the end of this cylindrical muzzle were formed after the manufacture of the head (see below). The manner of construction of this figure's body remains unknown (one body sherd from a different context which resembles it in fabric and decoration is wheelmade).

Treatment/decoration: Holes for nostrils, a deep incision for the mouth; a plastic tongue (broken) which protrudes from the mouth and entered the left nostril. Round plastic eyes above which a semi-circular sunken socket. The broken ear was plastic; the horns solid. Head and neck solid painted.

Context 8: Mixed; including LM III C, Geometric, Orientalizing.

Date: MM - LM I (-LM IIIA ?). A (MM III-) LM I date is favoured because of its naturalistic form and solid painted decoration.

(47-53) LM IIIC MEDIUM ANIMAL FIGURES

(J47-J48) **GROUP 1** These two fragmented individual figures are grouped together because

- they share the same scale
- are practically identical in manufacture
- are very similar morphologically in their bodies and legs
- feature the male gender
- feature the same decorative principles, although not identical in their decoration
- their fabrics are very similar (in colour, texture, and firing conditions) but not identical since their slips differ, and **J48** contains inclusions.

Pls. 32a-b; fig.47

J47. Front and rear portions of body, non-joining, from a medium bull figure.

Front portion: L 6; W 6.5; H 8.7;

Rear portion: L 7.8; W 6.5; H 6.2

Preservation: Front part: two front legs, the left nearly intact; back part: thighs, start of tail and (broken) genitalia. Head with neck, middle part of body, back legs and tail broken off.

Fabric: Pure.

Biscuit: Interior 5YR 7/4 (pink); core 10R 6/4 (pale red); interior surface 7.5YR 8/4 (pink); uneven firing.

Slip: Possibly 7.5YR 8/2 (pinkish white).

Paint: Worn, dark brown.

Manufacture: Hollow, wheelmade body, closed behind, probably with airing hole at rump. The open, front part originally narrowed and formed the neck, of which a small part survives. The surviving legs are hollow, wheelmade; separately made, and attached to the body with additional clay. They splayed outwards from the body which may have been rather unsteady on its feet. Support sticks pierced the

junction of each leg with the body and ended in the upper surface of the inner body. This is evidenced by the pierced holes at the juncture of the legs with the body, and by the two surviving depressions on the inner surface of the rump. The armature was added during or after the body assemblage. The cylindrical form of the body was altered by the additions of the legs and clay used to render further anatomical details (haunches). The rear (less prominent) surface of the front left leg features the careless addition of clay and the markings of a smoothing tool.

Treatment/decoration: Cylindrical legs, the left one with splaying end for hoof. The plastic genitalia survive partly, but exact form remains unknown. Linear decoration follows the contours of the body. Two parallel bands started at each front hoof, ran up the front legs, continued parallel along the backbone, looped around the back haunches, down the thighs, ending at the back hooves. With the addition of supplementary bands, a continuous 'racket' outlined the haunches and ran down the legs. On the surviving spine (between the two pairs of parallel lines): an H, two parallel dashes and a line which ran down the tail. Part of a band in neck area. The principal difference between the decoration of this and **J48** below is that the rackets are not filled with decoration.

Context 8: Mixed; including LM IIIC, Geometric, Orientalizing.

Date: LM IIIC on stylistic grounds, and in comparison with **J40** above.

Pls. 33a-b; fig. 44

48. Rear portion of body and smaller body portion; from a medium bull figure.

Rear portion: L 9; H 11.6

Smaller body sherd: 6.7x3.4

Preservation: Rear portion of body with left rear leg and remains of genitalia on belly; body sherd corresponding with area of front thigh.

Fabric: Practically pure; occasional small purple inclusions.

Biscuit: 'Sandwich'; interior 7.5YR 8/4 (pink); exterior surface lighter; core 2.5YR 6/4 (light reddish brown); uneven firing.

Slip: 10YR 8/3 (very pale brown).

Paint: Worn, dark brown.

Manufacture: Hollow, wheelmade body, closed behind, with no airing hole. Legs hollow, wheelmade, separately made; hole at juncture of leg with belly which may have supported stick (cf. **J40** above) and/or served as firing hole.

Treatment/decoration: Genitalia plastic. The haunches and thighs are rendered with added clay. Double 'racket' with internal cross-hatching decorate these and the leg. The same decoration is repeated on the other body sherd. Part of an oblique line on the back of rump.

Contexts 8 and 11: Mixed; including LM IIIC, Geometric, Orientalizing and modern material.

Date: LM IIIC, on stylistic grounds.

Pls.34 a-b; fig.45

49. Rear portion of medium bull figure. This figure is made in the same scale as **J47** and **J48** and features the male sex. Every aspect of its fabric is similar to that of **J48**. Its main differences from **J47** and **J48** lies in its handmade manufacture which has resulted in its different morphological appearance.

L (without tail) 7.1; H 10.7; W 5.7

Preservation: Rear portion of body with legs, the right fully preserved, the left to the height of the thigh; tail broken off; genitalia intact; worn outer surface.

Fabric: Few grey and fewer white medium inclusions.

Biscuit: Interior: 2.5YR 6/6 (light red) to 5YR 7/4 (pink); interior surface 10YR 8/4 (very pale brown); uneven firing.

Slip: ?

Paint: Fugitive; brown.

Manufacture: Hollow, probably handmade body (no throwing marks); solid leg. The thick wall with its narrow diameter may have been compressed around a substantial stick (Hayden 1991, 122). It was probably removed from the front of the figure prior to firing. There is a small airing hole in the rump. The legs are solid, handmade; round section, slightly tapering, flat underneath.

Treatment/decoration: A plastic tail attached to the rump, above the firing hole. It curved downwards free and was applied at end to the back of the right leg; genitalia plastic (penis and testicles). The painted decoration is difficult to identify because of its fugitive state. An 'angular' loop follows the outline of the rear left leg. It is probably filled with parallel oblique lines. A horizontal line along the belly. An oblique line down the back of the right leg probably followed the direction of the tail. End of right leg probably followed the direction of the tail. End of right leg and genitalia solid painted.

Context 8: Mixed; including LM IIIC, Geometric, Orientalizing.

Date: LM IIIC (or sub-Minoan?) on stylistic grounds.

(J50; J51 a-c; J52 a-b) GROUP 2 Six portions which belong to (two or three) medium bovine figures. It is likely that **J51 a-c** and **52 a-b** belong to the same figures because of their identical fabrics and similar decoration. **J50** appears similar but not identical in fabric.

Pls. 35a-b

50. Head and neck with part of underside of body.

L. 13.8; L (head) 5.2; D (muzzle) 1.3-1.7

Preservation: The horns and ears are broken.

Fabric: Few small brown inclusions.

Biscuit: Where thinner 5YR 6/6 (reddish yellow) or lighter 95YR 7/6; where thicker 2.5YR 6/6 (light red).

Slip: 10YR 8/5 (very pale brown to yellow).

Paint: Faded; brown.

Manufacture: Wheelmade body; solid handmade head, horns and neck. The head was attached to the body with clay forming the neck. The outer surface of the surviving wheelmade body is covered with an additional layer of clay, rendering it a little less schematic. Its narrow uneven outer surface possibly bears toolmarks.

Treatment/decoration: Cylindrical muzzle, tapering at end. The nostrils shallow holes, the mouth a deep incision. The ears are plastic with a hole at their base, the eyes in relief. On the forehead, a pendent, cross-hatched triangle, echoing the triangular outline of the flat surface of the face. On the eyes a circle with central dot. A band encircles the neck; a thick band started at the neck and ran along the spine.

Bibliography: Karetsou 1975, 340, pl. 267γ; Guggisberg 1996, 152-153, no. 533.

Context 9: Mixed; including LM IIIC, Geometric, Orientalizing and modern material.

Date: LM IIIC, on stylistic grounds.

This piece has been dated by Guggisberg to Protogeometric/Geometric; however, in my opinion, it can be situated convincingly in LM IIIC, on the independent grounds of its decoration, and because of the similarity of its scale, manufacture, fabric and decoration to the other members of group 2 to which it has been assigned (i.e. **J51a-c**; **J52a-b**). The even, symmetrical execution of the decoration is also found on **J51a**. The cross-hatched triangle on the forehead is popular among LM IIIC Juktas figures (pp. 147-148), and the eye decoration (a circle with a central dot) is attested .

Pl. 36

J51a-c. Three non-joining portions from the rear of a medium (bovine) figure.

J51a. W (rump) 7.8

J51b. H (leg) 8.8

J51c. 5.2x4.8

Preservation: **J51a** consists of two sherds comprising part of the rump with the tail; **J51b** the remainder of the tail extending down the rear of the left leg; **J51c** part of the juncture of the right leg with the body. Tail and end of hoof chipped.

Fabric: Few tiny brown inclusions; fewer in the external surface.

Biscuit: Sandwich: internal 5YR 7/6 (reddish yellow) to 10YR 5/6 (red); core 5YR 7.5/1 (light grey to white).

Slip: 7.5YR 8/4 (pink).

Paint: Brown.

Manufacture: Body wheelmade (inferred; the surviving solid back wall of the body does not feature the marks of the wheelmade construction); manufacture of leg uncertain: solid on top, hollow at end. Airing hole on rump, to the left of the tail.

Treatment/decoration: Leg with ridge (at knee joint) flares at foot. Tail an applied roll of clay curving downwards along the back of the leg. The precisely executed painted decoration was probably originally repeated on both back legs. On the surviving left flank, a reduplicated lozenge, cross-hatched. Its edge touches a band flanked by parallel lines which ran down the leg, as is exemplified by the corresponding decoration of the left leg. A thick band runs along the belly, ending at the juncture of the leg. The tail solid painted. Leg solid painted from foot to above the ridge.

Contexts 11 and 12: Mixed; including LM III C, Geometric, Orientalizing and modern material.

Date: LM III C, on stylistic grounds.

Pl. 37

J52a (top middle) and J2b (top left) Portions from the flanks of a medium animal figure (-s).

52b: 5.1x3.1

Fabric and biscuit: See **J51a-c**

Manufacture: Hollow, wheelmade.

Decoration: A reduplicated hatched petal (from a quatrefoil?) bordered by three parallel curved lines.

Context 8: Mixed; including LM III C, Geometric, Orientalizing.

Date: LM III C, on stylistic grounds.

Pl. 38; fig. 46

J53. Front portion of the body including the base of the right horn and ear; from medium (bovine) figure. Although not identical, this has many similarities with the figures of **GROUP 2 (J50; J51a-c; J52a-b)**, namely scale and decorative principles, including decorative motifs. Despite its wear, it is clear that its fabric is very similar (red hew of biscuit, slip and most likely paint). However, its inclusions are different in colour, size and position, and its paste is uniformly fired. In addition, greater emphasis is placed on plasticity in this figure.

L. 13; W 9

Preservation: Mainly area of front withers; left side fragment more worn.

Fabric: Some grey inclusions, particularly on the outer surface.

Biscuit: Internal and internal surface 10R 5.5/6 (red to light red); external surface: slip (?) 7.5YR 8/5 (pink to reddish yellow) .

Paint: Fugitive; original colour unknown.

Decoration: Faint, but visible.

Manufacture: Wheelmade body, open in the front. No evidence survives of the manufacture of the head.

Treatment/decoration: Right horn solid, right ear a plastic strip. Both attached to the thrown body. The spine and dip above withers are formed by pinching the thrown wall. The relief of the front haunches is similarly modelled. No clay added to outer surface. A thick band along the spine. On either side, a double loop which followed the outline of the withers. A line attached the left one to the spinal band. Inside the loops, a quatrefoil of hatched petals emanating from a dotted circle.

Context 9: Mixed; including LM III C, Geometric, Orientalizing and modern material.

Date: LM III C, on stylistic grounds.

Pls. 39a-b; fig. 47a-b

J54. Side portion of body with part of head; from large (bovine) figure.

L 21.5

Preservation: Right wither survives; horns and muzzle broken off.

Fabric: Dense grey inclusions, most small, some medium.

Biscuit: Interior and exterior 10R 6/6 (light red).

Slip: 10YR 8/5 (very pale brown-yellow)

Paint: Fugitive, brownish-black where better preserved.

Manufacture: Hollow, wheelmade body; solid handmade head and ears. On the inner surface of the thrown body, at the juncture of the head, an additional layer of clay facilitated the attachment of the two units.

Treatment/decoration: Plastic rendering of the head. The poll an undulating ridge; the side edges of the face curved ridges; the eyes round applied pellets in hollows. Backbone in slight relief. The withers schematic relief discs. Thick lines emanate from the horn bases: one runs along the poll; a pair flanks the line of parallel dashes along the backbone. A line of zig-zag along each side of the upper body. On the forehead, a cross-hatched triangle, pendent from the poll; the eyes a circle with inner dot; lines along the side edges of the face. On the left side of the body, part of a side panel: a simple triglyph borders part of a large horizontal lozenge (filled with oblique parallel lines or crosshatching?) with triple curved edge. On the relief disc of the front right wither a double loop; inside this, a cross-hatched lozenge with reduplicated edge (the upper part survives). A dotted line emanates from the inner middle of either side of the lozenge.

Context 8: Mixed; including LM IIIC, Geometric, Orientalizing.

Date: LM IIIC, on stylistic grounds.

LMIIC LARGE ANIMAL FIGURES

(J55-J57) LARGE BOVINE BODIES These four figure portions comprise unique individuals. From a morphological and decorative point, they cannot be grouped with each other or with other individual figures. However, the respective combinations of their clays, slips, paint and firing conditions are the familiar ones encountered in many other figures.

Pls. 40a-b

L 16; D 7.1-7.4

J55. Portion of body with back; left leg; from large bull figure.

Fabric: Contains small grey inclusions; burnished surface.

Biscuit: "Sandwich"; interior light brown to 5YR 7/4 (pink) to brown; interior surface: brown.

Slip: 10YR/8.4 (very pale brown) to 10YR 7.5/6 (yellow) where better preserved.

Paint: Fugitive; brownish-black where better preserved.

Manufacture: Hollow, wheelmade body; hollow (wheelmade?) leg; an airing hole at juncture of leg with body, pierced after attachment of leg to the body.

Treatment/decoration: Cylindrical body; left leg tapering with flat outer surface, slight bulging in hoof area. Added clay on haunch of right leg. Penis a strip of clay on underside. A narrow zone of double axe decoration along the backbone. On either side parallel oblique lines run down the body. Haunch of right leg solid painted; on the outer surface of the left leg alternating dashes.

Contexts 8 and 12: Mixed; including MM I - LM I, LMIIIC, Geometric and Orientalizing.

Date: LM IIIC, on stylistic grounds.

Pls. 41a-b; fig. 48

J56. Body portion with the upper part of leg; large (bovine) figure.

L 17.2; H14.5; W 9.6

Preservation: Both sides reconstructed.

Fabric: Uniform firing; unusually dense medium and larger grey inclusions.

Biscuit: Internal and external: 10R 5/6 (red).

Slip: 7.5YR 7/5 (pink to reddish yellow).

Paint: As it survives, it ranges from light to dark brown.

Manufacture: Body a wheelmade, slightly flattened cylinder; solid leg. A deep indentation of the finger in the clay at the juncture of the leg with body. This indicates that the body had at least one open end during assemblage. Additional clay on the outer surface of the body to consolidate the attachment of the leg.

Treatment/decoration: Along the backbone, a narrow zone of which survives one solid, transversely placed, triangle with reduplicated edge. The body's surviving side panels are filled with a quatrefoil. The petals have an attenuated solid center

with reduplicated edges. The panels' sides are decorated with triglyphs, bordered by garlands or festoons. The panels are bordered with parallel lines which converge and run down the surviving leg.

Contexts 8 and 11: Mixed; including LM IIIC, Geometric, Orientalizing and modern material.

Date: LM IIIC, on stylistic grounds.

Pls. 42a-b; fig. 49

J57. Two non-joining parts: (a) a fragment from rear of body with the upper part of the leg; (b) a small body sherd; from a large (bovine) figure.

57a. L 9.7; H 7.9

57b. 5.1x4.6

Preservation: White incrustation on the inner surface of 57a.

Fabric: Pure.

Biscuit: "Sandwich"; 2.5YR 6/6 (light red) to light grey 10YR 8/1 (white).

Slip: Surface 10YR 8/3 (very pale brown).

Paint: Worn; brownish black.

Manufacture: Body a wheelmade cylinder, closed at rear: leg thick walled with central hole (uncertain manufacture). Two holes at its juncture with the body probably attested to the presence of support sticks.

Treatment/decoration: Upper part of the body decorated with parallel oblique lines. Beneath these hangs a series of pendent solid semi-circles with reduplicated edges. The surviving part of the outer face of the leg is painted solid and also bordered with a reduplicated edge of lines joining at the upper part of the leg.

Contexts 8 and 12: Mixed; including MM I - LM I, LMIIIC, Geometric and Orientalizing.

Date: LMIIIC, on stylistic grounds.

Pls. 43a; 43b; 43c right

(J58-J61) GROUP 3 The heads of two identical large bovine figures and two body fragments from these or very similar figure(s). These figures are clearly distinguished from all others on the basis of their fabric recipe and the form of their heads.

Pls. 43a right; 43b bottom right; 43c right

J58. Head and part of neck; horns broken off.

H 10.3; L 10.9; L (head) 8.9; D (muzzle) 4.7

Pls. 43a left; 43b bottom left

J59. Head missing muzzle and right horn.

H 8.1; L 7.2

Pl. 43 top left and right

J60-J61. Two body portions.

The following comments apply to both figures.

Fabric: Small to large inclusions; brown on external surface, grey on internal surface and internally.

Biscuit: 'Sandwich'; internal and internal surface 7.5YR 8/2 (pinkish white); core 2.5YN 7/6 to 2.5N6/0 (light grey to grey).

Slip: ?; *Paint:* Reddish brown.

Manufacture: Hollow, handmade head and neck; solid horns; hollow wheelmade body.

Treatment/decoration: Plastic, amygdaloid eyes: above these, two parallel curved incised lines. Cylindrical muzzle. On its disk-shaped end two punctured holes denote the nostrils, a horizontal incision the mouth. The side edges of the face and the poll are rendered in relief with pinching. The horns protruded sideways with a slight forward motion. Painted decoration on head **J58**: the eyes were probably solid painted; a band painted between the two incised lines above

the eyes; on head **J59**: evidence of paint on the end of the muzzle and the base of the left horn; a band runs along the face's side edge.

Context 8: Mixed; including LM IIIC, Geometric, Orientalizing.

Date: LM IIIC (?).

(J62-J64) GROUP 4 Three heads; from large bovine figures.

The manufacture and morphology of these similar heads differ. **J62** is hollow while **J63** and **J64** are solid. They are ordered on the rather subjective basis of 'naturalness'. However, their manufacturing and morphological differences do not necessarily validate their attribution to separate stylistic 'sub-phases' in LMIIIC. They have been grouped together because they share the following characteristics:

- same scale
- same decorative principles and individual motifs
- uniform firing
- same colour of biscuit and slip (**J62** and **J63** identical; **J64** slight variants due to firing conditions?)
- same paint

In contrast to the other two heads, **J63** contains large inclusions. Heads **J62** and **J64**, arguably the most dissimilar apart morphologically and technically, appear to share identical fabric recipes and firing conditions.

Pl. 43c left

J62. Portion of the head and neck without the muzzle; from large bovine figure.

This head stands out from the rest of the group for two reasons. Firstly, it is the most naturalistic of all the heads; secondly, its fabric differs (visually), but only in that it contains inclusions which the other heads do not.

L 10.9; L (head) 8.9; H 10.3; D (muzzle) 4.7

Preservation: Left eye and horns also broken off.

Fabric: Large inclusions, mostly grey, also brown.

Biscuit: Interior 2.5YR 6/6 (light red); exterior similar to interior.

Slip: Worn; where it survives, 7.5YR 8/2 (pinkish white).

Paint: Very worn; as it survives reddish brown.

Manufacture: The hollow, handmade head and neck comprised one uniform part. It is not known whether this was separately modelled from the body. No seams or additional clay are visible on the surviving head. Solid horns.

Treatment/decoration: Relief rendering of amygdaloid eyes and side edges of face. Small plastic ear beneath right horn broken. On the forehead, reduplicated triangles pendent from the poll; the central triangle filled with oblique lines; the outer triangle filled with parallel dashes, forming a triangular shaped laddered band (similar but not identical decoration is better preserved on head J52). Fine lines follow the edge of the face above the almond-shaped outline of the eye. The iris was probably painted. Horizontal bands on surviving neck.

Context 9: Mixed; including LM IIIC, Geometric, Orientalizing and modern material.

Date: LM IIIC on stylistic grounds.

Pls. 44 a-b

J63. Portion of head and neck with most of the face broken off; from large bovine figure.

L 11.1; H 8.1

Preservation: The right jaw and left side of the face survive.

Fabric: Nearly pure; small grey inclusions.

Biscuit: 10R 5/6 (red).

Slip: Thick, good application; approaches 7.5YR 8/5 (pink to reddish yellow).

Paint: Reddish yellow; worn in places.

Manufacture: Wheelmade body; solid horns; solid head and neck which form a single, handmade unit. This is attached to the outer surface of a wheelmade cone

with a nodule of clay at its inner point, characteristic of its thrown manufacture. This is probably the front end of the figure's wheelmade body to which was added the solid head. The neck functioned as a clay joint which circled the outer end of the wheelmade body and aided the firm attachment of the head to it. The less plausible alternative is that the wheelmade cone was independent from the (wheelmade) body and served as a core for the modelling of the head.

Treatment/decoration: Plastic modelling of the edges of the surviving face (right jaw and left side of the face), the amygdaloid left eye, and the left ear (a plastic strip under the ear). The surviving neck is pinched vertically (a continuum of the dewlap?). Pendent from the forehead are reduplicated curved triangles. The middle triangle is filled with parallel dashes, forming a ladder pattern. A larger ladder pattern features between the horns. Two rings around the base of the surviving horn. Amygdaloid line around eye and dot in the iris. A curved line renders the eye-brow which coincides with the edge of the face. A thin line along the vertical edge of the neck; a thick band on either side of this. Above these, the neck is decorated vertically with chevrons, and possibly a chain motif, framed by parallel lines.

Context 9: Mixed; including LM IIIC, Geometric, Orientalizing and modern material.

Date: LM IIIC, on stylistic grounds.

Pls 45 a-b

J64. Head with part of neck and left horn; from large (bovine) figure.

H 8.4; L 9.8; D (muzzle) 3.7-3.9

Preservation: Muzzle chipped.

Fabric; Pure, no inclusions.

Biscuit: 2.5YR 6/6 (light red)

Slip: Worn, 10YR 8/2 (very pale brown).

Paint: Worn, 2.5YR 5/4 to 2.5YR 4/4 (reddish brown to reddish brown).

Manufacture: Solid head; wheelmade neck which may have formed the continuation of open front end of the thrown body. A piece of clay was attached to the interior of the neck at its juncture with the head to strengthen the join.

Treatment/decoration: The horn, slightly twisted, slopes forward. Cylindrical muzzle, splaying at end. Nostrils punched holes, mouth a broad shallow incision; plastic tongue protrudes from centre of mouth and ends in left nostril; above plastic eyes relief curved eyebrows. Eyes circle with central dot; painted horn, end of muzzle and ears; on forehead, between the curved eyebrows, pendent reduplicated curved triangles. Between the horns a ladder pattern. Curved lines which start at the base of the horns run along the back of the neck.

Contexts 9 and 12: Mixed; including LM IIIC, Geometric, Orientalizing and modern material.

Date: LM IIIC, on stylistic grounds.

Pls. 46 a-b; fig. 50

J65. Head from large bovine figure. The modelling and decorative motifs of this head are different from those of **GROUP 3 (nos. 62, 63, 64)**; however, their clay, slip paint and firing conditions are alike.

L 13.4; H 6.5

Preservation: Horns broken off; the left one reconstructed.

Fabric: Evenly fired; inclusions: many small, grey, a few medium sized; less dense on external surface.

Biscuit: 10YR 6/6 (light red).

Slip: Worn; 10YR 8/4 (very pale brown).

Paint: In places nearly brownish black, elsewhere fugitive.

Manufacture: Solid, handmade head and horns.

Treatment/decoration: Plastic eyes; conical snout; nostrils holes, mouth a deep incision; the tongue projects from this and ends in the left nostril. A small hole in area of broken-off, right ear. On the forehead, an attenuated cross-hatched triangle which ends at the tip of the muzzle. Eyes a circle with dashes as eyelashes; a dot on the iris. The horns were painted at their base.

Contexts 8 and 12: Mixed; including MM I - LM I, LMIIIC, Geometric and Orientalizing.

Date: LMIIIC, on stylistic grounds.

(J66-J67) Head portion and body sherd which may belong to the same figure. Their fabric is distinct from those of J62-J65. However, their decoration bears resemblance to these. The decoration on body sherd J67 is like that on the neck of head J63, and that on the foreheads of J65 and J66 is the same.

Pls. 47a-b

J66. Portion of head from large bovine figure.

L 7.1; W (horn area) 9.9

Preservation: The top part of the head survives: the forehead with eyebrows, the bases of the horns, broken ears.

Fabric: Pure, hard fired.

Biscuit: Interior 7.5YR 8/6 (reddish yellow); exterior 5YR 7/4 (pink).

Slip: Thick, good application; whiter than 10YR 8/2 (very pale brown).

Paint: Worn reddish brown.

Treatment/decoration: Handmade with thrown core. The features of the head are formed or added by hand around a wheelmade core, which probably had the form of a short open cylinder. This is separate from the wheelthrown body. A small part of this, which was open in the front, survives inside the head. This was joined to the thrown head core with additional clay. The horns were solid, protruded sideways and probably forwards; under these, the plastic ears with

holes at their base. High-set on the forehead two joining arched eyebrows in relief. Above these, the poll rendered in relief. From this a pendent cross-hatched triangle (cf. forehead of head **J65**); arched lines follow the eyebrows; surviving horns and ears solid painted.

Contexts 8 and 12: Mixed; including MM I - LM I, LMIIIC, Geometric and Orientalizing.

Date: LM IIIC, on stylistic grounds.

Pl. 48; fig. 51

J67. Body sherd from large (bovine) figure. This body fragment is included in after **J66** because of its similarity in fabric and decoration; however, it cannot be definitively associated with any of the above heads.

L6; W5

Preservation: Part of back with spine.

Fabric: Similar to those belonging to this group, in particular **J66**, however the paint is darker than the characteristic reddish yellow or reddish brown.

Biscuit: Internal 5YR 7/6 (reddish yellow); internal surface 7.5YR 8/5 (pink to reddish yellow).

Slip: 10YR 8/4 (very pale brown).

Paint: 10YR 3/1 (very dark grey).

Manufacture: Wheelmade, cylindrical body.

Treatment/decoration: The spine an affixed ridge. It is solidly painted; on either side of this, the body is symmetrically decorated with narrow panels of alternating lines and garlands (?) between parallel lines.

Parallel: While its fabric is different, the decorative scheme is similar to that on the side of the neck of **J63**.

Context: ?

Date: LM IIIC, on stylistic grounds.

Pl. 49

J68. Head portion from large bovine figure.

L 4.6; H 3.9; W 10.1

Preservation: Surviving features: bases of horns (the right one better preserved) and left eye; ears broken.

Manufacture: Hollow, possibly handmade.

Manufacture: Head including horns solid, handmade. The underside of the head is hollow and bears the potter's finger marks. The head may well have comprised one single, hollow and handmade, unit, which was attached to the wheelthrown body. Alternatively, this handmade part was attached to the body through the intermediary of an additional head core.

Treatment/decoration: The horns curved outwards and upwards; the plastic ears had holes at their base. High on the brow relief arched eyebrows. Beneath these, in hollows, the plastic eyes (the left survives). On forehead, between the horns, a fringed line. From this hangs a pendent cross-hatched triangle, also fringed. A ring around the left eye. Painted eyebrows and lashes. Horns: parallel rings and painted tips; band between the horns.

Parallel: Similar fragment, also from Juktas (Karetsou 1980. 348, pl. 211γ; Guggisberg 1996, 535, 152-153). This other piece has been described as rather anthropomorphic in appearance (ibid.), which **J68** is not.

Context 8: Mixed; including LM IIIC, Geometric, Orientalizing.

Date: LMIIIC, on stylistic grounds (same date given by Guggisberg, ibid.).

Pl. 50

J69. Top of head, with right horn and right eye.

L 6.2; H 8.8

Manufacture: The head was fashioned around a wheelmade core. This was originally round in section, but the addition of the outer features has resulted in the formation of three angular walls.

Treatment/decoration: The end of the horn is broken off. Round plastic eye. Decoration on forehead unclear; either a pendent cross-hatched triangle or reduplicated triangles. Horns and eye were probably solid painted.

Context 8: Mixed; including LM IIIC, Geometric, Orientalizing.

Date: LM IIIC, on stylistic grounds.

Pl. 51

J70. Portion of head and neck with right-hand horn and eye.

L 8.9; H 8.3

Preservation: The tips of the horns and eye are broken off.

Manufacture: The head was fashioned around a core. The latter is evidenced by a fragment in the interior of a curved wall. It is unknown whether the hollow core was wheelmade or handmade. The head was formed with the addition of consecutive layers of clay to the core.

Treatment/decoration: The slightly curved solid horn has an upward direction. The eye is plastic, prominent. The eyebrows two joining painted arches. The solidly painted eye encircled by roughly executed fringes representing eyelashes. Horn solid painted.

Context 8: Mixed; including LM IIIC, Geometric, Orientalizing.

Date: LMIIIC, on stylistic grounds.

Pl. 52

J71.

Context 8: Mixed; including LM IIIC, Geometric, Orientalizing.

Pl. 52

J71. Portion of head and neck with right-hand horn and eye.

L 8.9; H 8.3

Preservation: The tips of the horn and eye are broken off.

Treatment/manufacture: The head was fashioned around a core. The latter is evidenced by a fragment in the interior of a curved wall. It is unknown whether the hollow core was wheelmade or handmade. The head was formed with the addition of consecutive layers of clay to the core. The slightly twisted solid horn has an upward direction. The eye is plastic, prominent. The eyebrows are indicated by two joining painted arches. Around the solidly painted eye, a ring of roughly executed fringes represent eyelashes. On the forehead, a band between the horns is also fringed. The horn was solidly painted.

Context 8: Mixed; including LM IIIC, Geometric, Orientalizing.

Date: LMIIIC, on stylistic grounds.

Pl. 53

J72. Schematic bovine head.

L 4; W (horn area) 11.1

Preservation: Half of right horn and tip of left one broken off.

Manufacture: Solid, handmade; the breakage at the back of the head indicates that this was part of a larger object, most likely a bovine figure.

Treatment/decoration: Schematic rendering of head with selective representation of features; the horns dominate, in the form of a uniform curved unit; from its middle projects the small cylindrical muzzle. A pair of holes for muzzles are not properly aligned. Decoration worn; Two bands, one along the horn unit, another along the muzzle. A ring around the end of the muzzle.

Context 9: Mixed; including LM IIIC, Geometric, Orientalizing and modern material.

Date: LMIIIC/Sub-Minoan ?

Pls. 54-55

J73. Incised head and neck of large bovine figure.

L 9.9; H 7.8; L (head) 6

Fabric: Pure (sparse small inclusions).

Biscuit: 2.5YR 6/4 (light reddish brown); where thicker 'sandwich'. 10YR 8/3 (very pale brown) to 2.5YR 6/4 (light reddish brown).

Exterior (slip?): Very pale brown.

Paint: No evidence; paint may not have been used.

Preservation: The horns and ears are broken off. End of muzzle chipped.

Manufacture: The head solid, handmade; the body (of which a small part survives) wheelmade. The front of the body probably narrowed at the neck, forming a suitable attachment area for the head. The dewlap was formed with the use of additional clay.

Treatment/decoration: Cylindrical muzzle splaying at its end. The mouth a horizontal incision, the nostrils holes. Incision serves both a representational and decorative function: parallel curved incisions on either side of the neck render the

dewlap. Incised amygdaloid eyes with double curved incisions above. Two incised rings on muzzle. Between the horns, an incised band decorated with a row of punctured circles.

Context 11: Mixed; including LM IIIC, Geometric, Orientalizing and modern material.

Date: LMIIIC?

Pl. 56; fig. 52

J74. Rear left portion of body; large (bovine) figure.

10.6x10.1

Preservation: Outer surface worn; breakage from area in which tail emerged.

Fabric: Rough textured; dense inclusions, tiny and small.

Biscuit: 2.5YR 6/4 (light reddish brown) paling to 5YR 7/5 (reddish yellow) near surfaces.

Slip: Worn.

Paint: Worn; dark brown in places.

Manufacture: Hollow, wheelmade.

Treatment/decoration: Compressed cylindrical body. Two horizontal zones with densely spaced linear decoration. On the narrow one alongside the spinal band, alternating zig-zags. On the larger one, corresponding with the animal's side, groups of parallel straight and curved lines.

Context 8: Mixed; including LMIIIC, Geometric and Orientalizing.

Date: LMIIIC (/Sub-Minoan??)

(J75-J76) Body portion and upper part of head; both probably from the same, or very similar, large (bovine) figure(s).

Fabric: Inclusions grey and sub-white, also visible on external surface.

Biscuit: 'Sandwich'; internal and internal surface 5YR 7/8 (reddish yellow); core 10YR 7/1 (light grey).

Slip 7.5YR 8/4 (pink).

Paint worn, dark brown.

Pls. 57-58; Fig. 53

J75. Body portion

Preservation: Underside broken off.

Manufacture: Hollow, wheelmade.

Treatment/decoration: The body has an elliptical section. It is formed with a thick layer of clay around the surviving upper half of a thin cylindrical thrown core. The added clay encircling a sunken broken area on the lower side of the cylinder indicates the placement of a leg. Relief spine. Along this a thick band. On either side of the body a thick loop containing a reduplicated solid lozenge. The leg's juncture indicates that this decoration coincides with the haunches. The sides of the body also feature groups of smaller oblique lines.

Context 9: Mixed; including LM IIIC, Geometric, Orientalizing and modern material.

Date: LMIIIC?

Pls. 59-60

J76. Upper portion of head; large (bovine) figure.

Preservation: The lower part of the head and muzzle are broken off.

Manufacture: Formed with the same technique as **J75**. The upper part of the wheelmade cylindrical core survives (its inner surface is identical to that of **J75**). It tapers frontwards. As its ends do not survive, its original length on either side remains unknown. If this cylinder functioned as the core of the head alone, a second cylinder would have been necessary for the construction of the figure's body. Alternatively, the cylinder would be much longer and the tapering part that survives inside the head would represent its forward end. This second hypothesis may be substantiated by the presence of such a cylinder inside body portion **J75**.

Treatment/decoration: The surviving portion features the attachment areas of the horns and the eyes on either side of the surviving part of the upper muzzle. Above the plastic eyes the edges of the face are modelled in relief. The painted decoration is fugitive. Lines run down the face towards the muzzle; the bases of the horns are painted; rings circle the eyes.

Context 11: Mixed; including LM IIIC, Geometric, Orientalizing and modern material.

Date: Same as **J75**.

(J77-J82) GROUP 5 Four body portions and two legs, belonging to at least three large (bovine) figures. All six fragments feature a characteristic combination of scale, biscuit colour, red paint and decoration which separates them from other figures. All the portions are pure/practically pure with the exception of **J81**. Three distinct groupings of decoration can be identified. On the basis of the above differences, the six portions have been divided into four 'sub-groups'

corresponding with at least three distinct individuals (J77-J78; J79; J80-J81; J82).

J77-J78 Two body portions, very likely from the same large (bovine) figure.

Fabric: Pure, no inclusions.

Biscuit: external surface 7.5YR 7.5/4 (pink); internal surface and internal 5YR 7/8 (reddish yellow). The middle of J78 is darker 2.5YR 6/6 (light red).

Slip: ?

Paint: Worn; 2.5YR 5/6 (red).

Pl. 61; fig. 54

J77. A portion of one flank, including the haunch, and part of the spine above this.

12 (L) x 9.6

Manufacture: Hollow, wheelmade.

Treatment/decoration: The spine and flank are modelled in low relief with added clay. A band follows the spine. On the side parts of three reduplicated curved lines around a circle which coincided with the middle of the haunch (at least one of these may have extended down the leg); two circles; a group of parallel oblique lines hang from the spine band.

Context 8: Mixed; including LM III C, Geometric, Orientalizing.

Date: LM III C?

Pl. 62

J78. Body fragment which includes part of a haunch.

Manufacture: Hollow, handmade. The added clay encircling the broken area indicates the placement of a leg.

Treatment/decoration: The flank is modelled in low relief above this. It features three reduplicated curved lines, and part of an inner circle? The outer line which is straighter may have extended down the leg.

Context: Unknown.

Date: Same as **J77**.

Pl. 77 left

J79. Leg with two ridges; from large (bovine) figure.

H 9.7; D 4.2; D (ridges) 5 and 5.5

Fabric: Practically pure; sparse grey and brown inclusions.

Biscuit: Interior 7.5YR 7/6 (reddish yellow).

Slip: ?

Paint: Worn; thickly applied; 5YR 5/6 (reddish yellow).

Manufacture: Hollow, wheelmade; open at foot.

Decoration: Solid painted.

Context: Unknown.

Date: LMIIIC, on stylistic grounds (for smaller LMIIIC legs with ridges, see **J104-J105**).

(J80-J81) Body portion and leg portion; possibly from the same figure.

Pl. 63 right; fig. 55

J80. Rear portion of body; from large (bovine) figure.

L 7.2; W 6.1; H c. 4.1

Preservation: Part of spine and the right haunch.

Fabric: Pure.

Biscuit: External surface and interior 7.5YR 7/6 (reddish yellow); core 7.5YR 8/0 (white); uneven firing.

Slip: ?

Paint: Worn; 2.5YR 5/6 (red).

Manufacture: Wheelmade core, probably closed at this end. The body is formed with the application of additional clay to its outer surface.

Treatment/decoration: Relief spine which presumably extended into applied plastic tail near this point. A thick band runs along the spine. On either side of this, chevrons and oblique lines framed by parallel lines of paint, vertical to the spine (both sides symmetrically decorated).

Context: Mixed.

Date: LMIIIIC?

Pl. 28.

J81. The upper half of leg with knee joint; from large (bovine) figure.

H 7.2; L 6.3; W (knee) 3.1

Fabric: Pure.

Biscuit: 5YR 7/8 (reddish yellow).

Slip: Worn; very light brown:

Paint: Worn.

Hollow, wheelmade; plastic knee joint.

Context 11: Mixed; including LM IIIC, Geometric, Orientalizing and modern material.

Date: LMIIIC?

Pl. 63 left; fig. 56

J82. Front portion of body; from large (bovine) figure.

L 10.4; W 8.8; H c.5

Preservation: Spine with withers on either side.

Fabric: Small and medium inclusions; small holes where dislodged from outer surface.

Biscuit: 'Sandwich'; interior 7.5YR 7/6 (reddish yellow); core 5Y/// 7/1 (light grey).

Slip: ?

Paint: 2.5YR 5/6 (red).

Manufacture: The body is shaped with additional clay around a wheelmade core. From its surviving part, it can be concluded that this was 'melon-shaped' and open in front.

Decoration: On either side of the backbone symmetrical decoration of broad bands narrowing towards the spine, bordered on either side by groups of lines.

Context 12: Mixed; with plentiful LM IIIC and Geometric.

Date: LMIIIC?

Pl. 64

J83. The 'melon-shaped' body of a bull figure.

L 11.7; D (max.) 7.9

Preservation: The front part with the head and the underside are broken off. Of the legs, only the stump of the back left leg and the attachment area of the back right leg survive.

Fabric: Some tiny and small inclusions; mostly grey internally, light brown on external surface.

Biscuit: Internal lighter than 5YR 7/6 (reddish yellow); core 10YR 8/3 (white).

Slip: Very worn; approximates 10YR 8/3 (very pale brown).

Paint: Fugitive; white incrustation on the outer surface.

Manufacture: Hollow, wheelmade body; solid legs. The body is round in section and tapers equally at both ends. It is closed behind. Due to its breakage, it is not known whether its front was open or closed. The body was modelled by hand with the addition of clay to the thrown core. . Legs attached to body with the clay.

Treatment/decoration: Of the plastic genitalia, only a strip of clay (penis) survives on the underside. The spine is rendered in relief. The surviving decoration is fugitive: a band along the spine from which hang 5 oblique parallel lines.

Context 8: Mixed; including LM IIIC, Geometric and Orientalizing.

Date: LM IIIC.

Pl. 65

J84. Head from large bovine figure.

L 6.2; H 5.9

Preservation: Missing the right horn, end of the left one, and end of muzzle.

Manufacture: Solid, handmade head and horns.

Treatment/decoration: Eyes rendered in relief. No evidence of decoration.

Context 8: Mixed; including LM IIIC, Geometric, Orientalizing.

Date: LMIIIC?

Pl. 65a

J85. Head from large bovine figure.

L 7.1; D (muzzle) 2.6-2.8

Preservation: Missing right side of head (and horn, ear and eye); left horn broken at base and tip.

Manufacture: Solid, handmade head and horns.

Treatment/decoration: Schematic rendering. Cylindrical muzzle of which upper part is emphasized. The mouth a horizontal incision, the eyes holes. The left eye a plastic button surrounded behind by a thin strip of clay. The left ear a plastic strip.

Context 8: Mixed; including LM IIIC, Geometric, Orientalizing.

Date: LMIIIC?

Pl. 65b

L 7.5; H 4.7; W (horns) 9.7

J86. Head of a large bovine figure.

Preservation: Missing the end of the horns and ears, the lower part of the muzzle, and part of the eye.

Manufacture: Solid head and horns.

Treatment/decoration: Although schematic, an effort is made to render the form of the head plastically. Relief eyes, plastic ears, holes for nostrils. Horns slightly

curved. Decoration worn. On forehead reduplicated triangles; a ring around the end of the muzzle; a band between the horns; a curved line on either side of preserved neck. Ears (and eyes?) solid painted.

Contexts 11 and 12: Mixed; including LM IIIC, Geometric, Orientalizing and modern material.

(J87-J91) GROUP 6 Five fragments belonging to the same or similar large (bovine) figures. They share the same scale, fabric and a rather schematic emphasis on plasticity.

Pls. 66, and 67 right

J87. Neck portion, large (bovine) figure.

L 6.9; W 6.9

Manufacture: Hollow, wheelmade.

Treatment/decoration: It features a pinched ridge.

Context 8: Mixed; including LM IIIC, Geometric, Orientalizing.

Date: LMIIIC; on stylistic grounds.

Pl. 68 bottom, and top left

(J88-J89) Two body portions, each featuring a haunch; large (bovine) figure(s).

J88. 10.6x4.9

J89. 6.3x5.4

Manufacture: Hollow, wheelmade.

Treatment/decoration: The (surviving) haunches are rendered as relief discs.

Context 8: Mixed; including LM IIIC, Geometric, Orientalizing.

Date: LMIIIC; on stylistic grounds.

Pls 67 left and 68 top left

(J90-J91) Two body portions, each featuring the attachment area of a leg; large bovine figure(s).

J90. 9x7.9 (pl 67 left)

J91. 5.6x6.2 (pl. 68 top left)

Manufacture: Hollow, wheelmade.

Context: Mixed.

Date: LMIII C; on stylistic grounds.

(J92 a-b; J93; J94) GROUP 7 Four fragments from (at least) two similar bull figures sharing scale, the 'melon-shaped' body form, characteristic fabric and the representation of the male sex.

(J92 a-b) Two portions, most likely from the same 'melon-shaped', large (bovine) figure.

Fabric: Rough textured; sandy feel; brown (and few sub-white) medium and large inclusions, mainly in the outer surface.

Biscuit: Internal 5YR 7/8 (reddish yellow); external surface 7.5YR 8/6 (reddish yellow).

Slip: ?

Paint: Reddish brown on J93 (leg); none on other portions.

Pls 69-70; fig. 57a-b

J92a. Front part of body with the top part of the left leg and attachment area of right leg; large (bovine) figure.

L 9.5; D 15

Preservation: The front haunches and the underside also survive.

Manufacture: Wheelmade body, solid leg.

Treatment/decoration: The front part of the body is open and narrows to a neck. To this was attached the head (and neck?) of the figure. From the underside of the body, the dewlap emerges. It is formed with a plastic pinched strip of clay. A small part of the plastic genitalia (clay strip) survives on the underbelly. The haunches

are modelled in relief with the addition of clay above the attachment area of the legs.

Context 8: Mixed; including LM IIIC, Geometric, Orientalizing.

Date: LMIIIC?

No ph.

J92b. Body fragment with the relief spine and part of the neck-shaped front of the body; large (bovine) figure.

6.6x6.3

Context 8: Mixed; including LM IIIC, Geometric, Orientalizing.

Date: LMIIIC?

Pl. 71 middle

J93. Sturdy leg belonging to same figure as nos. 92a-b, or to a similar figure.

H (nearly int.) 10.8; W (above) 5.1; W (below) 2.8

Preservation: Superficial breakage at foot.

Manufacture: Solid handmade leg attached to fragment of wheelmade body; round section; the back of lower leg pinched, forming a vertical rib of clay. *Decoration:* a wide vertical band of paint on the outer surface of the leg; perhaps tapers downwards.

Context 8: Mixed; including LM IIIC, Geometric, Orientalizing.

Date: LMIIIC?

Pl. 72 top

J94. Fragment from the underside of a large bull figure.

Dimensions 10.1x7.2

Manufacture: Hollow, wheelmade.

Treatment/decoration: A plastic undulated strip of clay with a nodule of clay at one end represent the penis and testicles.

Context 8: Mixed; including LM IIIC, Geometric, Orientalizing.

Date: LMIIIC?

GROUP 8 Five body portions from figures of similar scale, sharing fabric, and linear decoration, of which some may belong to the same figure(s). Of these, only one (**J95**) is catalogued below.

Fabric: Pure.

Biscuit: 'Sandwich' where thicker; interior 2.5YR 6/6 (red); core 2.5YR N8/0 (white); internal surface 5YR 7/6 (reddish yellow).

External surface (slip?): 7.5YR 8/6 (reddish yellow) to 7.5YR 8/4 (pink to reddish yellow).

Paint: 5YR 4/3 (reddish brown).

Pl. 73 left

J95. Portion of the underside of body; large (bovine) figure.

Manufacture: Hollow, wheelmade; added clay on external surface corresponds with the attachment area of leg.

Decoration: Three vertical lines (the one curved) which extended from the body down the outside of the attached leg.

LEGS OF LARGE, LM IIIC ANIMAL FIGURES

(96-103)

J96

Fabric: Pure; (sparse sub-white and brown inclusions).

Biscuit: Uneven firing; 7.5YR 6/4 (pink) to 7.5YR N8/0 (white).

Slip: 10YR 8/4 (very pale brown).

Paint: 5YR 2.5/1 (Black).

Pl. 74 left

J96.

H 12; D 2.8-3.2

Manufacture: Hollow, wheelmade. Attachment area of wheelmade body survives.

Treatment/decoration: A ring with drip on the lower part of the leg. Worn, vertical band ran down the outer surface of the leg.

Context 8: Mixed; including LM IIIC, Geometric, Orientalizing.

Pl. 74 right

J97.

H 9.5; D 3.8-2.2

Fabric: Few grey and brown inclusions

Preservation: Foot broken.

Manufacture: hollow, wheelmade. Attachment area of wheelmade body with airing hole survives. The outer surface of the leg covered with additional clay. The narrowing of its lower surviving part is due to the lack of additional clay.

Context 11: Mixed; including LM IIIC, Geometric, Orientalizing and modern material.

Pl. 75 left

J98.

Context 8: Mixed; including LM IIIC, Geometric, Orientalizing.

Pl. 75 middle

J99.

Contexts 8 and 11: Mixed; including LM IIIC, Geometric, Orientalizing and modern material.

pl. 75 right

J100.

Context 8?: Mixed; including LM IIIC, Geometric, Orientalizing.

Pl. 76 left

J101.

Fabric: Pure.

H 11.7; W 2.4-3.5

Paint: Worn; black.

Manufacture: Solid, handmade; attachment area of wheelmade body survives.

Treatment/decoration: The upper leg solid painted. A band runs down the outer part of the leg.

Context 11: Mixed; including LM IIIC, Geometric, Orientalizing and modern material.

Pl. 76 middle

J102.

H 11.9; D 3.3-3.8

Fabric: Pure

Paint: Traces; reddish brown to red.

Manufacture: Solid, handmade, with stick hole.

Context 11: Mixed; including LM IIIC, Geometric, Orientalizing and modern material.

Pl. 76 right

J103.

Cylindrical leg with splaying hoof.

H 8.8; D 3.6; L (hoof) 4.8

Fabric: Dark grey inclusions, small; some medium.

Paint: Worn; dark brown.

Preservation: Upper part broken.

Manufacture: Solid, handmade. Leg round section; hoof oval section.

Decoration: Solid painted.

Context 7: MM I - LM I with some LM IIIC.

TYPE 7 LEGS

(104-109) CYLINDRICAL LEGS WITH SEVERAL PARALLEL RIDGES

Pl.77 middle

J104.

H 9.4; D 3.5-3.8

Fabric: Practically sandy. Inclusions medium grey and brown; larger off-white inclusions; on the external surface mostly brown and off-white.

Biscuit: interior 7.5YR 7/8 (reddish yellow); core 10YR 7/1 (light grey)

Paint : 5YR 5/6 to 5YR 5/8 (yellowish red)

Top broken off; solid; cylinder, flat underneath; three ridges survive; Solid painted.

Context 10: Mixed, including MM I - LM I, LM III C and Geometric.

Pl. 77 right

J105.

H 9.4; D 3.3-4.1

Fabric: Coarse; many small and medium inclusions, grey (mostly), brown and sub-white inclusions.

Biscuit: uneven firing;

5YR 7/8 (reddish yellow) to grey.

Paint: Traces of red.

Both ends broken off; solid; four ridges survive.

Context 12: Mixed; with plentiful LMM III material including LM III C and Geometric.

Pl. 78 middle

J106.

H 6.8; D 2.8-2.9

Fabric: Pure?

Paint: Survives brown to brownish black.

Both ends broken; hollow, handmade; stick hole; pierced at base; tapering cylinder; two ridges survive; solid painted.

Context 8: Mixed; including LM III C, Geometric, Orientalizing.

Pl. 79 top left

J107.

H 5

Fabric: Nearly clear; few grey and brown inclusions

Paint: Traces of black.

Handmade? Part of splaying foot and ridge above it. Stick-hole?

Context 10: Mixed, including MM I - LM I, LM IIIC and Geometric.

Pl. 79 top right

J108.

H 3.9; D 2.7; base 3.9

Fabric: Pure

Paint: Red; solid painted.

Bottom part of leg; splaying base and ridge above this. The syringa has characteristic striations (wheelmade?)

Context 12: Mixed; with plentiful LMM III material including LMIIIC and Geometric.

Pl. 79 top middle

J109.

H 5.2; D 3.5; D base 4.3

Fabric: Small inclusions, mostly grey.

Paint: Black; solid painted.

Larger example with ridge near the base which splays a little.

TYPE 8 LEGS

(J110-J116) CYLINDRICAL LEGS WITH MIDDLE RIDGE; presumably corresponding with knee joint.

Pl. 80 2nd left

J110.

H 9.1; D 2.4-2.6

Fabric: Pure, few small grey inclusions.

Biscuit: 2.5YR 6/4 (light reddish brown).

Slip: 7.5YR 8/5 (pink to reddish yellow).

Paint: 5YR 7/8 (reddish yellow) as it survives.

Hollow, wheelmade; stick hole; two ridges, one in middle, one above base; splaying foot; two pairs of lines converge in V-shape at middle ridge; middle ridge and splaying foot solid painted.

Context 9: Mixed; including LM IIIC, Geometric, Orientalizing and modern material.

Pl. 78 right

J111.

H 6.9; D 3 (ridge), below 2.3

Paint: worn; fugitive in places; survives brown to black.

Both ends broken; tapering cylinder; hollow, wheelmade?; either end of leg pierced by respective syrx; these do not communicate. The lower one widens at foot. Additional clay covers the exterior of upper part of leg. From middle rib to foot originally solid painted. On upper half of leg two slanted parallel lines (decoration like **J110**).

Context 9: Mixed, including LM III C, Geometric, Orientalizing and modern material.

Pl. 80, 2nd right

J112.

H 8.8; D 2.4-3.4; ridge 3

Fabric: grey, brown and sub-white inclusions; one larger sub-white.

Paint: Worn; light to dark brown.

(Splaying) foot broken; hollow wheelmade; ridge in middle; foot pierced; top end of syrinx covered in clay used to attach foot to body.

Context 10: Mixed; MM III/LMI, also LM III C and Geometric.

Pl. 80, 1st right

J113.

H 6.7; D 2.6-3; ridge 3.4

Fabric: Pure.

Biscuit: 2.5YR 6/4 (light red brown).

Slip: 10YR 8/5 (very pale brown to yellow); clear, thick, applies well.

Paint: Worn; dark brown.

Solid, handmade; stick hole subsequently added; ridge two-thirds down; flat base, pierced by stick hole.

Context 7: Mixed MM I - LM I with some LM III C.

Pl. 78 left

J114.

H 6.1; D 2.5-2.8; ridge 2.7

Fabric: Pure; few small grey inclusions.

Biscuit: 2.5YR 6/4 (light reddish brown).

Slip: 7.5YR 8/5 (pink to reddish yellow) CREAMY YELLOW////////

Paint: Worn, fugitive; 5YR 7/8 (reddish yellow) as it survives.

Top half of leg; hollow, probably wheelmade; tapering cylinder; ridge in middle of leg; solid painted except triangle on most visible side of leg which contains the end of a solid painted triangle.

Context 9: Mixed; including LM IIIC, Geometric, Orientalizing and modern material.

The upper halves of similar legs with middle ridge.

Pl. 79 bottom left and right

J115 and J116.

H 5.2; D 3; ridge 3.

H 6.4; D 3.1; ridge 3

Pl. 79 bottom left

J115.

Fabric: Inclusions brown mainly and sub-white, rather sandy.

Paint: light brown, solid painted.

Pl. 79 bottom right

J116.

Fabric: Rough; sub-white and brown inclusions.

Paint: Brown.

Both wheelmade; **J115** covered in solid dark brown paint; **J116** outer half of leg solid painted, fugitive.

Contexts 9 and 7: Respectively mixed, including MM I - LM I, LM IIIC and Geometric; mixed MM I - LM I with some LM IIIC.

TYPE 9 LEGS

(J117-J119) LEGS WITH RIDGE VERY LOW DOWN

Pl. 80 1st left

J117.

H 8,4; D 2,5; ridge 3.3

Fabric: Pure; well fired.

Biscuit: 5YR 7/8 (reddish yellow).

Slip: 7.5YR 8/4 (pink).

Paint 7.5YR 4/2 (dark brown).

Hollow, wheelmade; cylindrical, splaying slightly; open foot with narrow ridge above it; upper end of hollow of leg covered with clayincised twice to assist attachment to the body.

Context 9: Mixed; including LMIII C, Geometric, Orientalizing and modern material.

(118-119) Two similar roughly formed legs.

Pl. 81 right

J118.

H 7.7; D 2.4-4.3; ridge 2.9

Fabric: Grey inclusions

Paint: Reddish brown.

Context 10: Mixed; including MM I - LM I, LM III C and Geometric.

Pl. 81 middle

J119.

H 7.9; D above/high 3.2-3.7

Paint: Worn; ranges from dark brown to reddish brown

Possibly wheelmade; the syrxinx widens in the area of the hoof.

Rather bulbous ridge above base. Additional clay on the upper part of the syringa to facilitate the adherence to the body. Both legs feature lines which converge in V-shape above the foot; feet solid painted.

Context 8: Mixed; including LMIIIC, Geometric and Orientalizing.

Pl. 82 left

J120.

H 8.5; D 2.7; D at foot 4

Fabric: Pure practically; few inclusions, mostly grey.

Biscuit: reddish yellow.

Slip: 10YR 8/3 (very pale brown).

Paint: Worn; 10YR 4/1 (dark grey).

Context 10: Mixed; including MMI - LM I, LMIIIC and Geometric.

Shorter example with ridge above base which splays a little

Pl. 81 left

J121.

H 5.2; D 2.4; D ridge 2.7; D base 2.9

Fabric: Pure.

Biscuit: 'Sandwich'; LIGHT KA_KO TO 5YR 6/6 (reddish yellow) KA_KO

Slip: 10YR 8/3 (very pale brown).

Paint: Where darkest 2.5Y N3/0 (very dark grey).

Hollow, wheelmade (?); ridge above flat foot.

Context 8: Mixed; including LMIIIC, Geometric, Orientalizing.

Short legs with ridge and attachment to body surviving

Pl. 83 top left

J122.

H 4.3; D 2.1; D base 3.2

Fabric: Pure.

Paint: Black.

Hollow, wheelmade; the syrx widens at both ends; short, biconical foot, open underneath.

Context 11: Mixed; including LM IIIC, Geometric, Orientalizing and modern material.

Pl. 83 top middle

J123.

H 4.4; D base 3.1

Solid; short cylinder with foot, crooked.

Context 10: Mixed; MMI - LM I, LMIIIC and Geometric.

Pl. 83 top right

J124.

H 3.9; D 2-2.7

Fabric: grey and sub-white inclusions

Short cylinder with foot, hollow underneath.

Short leg with bulbous protrusion at the base of the foot.

Context 9: Mixed; including LM IIIC, Geometric, Orientalizing and modern material.

INDIVIDUAL PORTIONS FROM SEVERAL LARGE ANIMAL FIGURES of varying scales, all larger than those described previously, ordered by increasing scale.

They share the following characteristics:

- their fabrics are the same or closely related, and pure or with very few inclusions
- most appear to have been decorated in simple linear decoration

HEAD PORTIONS

Pls. 84-85

J125. Conical shaped head; from very large bovine figure.

Distinguished by its size and shape from all other heads

L 13; W 6.5

Preservation: Horns and end of snout are broken off.

Manufacture: Solid head formed around the end of a wheelthrown core. At this end, the core is cone-shaped (the nodule of clay at the interior of its point is characteristic of manufacture on the wheel). This is either the front end of the figure's body core, or part of a separately modelled unit. Either way, it reinforced the figure's head and neck.

On the exterior, head and muzzle form a uniform cone

Treatment/decoration: On the broken tip of the muzzle, the remains of nostrils (holes), mouth (horizontal incision), tongue (a plastic strip emerging from the mouth and ending in the left nostril). Round plastic eyes. Decoration on the forehead unclear: either a cross-hatched triangle, or reduplicated triangles with a ladder pattern between them. On either side of the forehead two bands which start at the base of the horns and converge at the tip of the snout. Eye decoration unclear (either a circle with central dot, or solid painted).

Context 8: Mixed; including LMIIIC, Geometric, Orientalizing.

Date: LMIIIC, on stylistic grounds.

Pls. 86-88

J126-J129. Four similar cylindrical muzzles; from very large bovine figures.

Fabrics: practically clear apart from 71 which has more inclusions; the paint on the muzzles is darker brown than on the surviving fragments. This is probably an accident of preservation.

126. Pl. 86; L 5.1; D 5.7

127. Pl. 87; Dimensions?

128. Pl. 88; L 6; D 3.8

129. No ph; L 7.4; D: 5.2

Manufacture: **J126-J128** are solid, handmade. **J129** (no photo) comprises a thrown cylindrical core, closed in the front, around which the muzzle was formed with additional clay. Its punctured nostrils communicate with the hollow cylinder. The other muzzles' nostrils probably also communicated with the head. Fingerprints on the front of the muzzles of **J126** and **J127**. The great length of the muzzles' nostril holes indicate that these most likely communicated with the rest of the head and functioned as airing holes.

Treatment/decoration: Holes for nostrils; an incision for the mouth. A plastic tongue emerges from the mouth and enters a nostril (**J128** the right nostril; **J126** and **J127** the left nostril). No decoration (survives?) on **J128**. The three other muzzles are solid painted in their ends.

Contexts: Various contexts including contexts; **J126: context 12:** Mixed; with plentiful LM III material, including LM IIIC, and Geometric; **J128: context 8:** Mixed; including LM IIIC, Geometric, Orientalizing.

BODY PORTIONS WITH DECORATED HAUNCHES

Pl. 89 left; fig. 58

J130.

H 7.1; L 5.5; W 4.2

Fabric: Pure.

Biscuit: Uneven firing; 7.5YR 8/4 (pink) to 5YR 7/6 (reddish yellow).

Slip: 10YR 8/3 (very pale brown).

Paint: Brown.

Manufacture: The surviving part has been formed with additional clay which was added to the outer surface of the wheelmade core. It features part of a vertical airing hole.

Treatment/decoration: Cross-hatching which decorated the haunch.

Context: Mixed; mainly LMIIIC.

Date: LMIIIC.

Pl. 89 middle

J131.

Pl. 89 right

J132.

H 4.5; L 4.7

Manufacture: The surviving part has been formed with additional clay which was added to the outer surface of the wheelmade core. It features part of a vertical airing hole.

Treatment/decoration: Cross-hatching bordered behind by a band, which decorated the haunch.

Context: Unknown.

Date: LMIIIC, on stylistic basis.

Pl. 90; fig. 59

J133. Rear body portion with part of left haunch.

7.7x5.9

Manufacture: Hollow, handmade.

Treatment/decoration: Cross-hatching bordered by a curved band which followed the contour of the haunch.

Context 11: Mixed; including LM IIIC, Geometric, Orientalizing and modern material.

Date: LMIIIC?

FRAGMENTS WITH SPINE

Pl. 91a

J134 a-b. Two body portions featuring the spinal region from the same figure.

134a. L 6.9; W 5.5

134b. L 3.8; W 4.9

Fabric: Pure.

Biscuit: 'Sandwich'; 5YR 7/6 (reddish yellow) to 5Y 8/1 (white); internal surface 7.5YR 7/4 (pink).

Slip: 7.5YR 8/4 (pink).

Paint: Worn in plces; brown.

Manufacture: Hollow, wheelmade.

Treatment/decoration: Angular side walls; spine coincides with ridge; band along spine and on either side of this.

Context 10: Mixed; including MM I - LM I, LMIIIC and Geometric.

Date: LMIIIC or later?

Pl. 91b

J135.

L 10.9; W 5.9

Manufacture: Hollow, wheelmade.

Treatment/decoration: Angular side walls; spine coincides with ridge; band along spine.

Context 8: Mixed; including LMIIIC, Geometric, Orientalizing.

Date: LMIIIC?

REAR BODY PORTIONS

Pls. 92a-b

J136. Rear body portion.

H 9.9; L: 10.5

Fabric: Pure.

Biscuit: internal and internal surface 5YR 7/8 (reddish yellow).

Slip: 7.5YR 8/4 (pink).

Paint: Fugitive, reddish brown.

Preservation: A haunch, the rump with the start of the tail and the slightly broken airing hole beneath this.

Manufacture: hollow, wheelmade body, rendered more naturalistic at the haunch with its further shaping rather than with the more usual addition of clay.

Context 8: Mixed; including LM IIIC, Geometric, Orientalizing.

Pl. 93 top

J137. Portion from rear end of body with part of airing hole; from large (bovine) figure.

7.3x8.1

Hollow, wheelmade. Paint on small surviving external surface.

Context 9: Mixed; including LM IIIC, Geometric, Orientalizing and modern material.

Date: LMIIIC?

Pl. 93 bottom left

J138. Portion from rear end of body with small part of airing hole; from large (bovine) figure.

7.7x9.5

Hollow, wheelmade. Band of paint along the outer edge of the body.

Context 10: Mixed; including MM I - MM II, LM IIIC and Geometric.

Date: LMIIIC.

Pl. 93 bottom right

J139. The rear end of the body with the start of the tail and airing hole; large (bovine) figure.

H 10.1; W 7

Fabric: mainly small and medium inclusions; brown and grey.

Biscuit: 'sandwich'; 2.5YR 6/6 (light red) to 10YR 7.5/1 (white to light grey).

Manufacture: Its breakage (revealing two layers of clay) permits observations on the stages of manufacture. It is composed of part of the closed end of the wheelmade body (inner layer) around which was modelled the rump with additional clay (outer layer). The inner surface of the wheelmade end features deep finger marks. The airing hole was made by piercing both consecutive layers of clay.

Treatment/decoration: Oval section of body at this end. Plastic tail, round section.

Context 8: Mixed; including LM IIIC, Geometric, Orientalizing.

Date: LMIIIC.

PORTIONS WITH GENITALIA

Pl. 94.

J140 and J141. Two body portions with partly preserved genitalia; from very large (bull) figures.

140. 6.7x5.8

141. 4.7x3.4

Manufacture: Both hollow, wheelmade.

Treatment/decoration: On both, plastic strip for penis; pellet for testicle on **J140**.

Context 8: Mixed; including LM IIIC, Geometric, Orientalizing.

Date: LMIIIC?

Pl. 95

J142. Back, left hand portion of body with the juncture of corresponding leg; and small middle part of tail.

Fabric: Contains small inclusions, grey and a few white.

Biscuit: interior 2.5YR 6/6 (light red); internal surface: 7.5YR 8/4 (pink).

Slip: 10YR 8/2 (very pale brown).

Manufacture: Cylindrical wheelmade core to which added clay was applied to render the body more realistically. The sunken broken area on the underside with airing hole indicates the placement of the rear left leg. The plastic tail ran down the back of the left leg.

Decoration: Two parallel lines descend vertically: one on the tail the other on the rump.

Context 8: Mixed; including LM IIIC, Geometric, Orientalizing.

Date: LMIIIC?

(143-145) Body portions possibly from large animal figures, rather than from vessels. If they are from animal figures, they are body portions without any distinctive anatomical characteristics.

Pl. 96

J143. Six body portions from the same or similar figures, of which **J143** is the largest.

15.4x8.6

Fabric: Small grey inclusions.

Biscuit: 'sandwich'; interior 2.5YR 6/6 (light red); core 7.5YR 8/0 (white).

Slip: 7.5YR 8/4 (pink).

Paint: No evidence.

Manufacture: Hollow, wheelmade.

Context 9: Mixed; including LM III C, Geometric, Orientalizing and modern material.

Date: If animal figure, most likely LM III C.

Pl. 97 left

J144.

10.6x9.8

Fabric: Pure.

Biscuit: Internal 7.5YR 7.5/6 (reddish yellow) to 2.5YR 6/6 (light red); internal surface 7.5YR 7.5/6 (reddish yellow).

Manufacture: Hollow, wheelmade.

Context: Surface find.

Date: If animal figure, most likely LM III C.

Pl. 97 right and 98

J145.

14.3x12.3

Fabric: Pure.

Biscuit: 7.5YR 8/4 (pink) to 5YR 7/6 (reddish yellow).

Slip (?): Pink?

Paint: Worn, brown.

Context 9: Mixed; including LM III C, Geometric, Orientalizing and modern material.

Date: ?

Pl. 99

J146. Back portion of animal with rump hole and middle part of tail.

H 6.5; W 8.1

Fabric: Clear, very few inclusions.

Biscuit: Interior 2.5YR 6/4 (light reddish brown) to approx. 7.5YR 8/5 (pink to reddish yellow).

Slip: 10YR 8/4 (very pale brown).

Paint: Brown, fugitive.

Manufacture: Wheelmade figure; the surviving fragment consists of additional clay added to the rear of the body's wheelmade core. The hole on the rump most likely communicated with the interior of the figure, and served as an airing hole.

Treatment/decoration: The applied tail has an elliptical section; it extends vertically on one side of the hole. On its other side survives the back edge of a haunch rendered in relief. Fugitive paint on the tail indicates that it was solid painted.

Context 10: Mixed; including LM IIIC, Geometric, Orientalizing and modern material.

Pl. 100

J147. Possible portion of wheelmade body, or part of vessel (or horns of consecration).

15.4x8.6

Fabric: Contains small grey inclusions.

Biscuit: 'Sandwich'; internal 2.5YR 6/6 (light red);

core: 7.5YR 8/0 (white); internal and external surfaces circa 7.5YR 8/4 (pink).

Manufacture: Deep wheelmarks; final form due to handshaping after manufacture on wheel. No additional clay on the external surface.

Contexts 8 and 11: Mixed; including LM IIIC, Geometric, Orientalizing and modern material.

LEGS FROM VERY LARGE FIGURES

Pl. 101

J148. Cylindrical leg from particularly large (bovine) figure.

H 14.4; D 6.3; D (base) 5

Fabric: Few grey and some sub-white inclusions.

Biscuit: 'sandwich'; internal and external surface 5YR 7/8 (reddish yellow); core 10YR 7/1 (light grey).

Slip: 7.5YR 8/5 (very pale brown to yellow).

Paint: Reddish brown to dark brown.

Manufacture: Hollow, wheelmade. The internal surface bears the characteristic fingermarks. These are horizontal and parallel where the leg is widest, centrifugal (with shallower grooves) where it narrows, near the base. On the upper surface of the inner leg, an added pad of clay, originally aiding its attachment to the body. This indicates that the leg height is practically intact.

Treatment/decoration: Bulbous tapering cylinder; flat rim at foot, on its underside disk with central opening. Possibly solid painted.

Context 9: Mixed; including LM IIIC, Geometric, Orientalizing and modern material.

Date: LMIIIC, on stylistic grounds.

Pls. 102 middle and 71 left.

J149-J150. Two leg portions, probably from same, particularly large (bovine) figure. These two portions, which were found close to each other, share the same fabric and are of the same scale. They may even comprise two non-joining fragments of the same leg.

J149. Middle portion of leg; H 9.4; W 4.4-4.7

J150. Lower portion of leg with hoof; H 8.7; D (upper) 4; D (lower) 3.3

Fabric: Many inclusions, mostly medium; sub-white and brown.

Biscuit: Reddish yellow to grey in the core.

Paint: Red.

Manufacture: Solid, handmade.

Treatment/decoration: **J149** flattened cylinder; plastic knee joint;

J150 split hoof; plastic fetlock. Originally solid painted in red.

Context 7: Mixed MM I - LM I with some LM IIIC.

Date: LMIIIC?

POST - MINOAN ANIMAL FIGURES

(1) LARGE ANIMAL FIGURES

(J151-J152) These two portions may belong to objects other than animal figures.

Pl. 103 right; fig. 60

J151. Portion possibly from the cylindrical body of a large animal figure

8.8x9

Preservation: Worn outer surface.

Manufacture: Hollow, wheelmade. On its outer surface the end of a clay strip and 'splashes' of clay.

Treatment/decoration: Panels divided vertically and horizontally by groups of lines. The best preserved is vertical and narrow, crosshatched.

Context 10: Mixed; including LM IIIC, Geometric, Orientalizing and modern material.

Date: Geometric, on stylistic grounds.

Pl.103 left; fig. 61

152. Portion possibly from the cylindrical body of a large animal figure?

Dimensions: ?

Fabric: Pure

Biscuit: Internal 7.5YR 7/6 (reddish yellow); internal surface 7.5YR 8/4 (pink)

Slip: ?

Paint: Brown.

Manufacture: Hollow, wheelmade.

Treatment/decoration: Two horizontal panels, the one with vertical cross-hatched lozenges, the other with a chain of horizontal lozenges.

Parallel: Chain of horizontal lozenges on a Protogeometric stand from Patsos, see Kourou and Karetsou 1994, pp. 116 no.74, pl. 90 and figs. 32-33; and p. 142.

Context 10: Mixed; including LM IIIC, Geometric, Orientalizing and modern material.

Date: Geometric (Protogeometric?) on a stylistic basis.

Pl.104

J153. Rear right haunch; from large animal figure.

c6.7x6.2

Fabric: Pure.

Biscuit: brown to brownish yellow.

Slip: Sub-white.

Paint: Worn, brown.

Preservation: A small part of the decorated left side of the body survives.

Manufacture: Hollow, wheelmade.

Treatment/decoration: Features part of plastic spine. A narrow line runs along the spine. Pendant on either side of this, a group of five short lines. The right haunch features, above a base line, a cross hatched-triangle and two smaller inverted solid triangles. The left haunch was probably similarly decorated.

Parallels: Decoration on smaller figures from Aghia Triadha in Kanta 1980 p. 102, figs. 39.2 and 39.8, dated to Sub-Minoan/Protogeometric; Patsos in Kourou and Karetsou 1994, p. 103 (no. 28 and fig. 50), and 139 (date), dated to Protogeometric.

Context 11: Mixed; including LM IIIC, Geometric, Orientalizing and modern material.

Date: Protogeometric (?), on stylistic grounds.

Pl. 105; Figs. 62a-b

J154 a-c. Three non-joining portions (a body fragment and two legs) from one or more similarly sized animal figures.

Pl. top.

J154a. Body fragment. 7.3x4.6

Pl. bottom right.

J154b. Leg. H 8

Pl bottom left.

J154c. Leg. H 6.2; D (bottom) 2.8-3.3

Preservation: Good; circular breakage on body sherd; the edge of the hooves of both legs broken; decoration worn in places.

Fabric: Pure.

Biscuit: Yellowish brown.

Slip: Sub-white.

Paint: Dark brown.

Manufacture: Hollow, wheelmade body and legs. The round breakage on the body sherd with a firing hole in its middle indicates the attachment area of a third leg which does not survive. Both surviving legs preserve the attachment area to the body. Neither features firing holes.

Treatment/decoration: Legs: round sections, open underneath. Shorter, splaying leg 154c is more schematic than leg 154b shaped with hand pinching. It is common for legs from the same figure to differ considerably both in the Bronze (French 1985, 240) and Iron Ages.

The body fragment features panels divided horizontally and vertically by groups of parallel lines. Each features a different motif: laticing, (slanted and straight), cross-hatching, and a chain of cross-hatched lozenges. Visible parts of the legs decorated with a vertical panel of cross-hatching bordered by double reserved lines on black ground that covers the remainder of the legs.

Parallel: headless figure of horse (?) from Kos in Papachristodoulou, *Deltion* 35 (Chr), 552, pl.347; Catling, *ArchRep* 1988-98, 110; fig. 151.

Contexts 10 and 11: Mixed; MM I - LM I, LM IIIC, Geometric, Orientalizing, modern material.

Date: Geometric, on stylistic grounds.

Identification of species: Unknown because of the absence of the head; during this period, horses, bovines and centaurs are known to be represented.

Pl.37 bottom left; fig. 63

J155. Body sherd from large animal figure?

5.5x3.5

Fabric: Pure.

Biscuit: Bright orange.

Paint: Reddish brown to brown.

Manufacture: Hollow, wheelmade.

Treatment/decoration: Parts of two curved decorated bands, bordered on one side by a curved line. The one features a checker-board pattern, the other interlocking triangles.

Identification: Difficult. This sherd would appear to have belonged to a thin-walled object with a very large diameter, or to a compressed or flattened cylindrical object. If it is a portion of a (LMIIIC or later) cylindrical animal body, this decoration

could be part of a haunch. A less likely possibility is that it is part of a compressed object, in which case it could be part of the decorated mane of a curved horse handle (cf. Hayden 1991, 129-130, nos. 31-33, fig. 11. 31-33 (Geometric or Protogeometric: p. 142).

Context 11: Mixed; including LMIIIC, Geometric, Orientalizing and modern material.

Date: Very likely Post-Minoan.

Pls. 106-107

J156. Head and neck of horse; large figure.

H 7.8; L 7.3

Preservation: Worn and chipped.

Manufacture: Solid, handmade.

Treatment/decoration: Plastic rendering of mane, ears, eyes. Traces of reddish brown paint.

Context: Superficial find.

Date: post-Geometric?

(2) SMALL AND MEDIUM ANIMAL FIGURES

Pls. 108-110; fig. 64

J157. Rear half of the body with right leg and left haunch; medium animal figure.

H 10; L 10.8; W (rump) 5.9

Preservation: Decoration worn in places. Left leg and tail broken off.

Fabric: Pure.

Biscuit: two consecutive layers of colour: 7.5YR 8/4 (pink) external surface and internal; 2.5YR 6/4 (light reddish brown) internal and internal surface.

Slip: 10YR 8/3.5 (very pale brown).

Paint: Dark brown.

Manufacture: Hollow, wheelmade body, solid handmade legs. The body is closed behind, with a knob of clay on its inner surface. The internal surface features 'centrifugal' striations characteristic of its manufacture on the wheel.

Identification of species: The slender body, well-developed haunches and attenuated legs are more reminiscent of a horse than a bovine.

Treatment/decoration: The plasticity of the animal form is emphasized. The well-developed haunches are rendered with added clay. The plastic tail (of which only the start survives) was attached to the rump. Its original length remains unknown. It did not extend down the right leg. The right leg tapering, with plastic knee joint, flat underneath. Precise linear decoration. A band runs along the spine. A row of dots on the preserved upper part of the tail. Both sides of the body feature similar symmetrical decoration. On the left side, a horizontal ladder most likely linked the front and back haunches (remnants of similar decoration survive on the less well preserved right side). Above this a perfect circle with central dot. A loop outlines the rear left haunch. Inside this, a smaller loop with central 'drop'. Similar decoration on the right haunch: a loop follows its outline and ends on either side of the foot. Inside this, a vertical lozenge with central solid lozenge. Additional linear decoration on the leg.

Decorative and formal parallels: These decorative motifs can be found on two Geometric human figures from Kato Syme with emphasized buttocks reminiscent of the haunches of this animal figure. Cf. ladder pattern on male figure's skirt: Lebessi *PAE* 1981, 388-390 and fig. 5a (early phase of Geometric); double circle on buttock and double rectangle in pubic area of male figure: Lebessi 1977 *PAE* 1977, 411-412, fig. 1, pl. 217a (Protogeometric).

Contexts 8 and 9: Mixed; including LM IIIC, Geometric, Orientalizing and modern material.

Date: (Proto)Geometric?

Fig. 65

J158. Two thirds of a body with rear right leg; medium animal figure.

L 8; H 7.6; W (withers) 4.7

Preservation: Rear left leg broken off; decoration worn.

Fabric: Few tiny, grey and sub-white inclusions.

Biscuit: 5YR 6.5/6 (reddish yellow)

Slip: 7.5YR 7.5/6 (reddish yellow) ?

Paint: Worn; dark brown.

Manufacture: Solid, handmade body and legs.

Treatment/decoration: Leg round section. Decoration partly preserved. A panel on the back is formed by a band running along each side of the body (and probably extending down the outer surface of the legs). This panel features alternating transecting lines and rows of dots.

Parallels: Similar decoration is attested on both LBA IIIC and Geometric figures of similar size.

LH IIIC: Very similar decoration on figure from Tiryns: Weber - Hiden 1991, Tiryns. *Forschungen und Berichte XI*, 70, fig. 46.

Geometric: Two bovine figures decorated with transecting lines (without dots) from Kato Syme: Lebessi *PAE* 1981, 390 and pl. 257a (Early Geometric); less close parallel: similar decoration on two horse figures from burial context: Lebessi *PAE* 1970, 286 and pl.399γ (Late Geometric).

Context 9: (surface find) Mixed; including LMIIIC, Geometric, Orientalizing and modern material.

Date: LM IIIC (or Geometric?).

Fig. 66

J159. Body portion with upper parts of rear legs; medium animal figure.

L 8.9; H (legs) 6.2; D 3.6-3.8

Preservation: Front portion (head, neck, front legs) missing; tail broken off.

Fabric: Pure.

Biscuit: 7.5YR 7/6 to 5YR 7/6 (reddish yellow).

Slip: 7.5YR 8/5 (pink to reddish yellow).

Paint: Worn; 5YR 3/2 (dark reddish brown).

Manufacture: Solid, handmade body and legs; plastic tail. Hole in rump. Finger marks on body, most prominent in attachment area of tail.

Treatment/decoration: Decoration partly preserved. Band along spine. Parallel slanted lines fill panels along sides. Inside the loop on left haunch, two attached horizontal lozenges. Two short lines above rump hole.

Context 12: Mixed; with plentiful LM III material, including LM IIIC, and Geometric.

Date:: Geometric?

Fig. 67

J160. Head of medium animal figure.

H 3.5; W 3.2

Preservation: Missing the muzzle, left horn and part of the right horn.

Fabric: Pure.

Biscuit: 2.5YR 6/6 (light red).

Slip: 7.5YR 7/6 (reddish yellow).

Paint: Dark brown.

Manufacture: Solid, handmade.

Treatment/decoration: Small punctured circles for eyes; the right ear plastic. Linear decoration on the face.

Context 9: Mixed; including LM IIIC, Geometric, Orientalizing and modern material.

Date: Geometric?

Below follow several portions of medium animal figures which I am finding difficult to date. The head does not survive on any of these, therefore the identification of species remains problematic. They share morphological and decorative similarities. They come from contexts which include Geometric material or contain mixed material including plentiful LMIIIC. I have found the distinction between LMIIIC and Geometric difficult because these periods share certain decorative principles, for example the outlining of the body with thick bands, the filling in of these areas with parallel lines. I have not been able to find close parallels.

Pl. 111

161. Headless body; medium animal figure.

L 12.6; W (front) 4

Preservation: Back legs reconstructed; body portion filled in.

Fabric: Pure.

Biscuit: 2.5YR 5/6 (red).

Slip: Light brown.

Paint: Worn; dark brown.

Manufacture: Solid, handmade body and legs. Unknown if it had tail.

Treatment/decoration: Bands outline the body contours (spine, sides, legs); short parallel lines fill these on outside of legs.

Context: Mixed.

Date: LMIIIC or later?

Fig. 68

162. Back half of body with left leg.

L 7.9; H 6.5; D (body) 3.2-3.5

Fabric: Small to medium inclusions, grey and some sub-white.

Biscuit: Uneven firing; reddish brown to grey.

Slip: 10YR 8/4

Paint: 7.5YR N3/0.

Preservation: Left side more worn.

Manufacture: Solid handmade body and legs.

Treatment/decoration: The leg has a slight foot. The stump of the plastic tail survives. On either side of the band along the spine, symmetrical decoration of parallel slanted lines.

Context 9: Mixed; including LM IIIC, Geometric, Orientalizing and modern material.

Date: LMIIIC or later?

Fig. 69

163. The back half of body, without legs; medium animal figure.

L 8; H 4.5; W (rump) 4.5

Preservation: Outer surface worn.

Fabric: Pure.

Biscuit: 5YR 7/6 (reddish yellow).

Slip: 7.5YR 8/4 to 8/6 (pink to yellowish red).

Paint: 7.5YR 3.5/2 (dark brown).

Manufacture: Solid, handmade body and legs; a narrow airing hole starts at the rump and narrows at mid-body breakage point.

Treatment/decoration: The stump of the plastic tail survives. On either side of spine band, symmetrically placed parallel zig-zags. On underside of body, three horizontal, parallel lines, worn.

Context 8: Context Mixed; including LM III C, Geometric, Orientalizing.

Date: LM III C or later?

Pl. 112

164. Narrow head from medium animal figure.

L 5.2; H 1.6

Fabric: ?

Preservation: The horns and/or ears and left eye are broken off.

Identification of species: Due to its incomplete state, this is problematic. However, the attenuated, narrow head and muzzle are rather equine in appearance.

Manufacture: Solid, handmade.

Treatment/decoration: Cylindrical muzzle with horizontal incision for mouth. The relief eyes in shallow cavities, bordered above by plastic ridge with a row of short incisions.

Possible parallel: Quite like similarly proportioned head of figure of horse from Vrokastro: no. 27 in Hayden 1991, 128, fig. 10.27 (Geometric or Protogeometric: 142).

Context 11: Mixed; including LMIIIC, Geometric, Orientalizing and modern material.

Date: If post-Minoan, Geometric?

Pl. 113 left

J165. The head of medium animal figure.

L 3.6; W 5.1; H 4.9

Preservation: The end of the muzzle, right horn and right ear are missing.

Fabric: ?

Manufacture: Hollow, wheelmade muzzle. It may well have been the front part of the body's wheelmade core, subsequently pinched by hand to form the muzzle. Other features of the head formed by hand on this.

Treatment/decoration: Upper head and horn area a uniform vertical ridge. The right horn small and flat. The eyes round, flat pellets. Possibly solid painted in brownish black paint.

Possible parallels: Not unlike figures from Kommos: C3050 bovine figure (?) in Shaw 1981, 241, note 95, pl. 59g (8th c. B.C.); and C6085 figure of horse (?) in Shaw 1984, 282, pl. 60 (10th to 8th/7th c.). Less like solid made bovine figure from Vrokastro in Hayden 1991, 114, no. 11, fig. 5.11 (Geometric or Protogeometric: 123 and 142).

Context 12: Mixed; with plentiful LM III material, including LM IIIC, and Geometric.

Date: Post-Minoan.

SECTION II

J166-J172: Figure portions which can be assigned to specific periods on the basis of parallels from unmixed deposits; or figures from mixed deposits which cannot be assigned with certainty to specific periods since their manufacture/morphology/decoration are diachronic.

Pl. 114

J166. Head of small bovine figure.

H 4.5; L: 3.5; W in horn area: 4.8

Preservation: Horns broken off; face not intact.

Fabric: Pure.

Biscuit: 7.5YR 7.5/6 (reddish yellow).

Slip and paint: Unknown.

Manufacture; Solid handmade head and horns. Head formed with additional clay around the front of a solid spherical core (cf no.12 and my plate 21). On its underside a clay stub which slotted into the hollow of the figure's neck/body.

Treatment/decoration: (Remnants of) incised mouth. Due to breakage, it is not known whether other features were represented.

Context 7: Mixed MM I - LM I with some LM IIIC.

Date: ?

Pl. 115

J167. Head of small bovine figure

H 3.1; L 2.6; W (horns) 3.2

Manufacture: Solid, handmade head and horns.

Treatment/decoration: Schematic rendering of horn and muzzle; clay stub attached the head to the body. All these features are conical, the stub more pointed.

Context 10: Mixed, including MM I - LM I, LM IIIC and Geometric.

Date: ?

Pl. 6 middle

J168. Head with deep mouth aperture; medium bovine figure.

L (int.) 5.5; H 3.4; W (horns) 5.7

Preservation: horns broken off.

Fabric: Sandy feel; inclusions.

Biscuit: 5YR 7/7 (reddish to reddish yellow).

Slip and paint: Unknown.

Manufacture: Solid, handmade with deep mouth aperture which did not communicate with the body. While possibly emulating a rhyton, the figure could not function as one.

Treatment/decoration: Head flat on top; the eyes irregular, incised circles.

Context: Surface find.

Date: ?

Pls. 116 (top view) and 117 right (underside)

J169. The right half of a medium bovine head.

L 6.9; H 6.4; W 3.2

Preservation: Muzzle and horn broken off.

Fabric: Small inclusions; similar in light weight and colour to the Painted Rough Textured Buff Fabric of small figures.

Biscuit: 10YR 8/4 (very pale brown).

Slip: ?

Paint: 5YR 4/4 (reddish brown).

Manufacture: Hollow, handmade head; solid horns. The final forming of the head was accomplished with the manipulation of the clay from the inside, evidenced by two deep finger prints. There are no surviving finished edges which would indicate the use of a mould.

Treatment/decoration: The ear a plastic strip. The relief of the eye is formed with the pressing of a finger in the inner surface. A relief ridge between the horns. Worn, linear decoration in brown paint across the face and down the back and side of the neck.

Context 9: Mixed; including LMIIIC, Geometric, Orientalizing and modern material.

Date: MM III - LM I; on the combined basis of its form and manufacture, also its decoration.

Pls. 118 right (side view); 119 right (front view); 120 (underside)

J170. The head and chest of medium bovine figure.

H 9.1; L (head): 6.3; W (horn area): 6.3

Preservation: Horns and end of muzzle broken

Fabric: Tiny brown inclusions; rough textured; probably same fabric as Painted Rough Textured Orange of small figures.

Biscuit: Internal surface 5YR 7/6 (reddish yellow); internal greyish; external surface 7.5YR 7.5/6 (reddish yellow).

Paint: 2.5 YR 5/6 (red); preserved sporadically.

Manufacture: Hollow, handformed body; head and horns solid. Head attached to the closed front of the hollow body. The inner walls of the body are smooth. It is possible that the body may have been formed around a solid object.

Treatment/decoration: On the front of the chest an applied pinched pad of clay represents the dewlap. On either side of this assymmetrically placed (airing?) holes punched through the body. Two applied pellets for eyes; a relief protrusion denotes the ear under the horn. Solid painted.

Context 12: Mixed; with plentiful LMIII material, including LM IIIC, and Geometric.

Date: MM III (- LM I); on the combined basis of its form, manufacture and solid painted decoration.

Pls. 118 left (side view); 119 left (front view); 121 (underside).

J171. The front half (at least?) of medium bovine figure

L 8; H 8.4; W of chest 5; L of head: 3.5

Preservation: Legs, horns and end of muzzle broken off.

Fabric: Tiny and small inclusions in interior and inner surface; mostly medium in interior surface.

Biscuit: 7.5YR 8/6 (reddish yellow).

Slip: Approximates 7.5YR 8/3 (pinkish white to pink).

Paint: Reddish brown, originally solid painted (?).

Manufacture: Hollow, handmade body; solid head, horns and legs.

In the interior a clay stub exists at the juncture of the neck and head. This probably projected from the base of the head and aided its attachment to the body.

Treatment/decoration: The head is disproportionately small to the body. It features two large strips of clay for ears under the horns. The eyes are two barely

visible punched circles. Along the body a wide relief band renders the spine. Traces of paint on head and sides of body. (originally solid painted?).

Context 8: Mixed; including LM III C, Geometric, Orientalizing.

Date: MM III (- LM I); on the combined basis of its form, manufacture and solid painted decoration.

Pls. 122-123

J172. Head of medium bovine figure

L (int.) 6.6; H 4.8; D (int. muzzle): 2.9

Preservation: Horns broken off.

Fabric: Tiny and small inclusions? (possibly Painted Rough Textured Orange Fabric of small and medium figures?).

Biscuit: Interior 7.5YR 7.5/6 (reddish yellow) to 7.5YR N8/0 (white); exterior surface also white.

Slip: Probable.

Paint: Frayed; 10YR 3/1 (very dark grey) to brown.

Manufacture: The head and surviving dewlap were formed by adding clay to the open front of a hollow handmade cylinder. The original length of this cylinder is unknown. The possibility cannot be excluded that it formed part of a longer and (wider) inner unit around which the body was also formed.

Treatment/decoration: Round pellets under the area of the horns represent the ears. Protruberance in low relief in area of left eye; the right eye an impressed circle. On the cylindrical end of the muzzle, two shallow holes represent the nostrils; a wide incision the mouth. Under the chin, the tapering end of the plastic dewlap. Solidly painted.

Context 12: Mixed; with plentiful LM III material, including LM III C and Geometric.

Date: MM III (- LM I) on the combined basis of its form, manufacture and solid painted decoration.

ABBREVIATIONS

<i>AA</i>	<i>Archäologischer Anzeiger</i>
<i>ABAC</i>	P. M. Warren and V. Hankey, <i>Aegean Bronze Age Chronology</i> , Bristol (1989).
<i>AJA</i>	<i>American Journal of Archaeology</i>
<i>AM</i>	<i>Athenische Mitteilungen des Deutschen Archäologischen Instituts</i>
<i>Antichità Cretesi</i>	<i>Antichità Cretesi. Studi in onore di Doro Levi I</i> (Cronache di Archeologia 12, 1973), Catania 1977; <i>II</i> (Cronache di Archeologia 13, 1974). Catania 1978
<i>AE</i>	<i>Αρχαιολογική Εφημερίς</i>
<i>ArchRep</i>	<i>Archaeological Reports</i>
<i>ASAtene</i>	<i>Annuario della Scuola Archeologica di Atene e delle Missioni in Oriente</i>
<i>BAR</i>	<i>British Archaeological Reports</i>
<i>BSA</i>	<i>Annual of the British School of Archaeology at Athens</i>
<i>CAJ</i>	<i>Cambridge Archaeological Journal</i>
<i>Deltion</i>	<i>Αρχαιολογικόν Δελτίον</i>
<i>JMA</i>	<i>Journal of Mediterranean Archaeology</i>
<i>KrChron</i>	<i>Κρητικά Χρονικά</i>
<i>MUM</i>	M. Popham <i>et al.</i> , <i>The Minoan Unexplored Mansion at Knossos</i> , (BSA Suppl. 17) Oxford (1984).
<i>OA</i>	<i>Opuscula Atheniensia</i>
<i>PAE</i>	<i>Πρακτικά της εν Αθήναις Αρχαιολογικής Εταιρείας</i>

- PM I-IV* A.J.Evans, *The Palace of Minos at Knossos*, London, vol. I (1921), vol. II (1928), vol. III (1930), vol. IV (1935).
- SIMA* *Studies in Mediterranean Archaeology*
- Sybrita* L. Rocchetti (ed.), *La Valle di Amari fra Bronzo e Ferro*, (Ricerche Greco-Italiane in Creta Occidentale-II. Incunabula Graeca XCVI), Roma 1994
- WA* *World Archaeology*

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