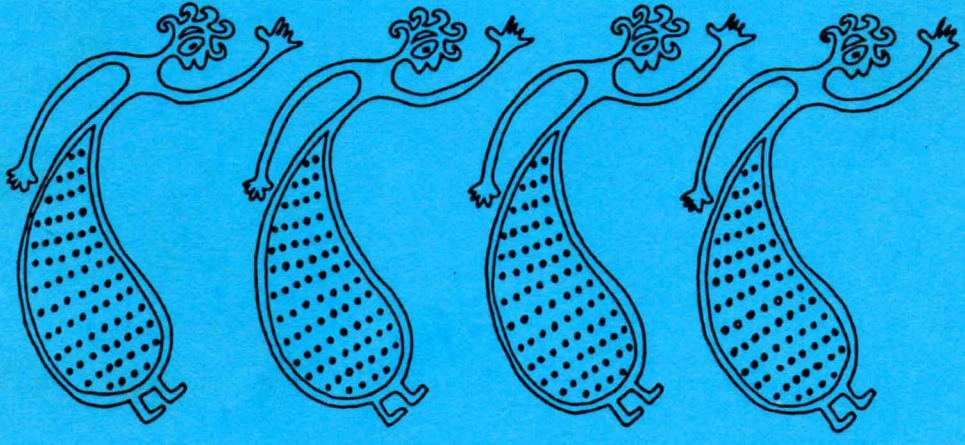
DANCING WITH DEATH

LIFE AND DEATH IN SOUTHERN CRETE
c. 3000 - 2000 BC

KEITH BRANIGAN



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Contents

List Of Illustrations

PREFACE

Since I first browsed through the pages of Stephanos Xanthoudides' book *The Vaulted Tombs of Mesara* in the early 1960's I have been fascinated by the glimpses of life and death in southern Crete four thousand years ago which these tombs and their contents provide. In 1970, with the encouragement of Peter Ucko, I wrote *The Tombs of Mesara* which I regarded as essentially a companion volume to Xanthoudides', and in 1971 I was delighted and honoured to be asked to contribute a short introduction to the reprint of Xanthoudides book. Twenty years on, both books are out of print and more discoveries have been made. Professor Sakellarakis has revealed two further early tombs of this type at Arkhanes and much new information about contemporary funerary practices in northern Crete. Altogether another twenty tombs have been recorded and these include several discovered by myself and David Blackman. Amongst these was the tomb at Ayia Kyriaki which we excavated in collaboration with Dr Costis Davaras and which, despite the inevitable attention of tomb looters, yielded much new information not only about the construction of one of these tombs, but also about the activities focussed at the cemetery site. Equally as important, this tomb and others were at last put into their proper context by the results of the survey which we conducted in the Ayiofarango (or Holy Gorge) in the Asterousia Mountains. It is this survey as much as the new discoveries of tombs that has led me to write this new book.

And this *is* essentially a new book rather than an updated or revised edition of *The Tombs of Mesara*. Whilst some of the topics covered here are inevitably those first discussed in *Tombs*, there is a new interest here in the communities which built and used these tombs and the way in which the tombs were a part of the life as well as the death of these people. The survey in the Ayiofarango, and the evidence it yielded for the settlements contemporary with the tombs, led me to take a greater interest also in the evidence for social behaviour which the tombs and their contents yielded. That interest is reflected in a dozen articles written since 1973 and is reflected again here by the focus of the final three chapters of the book in particular.

In one respect, this book seeks to emulate *Tombs*. Whilst I am anxious that it should present as much as possible of the evidence on which the arguments are based, and be a useful source-book for

students of Minoan Crete, I am also determined that the book should be readable and much more than a catalogue of measurements and artifacts. For this reason I have again tried to pack as much information as possible about the architecture and the contents of the tombs into two tables at the end of the book. There is also an updated gazetteer of tomb sites. At the same time I have tried to make the book more comprehensible to the non-specialist by introducing the use of specialist terms and labels into the discussion gradually and by breaking the text into shorter sections within each chapter. I have also tried, both for the sake of interest and documentation, to use a full range of illustrative material.

Here, as in 1970, I have been fortunate to have had the willing and generous help of fellow archaeologists. I am particularly grateful to Professor Alexiou, Professor Faure, Sinclair Hood, Professor Levi,Professor Sakellarakis, and Professor Zervos for allowing me to use their photographs. For line illustrations I have retained, sometimes in altered form, the distinctive drawings originally prepared for *Tombs* by Mrs M.Maslin, as well as preparing many new illustrations. In the final preparation of material I have been grateful for the cheerful assistance of Yiannis Hamilakis, but over the years since 1970 I have inevitably been given much help, advice and information by many senior colleagues most notably Dr Costis Davaras, Sinclair Hood, Professor Iannis Sakellarakis, and Professor Peter Warren. The other unchanging source of support in this time has of course been my wife, and as the pressures of University life grow ever greater it would have been impossible to complete this book , and indeed my other research work, without her understanding and sympathetic support.

1/1/92.

CHAPTER 1

The Plain, The Mountains, And The Sea

The island of Crete, floating in the Mediterranean Sea between the continents of Africa, Asia and Europe, is today a popular holiday location. Hundreds of thousands of tourists flock to the island to enjoy its golden beaches, swim in its translucent blue sea, and roast in its blazing summer sun. And when they are bored, they visit Knossos, Mallia or Phaistos to wonder briefly at the ruined palaces which were first built there four thousand years ago. For most visitors, ancient Crete means Minoan palaces and villas, snake goddesses and bull-games; it began around 2000 BC and ended six or seven centuries later. The Byzantine churches, Venetian harbours, and Turkish mosques are no more than an attractive backdrop to dinner beneath the stars; the remains left by the Greeks and the Romans are scarcely visible and rarely visited. If the hands of the Greeks, Romans, Byzantines, Venetians, and Turks are all but invisible to the modern tourist, small wonder that they are unaware of the Crete which preceded the palaces.

AN AEGEAN MILLENNIUM

The third millennium BC was a period of invention and innovation not only in Crete but in and around the Aegean Sea as a whole, and it saw the emergence of large nucleated settlements which might fairly be described as the first towns in Europe (Renfrew 1972). In central Greece, on Aegina and Eubeoa, on Cycladic islands like Syros and in the 'Troad' in the north-east corner of the Aegean, these settlements were defended by strong walls, often of massive construction and with projecting towers and bastions, and fortified gateways. Inside the walls, houses with between two and half a dozen rooms lined narrow alleys and streets, and housed populations which in many cases must have been between 300 and 500 persons. In some settlements at least, like Troy, Aegina, and Lerna much larger, well-constructed buildings

were also erected. Apart from their superior size and construction, they were also notable for containing quantities of material quite different to the mundane everyday pots and pans found in the average contemporary house. At Troy this took the form of a hoard of gold, silver and electrum plate and jewellery, together with silver ingots and bronze and copper tools and weapons. At Lerna the material was less spectacular, but just as significant – a carefully stored collection of clay sealings removed from jars and boxes and kept, apparently, as some sort of archive. Such finds, and others, suggest the development of social ranking, of the concept of storable and mobile wealth, and of administered storage and exchange.

The 'treasure' of Troy and the sealings of Lerna also point clearly towards the development of craft specialism. The creation of just one of the gold diadems from Troy involved the manufacture and fitting together of over 2000 individual elements. The manufacture of one gold pendant involved the techniques of tracing, filigree, repousse, granulation, and soldering, surely the creation of a specialist goldsmith. Similarly the seventy different seals which made the impressions on the sealings found at Lerna were sufficiently uniform in their overall style, form and engraving to suggest they were manufactured by specialist seal engravers. Other craft specialisms are also attested in the Aegean at this time. The hands of individual sculptors have been detected in the manufacture of the distinctive Cycladic marble figurines – most notably the so-called Goulandris Master to whom more than fifty works are ascribed. A travelling maker of pithoi (large storage jars) used the same roller stamp at Tiryns, Zygouries and Lerna, whilst the introduction of the fast potter's wheel in the Troad and the Argolid almost certainly indicates the development of specialist potteries producing vessels in large numbers for trade rather than personal use. Similarly, the appearance of carpenters' tool kits comprising various combinations of chisels, adzes, saws and axes marks the appearance of specialist carpenters. Although their products have long since decayed, they are preserved to us in contemporary drawings or models in other materials. Thus, some of the marble figurines play elaborately carved lyres or sit on well-constructed chairs. Most significant, however, are the drawings and the lead models of ships which are shown with twenty to forty oarsmen.

Such vessels are not known in the Aegean before the third millennium BC and their appearance is of major interest for several

reasons. It was presumably in ships such as these that scarce raw materials like copper,silver and gold were moved around the Aegean, and along with these commodities small numbers of manufactured goods. Lead isotope analysis has confirmed that copper and silver/lead were traded from both Attica and the island of Siphnos to other parts of the Greek mainland, to other Cycladic islands and to Crete. Tin and ivory, slowly becoming available and used by Aegean craftsmen, had to come from much further afield but again the new oared ships must have played a crucial part in their acquisition. But the boats which carried these valuable products to the communities around the Aegean, were just as capable of carrying them and other, highly valued, manufactured goods away – that is, wealth had suddenly become much more mobile and the means to move it was at the same time significantly increased. The piracy which we know to have been endemic in the Aegean through Greek, Roman and Venetian times may well have begun in the third millennium BC, and its growth may be directly related to the development of the sophisticated fortifications we mentioned earlier.

PRE-PALATIAL CRETE

In this dynamic Aegean world of the third millennium, Crete both participated and stood apart (Branigan 1988a). Cycladic style pottery and figurines, and smaller quantities of mainland pottery, as well as Cycladic silver and lead, and Attic copper all found their way to Crete. Many of the pottery forms and the bronze types found in Crete were common throughout the Aegean, and occasionally Cretan types of amulets, sealstones, and bronze tools and weapons were either imported or copied elsewhere. Certainly Crete saw the same growth of population, the same nucleation of settlement, and the same intensification and specialisation of craft activity as other regions of the Aegean.

But Crete remained obstinately different to the rest of the Aegean world. Whilst the Cycladic lapidaries made large marble vases, the Cretan stone-vase makers delighted in miniature vases carved in a colourful and bewildering variety of rocks. Their bronzesmiths produced curious triangular daggers or knives which are peculiar to the island, whilst the jewellery makers scarcely used silver but made gold diadems totally different in type to those of the Troad. Potters and sealstone makers indulged a passion for plastic modelling of

animals, making complete vases in the shapes of birds, pigs, sheep and cattle, or carving miniature models of the same creatures on to the tops of their sealstones. Further miniature animal forms were created for use as amulets, whilst the distinctive elements of the religion of the palace period – the snake goddess, the bull games and the double-axe all make their appearance in Crete in the third millennium.

To these differences of material culture there are other variations from the pattern observed in the Cyclades, the Troad and the mainland. Communal burials were the norm in much of Crete, although along the north coast flat cemeteries of cists and rock cut graves denote Cycladic influence. The different pattern of burial may reflect different social structures. Most significantly perhaps none of Crete's settlements were protected by stone-built defences, as if the threats which engendered the walls of Lerna, Aegina and Troy held no terror for the Cretans. There are already some indications that the Cretans were looking eastwards as well as northwards, with Egyptian ivory, faience, and possibly stone vases, Mesopotamian cylinder seals and Levantine daggers occasionally reaching the island.

Even within Crete itself, however, there were important regional variations in material culture and social and economic organisation.

This is not altogether surprising, since Crete is a long narrow island, divided not only into north and south by a very mountainous central spine, but also divided east to west into at least three regions by rugged mountains which sweep down to the north coast. Although some of the major sites of the palatial era are found in the north central and eastern zones of Crete – at Knossos, Mallia, Gournia, Palaikastro, and Zakro – we still have a very incomplete and patchy picture of these regions in the pre-palatial period. In comparison, we have a wealth of information about the communities who lived in the southern central zone of the island in the years between 3000 and 2000 BC.

THE MESARA

This is the area which we call the Mesara for convenience, but which in practice includes not only the flat plain of Mesara itself, but also the foothills and mountains which flank it to the north and south and which, together with the Libyan Sea, effectively seems to surround and to some extent cocoon it. The plain itself is only thirty kilometres long and ten kilometres wide, but the total area over which a common

material culture and a common pattern of funerary practices spread in the pre-palatial era is considerably larger, certainly not less than fifty kilometres east–west by twenty kilometres north–south. The quaternary alluvial plain of Mesara is, and appears always to have been, Crete's principal wheat-growing area(Figure 1.1). It has one of Crete's few perennial rivers, the Yeropotamos, flowing westwards into the Bay of Mesara.

Even in the height of summer, the line of the river is marked by the lusher vegetation which grows close to its banks. Much of the plain itself is given over to farming, and the principal towns and villages tend to be found not in the plain itself but rather at the foot or on the lower slopes of the hills to north and south. On the north side the towns Ayii Deka, Mires and Timbaki fringe the plain, matched on the south by the large villages of Pombia, Vagionia, and the town of Kharakas.

On the hill-slopes beyond lie many more villages, surrounded by both arable fields and olive groves. As the slopes get steeper and the altitude higher, so the use of terraced fields and olive groves grows less and the land is suitable for little other than grazing sheep and goat. The hills and mountains are all but treeless, and there can be little doubt that the extensive grazing of sheep and goat has been a major factor in degrading the hill vegetation and encouraging the loss of top soils. Whether or not these hills were partially wooded at any time since the arrival of man in Crete is still uncertain and disputed. Studies around Myrtos, on the south coast about sixty kilometres east of the Mesara, have shown that the medieval landscape there was virtually treeless. But evidence from the excavated settlement at Myrtos dated around 2200 BC reveals the use of both oak and pine, and a landscape with evergreen oak woodland. Pine trees seem to have been relatively scarce, and probably limited to growing on the steeper limestone slopes. On the north side of the Mesara, these slopes eventually soar to a height of 2456m at the peak of Mount Ida, below which is the sacred Idaean and Kamares caves. There are caves too in the southern range of mountains, Asterousia, which peak at Kofinas (1231m), and they are still utilised today as temporary shelter and sheep-folds by both shepherds.

The southern slopes of the Asterousia mountains lead down, often steeply, to the Libyan Sea (Figure 1.2) . The sea still yields a rich variety of fish – mullet, bass, bream, sole, mackerel, perch, as well as lobster, crab, octopus and squid – and a useful means of east–west

Figure 1.1 The Mesara Plain, looking south from Phaistos towards the Asterousia Mountains (courtesy C. Zervos)

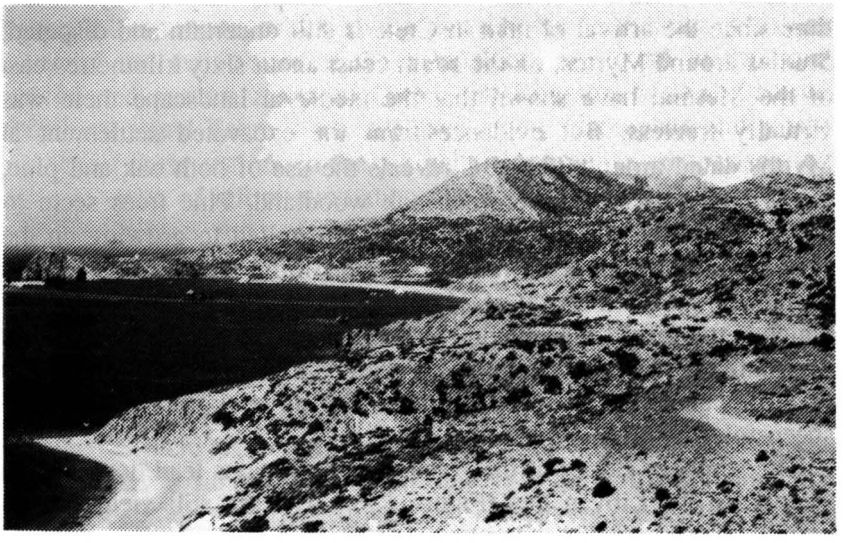

Figure 1.2 The southern slopes of the Asterousia Mountains looking towards Kaloi Limenes (the author).

communication for the careful and knowledgeable seaman. Kaloi Limenes and Lenda provide harbourage on this stretch of coast but the principal port in palatial times may have been at Kommos, facing west onto the Bay of Mesara. An extensive settlement of this period has been excavated there, with modest houses clustered around narrow streets and alleys. Remains of much larger well-built structures close to the shore may have belonged to storage facilities in the port. Palatial fishing boats and cargo ships would have been drawn up on the shelving sandy beach below the settlement.

Kommos seems to have become an important harbourage only with the building of the palace at Phaistos. Before this time, there was a greater concentration of settlement around Lendas and Kaloi Limenes, and throughout the Mesara region, north and south of the Yeropotamos, there was a remarkable uniformity of human culture. This is expressed most powerfully through material culture. Potters throughout the region produced attractive vessels in a variety of distinctive shapes and painted in red or brown linear decoration on a buff or cream ground. Stone vase makers utilised chlorite schist and brown and green serpentine to manufacture distinctive types of alabastron, birds nest bowls, and straight-walled jars. Other lapidaries created unusual figurine types, which we call the Ayios Onouphrios and Ayia Triadha types after the sites where they were first noted, and a uniquely Cretan variant of the Cycladic figurine, which we call the Koumasa type. Bone and ivory carvers contributed their own figurine type (the Siva type) but also produced sealstones notable for their zoomorphic shapes and their superbly carved miniature low-relief friezes of a procession of animals. Bronzesmiths developed a uniquely Mesara repertoire which included the triangular dagger and the leaf-shaped razor, whilst goldsmiths created diadems very different to those found on the north coast at Mochlos.

It seems likely that the different material culture which picks out the Mesara from the north-central or eastern regions of the island was matched by different patterns of social organisation but the evidence for this is more difficult to interpret. Like the material culture, however, it comes mainly from the cemeteries of the pre-palatial communities. These cemeteries comprise one, two or three built circular tombs used for communal burial and it is with these tombs and the evidence they yield for the pre-palatial communities which peopled the Mesara that the rest of this book is concerned.

THE TOMBS DISCOVERED

Five years before Sir Arthur Evans began his excavations at Knossos and discovered the civilisation to which he gave the name Minoan (after the legendary king Minos), he had seen in a showcase in Iraklion (then Candia) Museum a fascinating collection of items said to be from Ayios Onouphrios. There were colourful stone vases, miniature seal-stones, marble figurines inspired by, but not identical to, Cycladic examples, and several pottery vessels. In addition the group included a bronze dagger, an unusual double-pronged harpoon, and beads and pendants of rock crystal, bronze and gold. Although Evans amazingly correctly dated the assemblage to the third millenium BC, he could not then identify it as probably coming from one of the Mesara tombs, because no such tombs had at that time been found. It is now generally agreed, however, that the 'Ayios Onouphrios deposit' was probably looted from a Mesara tholos tomb, though whether it actually stood on the little white hill just north of Phaistos to which it is ascribed is unknown. Only ten years later could the likely source of the 'deposit' be recognised, when the Italian, Professor Halbherr, excavated the first tholos at Ayia Triadha, no more than three kilometres from Ayios Onouphrios.

In most respects the tomb excavated by Halbherr has proved to be typical of the eighty or so tombs found since that time. Its thick wall enclosed a burial area about 8m in diameter, reached through a single narrow entrance on the east side. Beyond it was a complex of small rooms or chambers. The burial chamber and the rooms outside it were crammed with human bones, pottery, copper tools and weapons, stone vases, bone and stone sealstones, and a variety of jewellery. Here for the first time were intriguing glimpses of the life and death of the people of Crete in the millennium before the palaces were built. The tholos of Ayia Triadha was a veritable treasure chest for the archaeologist.

Regretably, the Mesara tholoi were also seen as treasure chests by local villagers who now began to seek out and loot these tombs on a far greater scale than previously. As a result, fifteen further tholos tombs were discovered and excavated between 1904 and 1908. Twelve of these were explored by the Ephor General of Cretan Antiquities, Stephanos Xanthoudides. During the First World War, Xanthoudides managed to excavate a further five tombs, and in 1924 published *The Vaulted Tombs of Mesara*. For its time this volume,

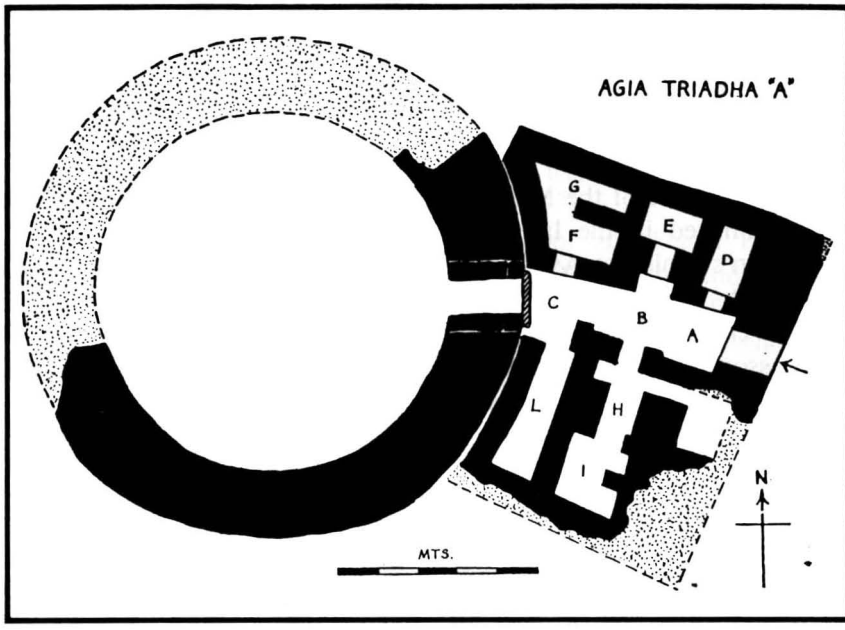

Figure 1.3 Plan of tholos A and its antechambers at Ayia Triadha, excavated by Halbherr in 1904.

which described the excavations in fifteen of the tombs he had excavated and extensively catalogued and illustrated the material recovered from them, was a superb achievement by Xanthoudides. The book remains one of the two or three essential sources for studying pre-palatial Crete.

After Xanthoudides the pace of exploration of the Mesara tholoi slowed appreciably. In 1930 Marinatos excavated two small tombs, with important results, at Vorou on the northern side of the Mesara, and also found and excavated a similar type of tomb at Krasi in northern Crete. When the English archaeologist John Pendlebury reported seeing remains of tombs of Mesara type at Kalergi, near Krasi, and at Pedhino in eastern Crete then for the first time the possibility emerged that these distinctive tombs were not confined to the region of the Mesara. After the Second World War, during which the Germans excavated and published a tholos at Apesokari in the

Mesara, the first discoveries re-emphasised the point. Probable tombs were reported on the northern fringes of the region at Rizikas Gorgolaini and Siderokamino (Figure 1.4), and the first post-war excavations on Mesara-type tholoi took place at Viannos, well to the east of the Mesara plain, on Gypsades hill at Knossos, and at Myrsini in Sitia.

The dominance of the Mesara in the distribution of these tombs was re-established in the late 1950s and the 1960s. Not far south of Halbherr's tholos at Ayia Triadha, Professor Doro Levi excavated a late but un-looted example of a Mesara tholos at Kamilari. Discoveries on the south coast at Lebena led to the excavation by Professor Stylianos Alexiou of no less than five tombs, some of which still held rich deposits of burials and grave-goods undisturbed since the Bronze Age. These were the first tombs found and excavated in this area and they led to the realisation that there were many more to

Figure 1.4 An unexcavated tholos found by Prof. Paul Faure at Siderokamino (courtesy of P.Faure)

be found on the southern slopes of the Asterousia Mountains. And so it proved. Over a period of five years in the mid 1960s, Alexiou and his colleagues Professor Sakellarakis and Dr Davaras discovered fourteen further tombs, all but for a second tomb at Apesokari, in the Asterousia Mountains. None of the tombs was unlooted, but on excavation several provided important additional evidence about the tombs, their structure, their period of usage, and the funerary behaviour associated with them.

Inspired by these discoveries, the author and David Blackman obtained permission from the Greek authorities to undertake an intensive survey of one small valley system – the Ayiofarango – in 1971. The purpose was to obtain as complete a picture as possible of a prepalatial, Early Bronze Age landscape complete with tombs and their contemporary settlements, as well as tracing changing patterns of settlement in the valley over the course of five millennia. The results are discussed later in the book, but the survey in and around the valley added nine more tombs to the total and also led to the excavation in 1972 of the tholos at Ayia Kyriaki, first reported by Sakellarakis eight years before. Further discoveries continue to be made in the area by members of the Greek archaeological service, most notably Dr Vasilakis who has added at least five further tombs to the corpus as well as excavating an important settlement at Trypiti.

Almost one hundred years after Sir Arthur Evans first cast his eyes over the Ayios Onouphrios deposit we now know of seventy certain examples of the Mesara tholoi and about another twenty probable or possible tombs. Of this total between fifty and sixty have been examined by excavation, but the vast majority proved to have been looted in modern times. In addition it is clear that at least some tombs were looted in antiquity, and probably within centuries of their construction. In tomb A at Platanos Xanthoudides found very clear evidence that the tomb had been thoroughly cleared of its earlier burials and their grave-goods during the tombs period of usage and before further burials were made in it. But this example raises the possibility that what we would call looting was seen as one part of the funerary process by the builders and users of the tombs. Modern looting cannot be seen in the same light; it has been geared to supplying the needs of the antiquities market.

TIME AND SPACE

Even where looting has been very thorough, however, it has been possible from discarded pottery fragments to establish with reasonable certainty the total period over which a tomb was in use. The usage of the vast majority of tombs falls within the ceramic phases first identified by Evans and labelled by him as Early Minoan I,II, and III and Middle Minoan I. About a dozen tombs demonstrably see some burial activity associated with MM.II pottery, and a handful of tombs have produced Late Minoan finds, but in most cases these relate to sporadic re-use of the tombs rather than a continuous tradition. The only tomb with many late burials is Kamilari I, although a second small tomb at Kamilari and the tholos on Gypsades at Knossos appear not to have been built until MM.II. In absolute terms, therefore, the principal period of usage of tombs of the Mesara type probably falls in the period from around 2800 BC to *c.*1800 BC, although there is still debate as to the date of the beginning of the Early Minoan (Early Bronze Age) period in Crete, which is dependent on C14 dating.

More than half the tombs for which dating evidence survives seem to have seen burial usage throughout the phases EM.I–MM.I, but a significant minority do not. About a dozen tombs are certainly not constructed before EM.II, and another dozen were built only in EM.III or MM.I. The overall period of burial use therefore varies considerably between tombs, with a maximum period of perhaps eight to ten centuries, a minimum period of no more than one. These variations create problems in some aspects of analysis and interpretation but they also offer opportunities for distinguishing change in burial practices through time which are not easily identified in the constantly disturbed deposits in tombs used for many centuries.

These chronological variations can be seen to relate in part to the geographical distribution of the tholoi (Figure 1.5). Of the nearly ninety known or likely tombs, two-thirds (67) are found south of the Yeropotamos river which flows east–west down the centre of the Mesara plain. No more than a dozen are known north of the river but still within the bounds of the Mesara region. There may be up to ten further tholoi known in north-central Crete, and about half as many may have been located in eastern Crete (Figure 1.6). Few of the northern and eastern tombs have been excavated but with two exceptions those that have, prove to be late foundations. Arkhanes

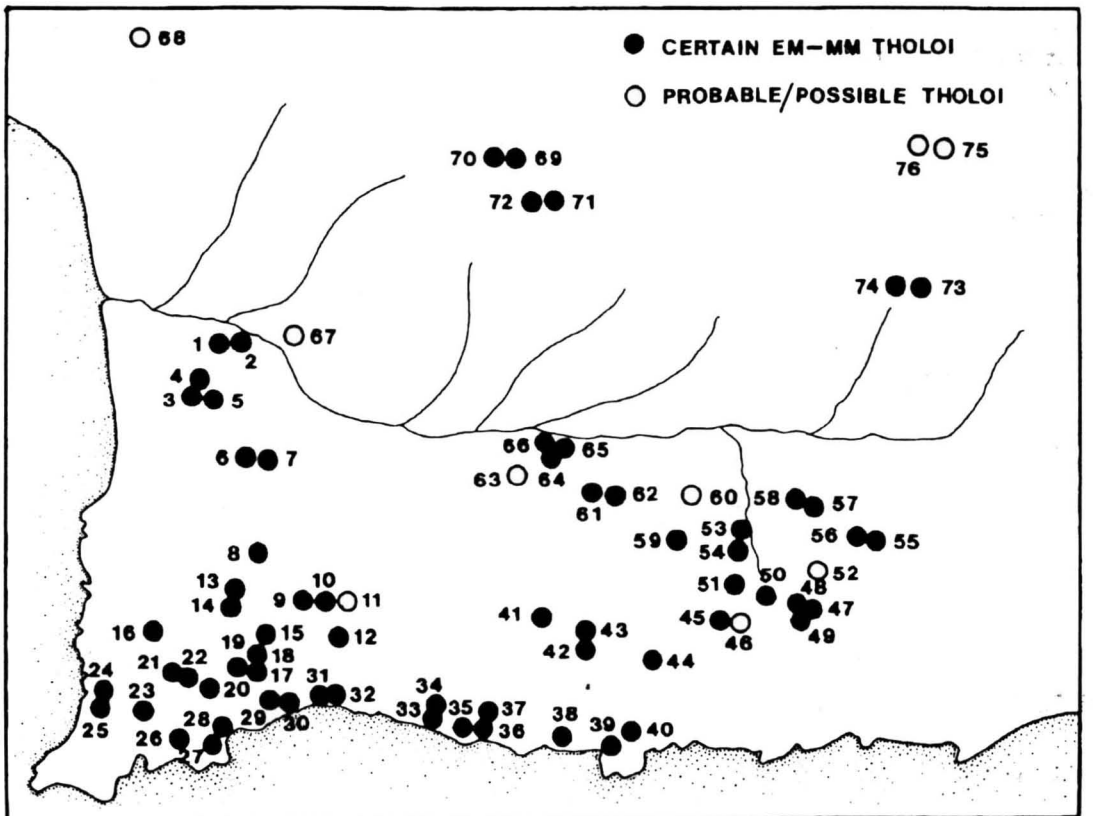

Figure 1.5 A map showing the location of tholos cemeteries in the Mesara region

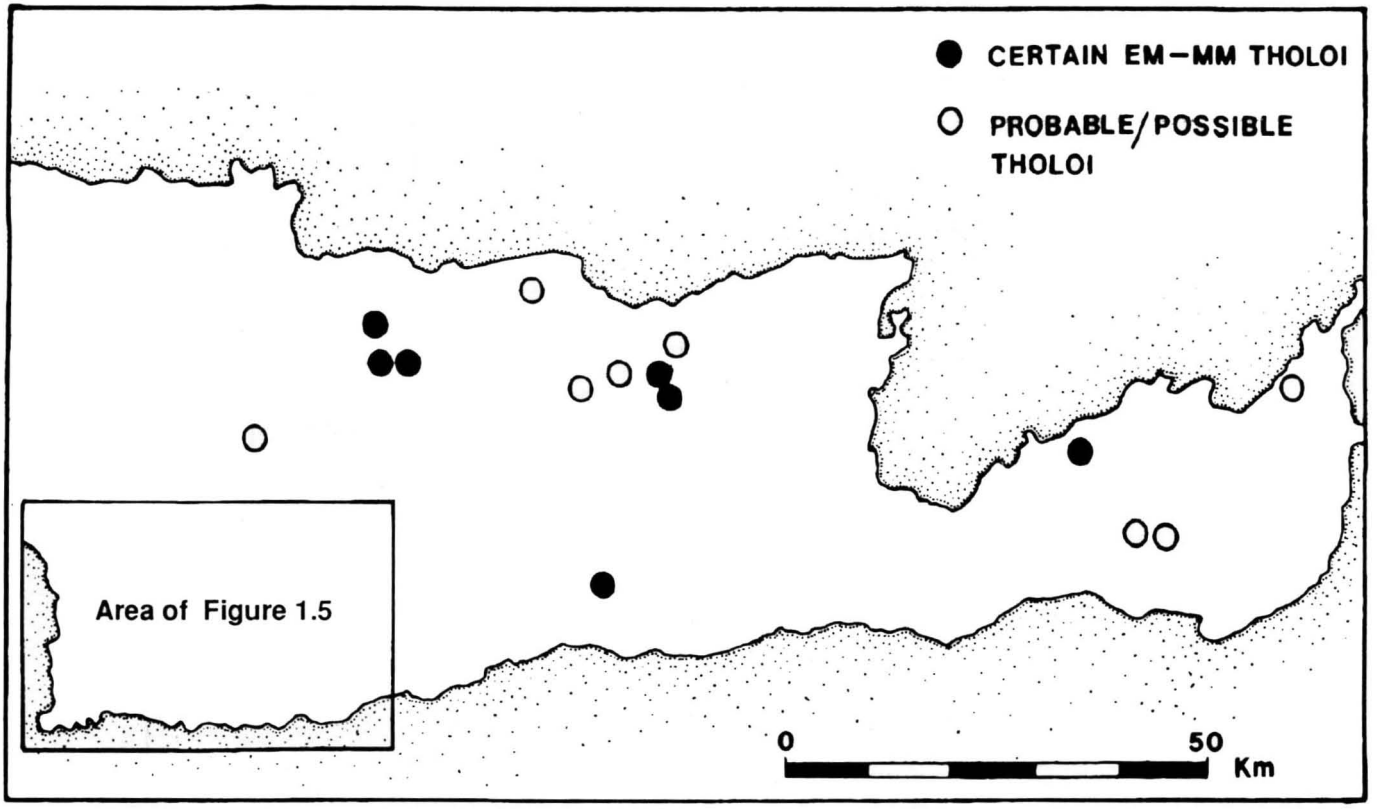

Figure 1.6 A map showing the location of Mesara-type tholoi in northern and eastern Crete.

tholos C was built in EM.III, Viannos and Myrsini in EM.III/MM.I and Knossos Gypsades in MM.II. The tholos-like structure, whose purpose is unknown since it was empty of finds, excavated at Ayia Photia cannot be earlier than MM.I. Only two of the northern tombs are earlier. One is Krasi, which was constructed and first in use in EM.I ; whether it belongs in the Mesara tradition is debatable, and it might be dismissed as an anomaly. Since the discovery of a tholos of apparently EM.II date at Arkhanes however, (Arkhanes tomb E), the possibility of limited development and use of the Mesara-type tholos outside the Mesara region before EM.III/MM.I has to be recognised. The other tombs which were built in EM.III–MM.I are all to be found in and immediately around the plain of Mesara itself; none are yet known from the heart of the Asterousia Mountains or their southern slopes. All the tombs yet dated in this region were founded in EM.I or EM.II, most apparently in the earlier period. Early tombs are to be found on the north facing slopes of Asterousia too, but in smaller numbers.

These spatial and chronological variations are obviously of considerable interest for the spread not only of the tomb type but presumably also the funerary behaviour and broader cultural traditions of the people who built them. They also have obvious implications in discussing the origin of the architectural type itself. Equally important to a study of tomb architecture and its origins is the evidence for sequence and development in the architecture of individual tombs. In the past, there has been an implicit assumption that each tomb and its ancillary buildings were designed and constructed as a unit, at a single point in time. With the excavation of the tholos at Ayia Kyriaki it was shown that such assumptions could be misleading. Indeed the excavation of Ayia Kyriaki threw light on many aspects of tomb construction and usage, and it will be helpful to pause and look back at the results of the investigations at Ayia Kyriaki before proceeding further.

CHAPTER 2

Holy Sunday

The looting of antiquities from the tholos tombs of Mesara has a long history; at Platanos the removal of grave goods began as early as EM.III, at Kamilari it happened in Middle Minoan II, and Late Minoan looting of Early Minoan tholoi has been noted at Drakones and Ayia Eirene. No doubt it continued sporadically through the Graeco-Roman and Byzantine eras, and under the Venetians and the Turks. The first recorded looting of modern times is probably that which took place in the tholos at Kalathiana in 1854 (fifty years before Halbherr began the first archaeological excavation of a tholos). The discovery of some scraps of gold led to a gold-rush by the villagers which saw half of the two metre thick wall, still standing nearly three metres high, totally destroyed. In the frenzy of activity, some villagers dug straight through the burial deposit and carried on into the rock beneath – Xanthoudides found their abandoned holes when he excavated what remained of the tomb fifty four years later. His series of excavations was begun in order to prevent further looting of the tombs at Koumasa, and those of his successors at the Iraklion Museum were undertaken to rescue what information and material could be saved from a whole series of tombs in the Asterousia Mountains which were being looted in the 1960s.

Amongst these was the tomb at Ayia Kyriaki – Holy Sunday – in the Ayiopharango (the Holy Gorge) just west of Kaloi Limenes. When, in 1965, the first reports came in of a newly discovered tholos tomb which was being looted, Dr Iannis Sakellarakis was sent from Iraklion to inspect the site. His arrival at the spot was inopportune, for the looters were there and they were armed. When he was able to reach the tomb, as the tomb-robbers moved away uphill, he found their still-smoking cigarette butts on site. They appeared to have done a thorough job. Six years later, during the survey of the Ayiopharango, we visited the tholos ourselves. It was well-preserved, had an interesting group of rooms outside the tomb chamber, and great heaps of soil dumped by the tomb-robbers down-slope from the

tomb. Substantial quantities of large pieces of pottery suggested that the robbers had not removed all of the broken pottery to take away and stick together (as they appear to have done at several other sites during the 1960s). Equally, there was the possibility that in throwing the soil from the tomb down the hill, the robbers might have unknowingly covered and protected any remains which lay beyond the tomb and the chambers built against it. The then Ephor in Crete, Dr Alexiou, requested a small-scale exploratory excavation to test this suggestion. On the basis of this, it was then agreed that in collaboration with Dr Costis Davaras of the Greek Archaeological Service, David Blackman and the author should excavate the tomb and the area around it.

In 1972 we returned, with three student supervisors and ten local workmen. Recent disturbance suggested that the tomb-robbers had been back during the winter to make sure they had missed nothing of value, whilst the local workmen assured us with wry smiles that, though they were only too glad of the work, we could not expect to find anything. But we, of course, were looking for more than pottery, bronzes, stone vases and jewellery, delighted as we would be to find them; we were looking above all for information and evidence.

Our prime interest in excavating what we well knew to be a heavily looted tholos was to establish the history of its construction and development, and to see if we could recover evidence of activities which took place outside the tomb rather than inside it. In this we were largely successful, and in fact we were able to say more about the tomb and its burials than we expected, despite the activities of the grave robbers (Blackman and Branigan 1982).

PRE-TOMB OCCUPATION OF THE SITE

The first surprise result of the excavations was that we found traces, flimsy though they were, of a structure on the site before the tomb was built. All that remained was two short lengths of wall, each about 0.5m wide and between 1.5 and 2m long. They ran parallel to one another and appeared to belong to a single structure, which in that case was preserved to a total length of almost 5m. Only the bottom course of footings survived, and there was no floor associated with the walls, but we are confident they belonged to a domestic house of some sort for also sealed under the tomb were deposits containing various simple stone tools (Figure 2.1). There were two whetstones

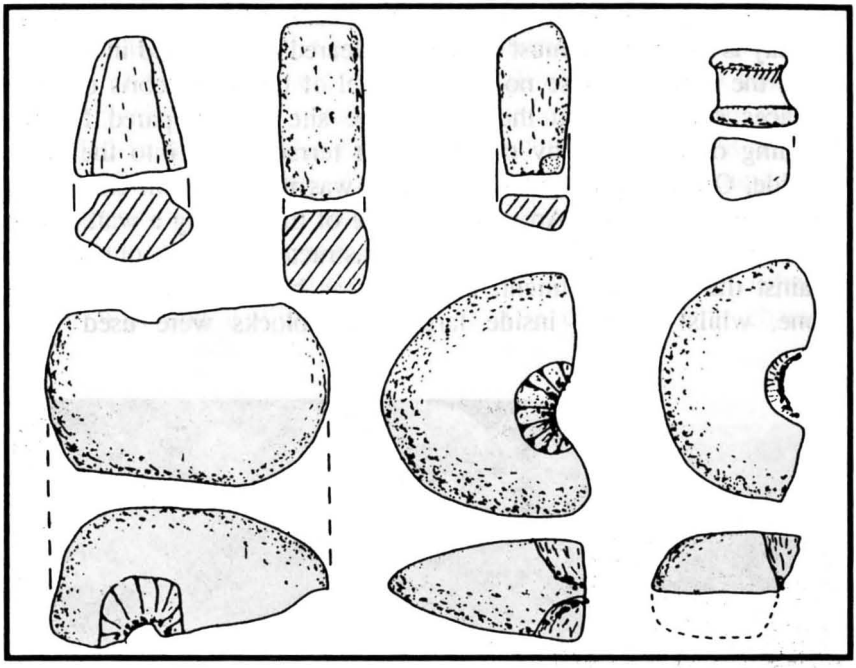

Figure 2.1 Stone tools from the pre-tomb occupation at Ayia Kyriaki.

(did they already have a few copper knives ?), a sandstone rubber, a stone weight, and five obsidian blades. There was also a loomweight and spindlewhorl, and two broken but unfinished stone tools, a weight and a hammer-head, which suggested that spinning and weaving wool, and making stone tools, were both carried out as household tasks at Ayia Kyriaki before the tomb was erected over the demolished remains of the house. This domestic occupation of the site may have begun in the Final or Sub-Neolithic and lasted into Early Minoan I, according to the pottery evidence.

BUILDING THE TOMB

Whether the house was abandoned before the tomb was built, or was deliberately relinquished and then demolished in order to construct

the tomb is an important question, but it cannot be answered. All we can say is that the site must have been cleared and levelled in order to build the tomb, because no general level of building debris or floor surfaces survived from the house. The site was prepared for the building of the tomb by cutting a flat terrace back into the steep hillside. On the uphill side, the cutting was roughly semi-circular in shape and 1.5m deep. Around the inside of this cutting a wall, about one a half metres thick, was then constructed. On the outside, up against the earth revetment, the wall was built of small blocks of stone, whilst on the inside large stone blocks were used from

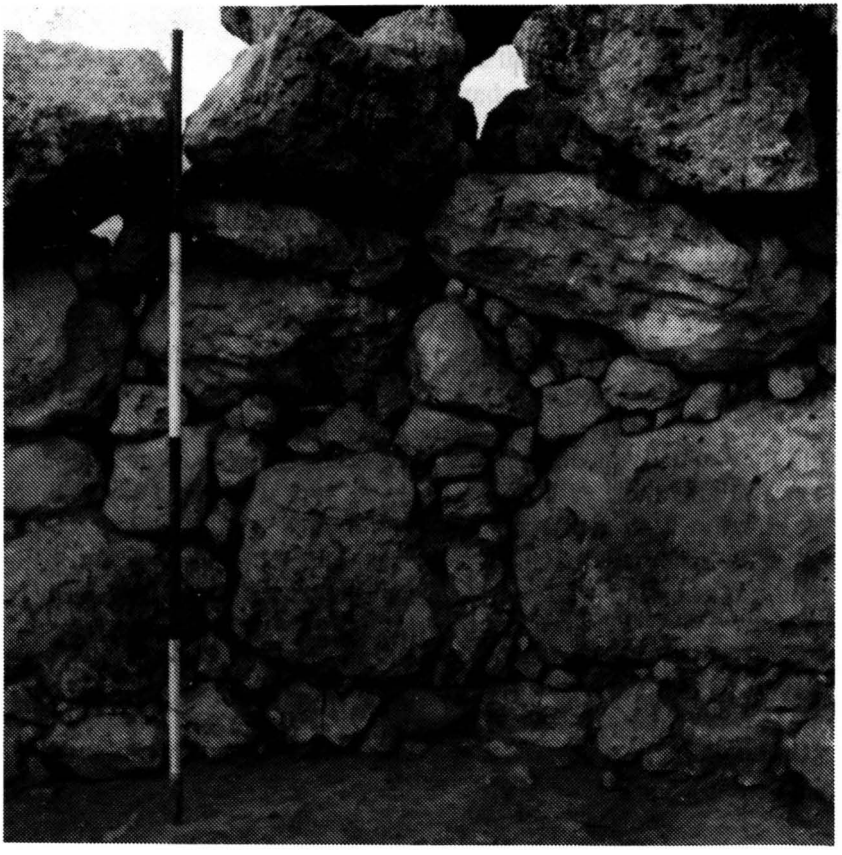

Figure 2.2 The inside face of Ayia Kyriaki, showing the foundation course and the framing of large boulders by small ones (the author).

immediately above an initial levelling course to the full surviving height of just over 2m (Figure 2.2).

The outside face of the wall changed character as it emerged above the top of the cutting, and it too was built of large blocks from this point upwards. It was notable that the uppermost surviving courses included many large slab-like stones, and that from about a metre above floor level the slabs around the inside circumference overlapped those of the course below. This created an overhang of more than half a metre at the highest surviving part of the wall. The clear impression was that the tomb had possessed a roughly corbelled upper wall and ceiling (Figure 2.3). The circular tomb chamber

Figure 2.3 Corbelling and the resulting overhang on the north side of the tomb wall at Ayia Kyriaki (the author).

created by the construction of this wall was about four and half metres in diameter. It had a pinkish-white floor, trampled very hard, which had been introduced into the tomb after the wall had been completed and laid over the carefully cleaned-off rock surface inside the chamber.

The entrance to the tomb was on the east and was only 0.6m wide, flanked by two upright monoliths about 0.75m high (Figure 2.3). A huge slab 1.7 x 1.3m which was lying nearby was almost certainly the original lintel of the door. The floor material of the tomb chamber

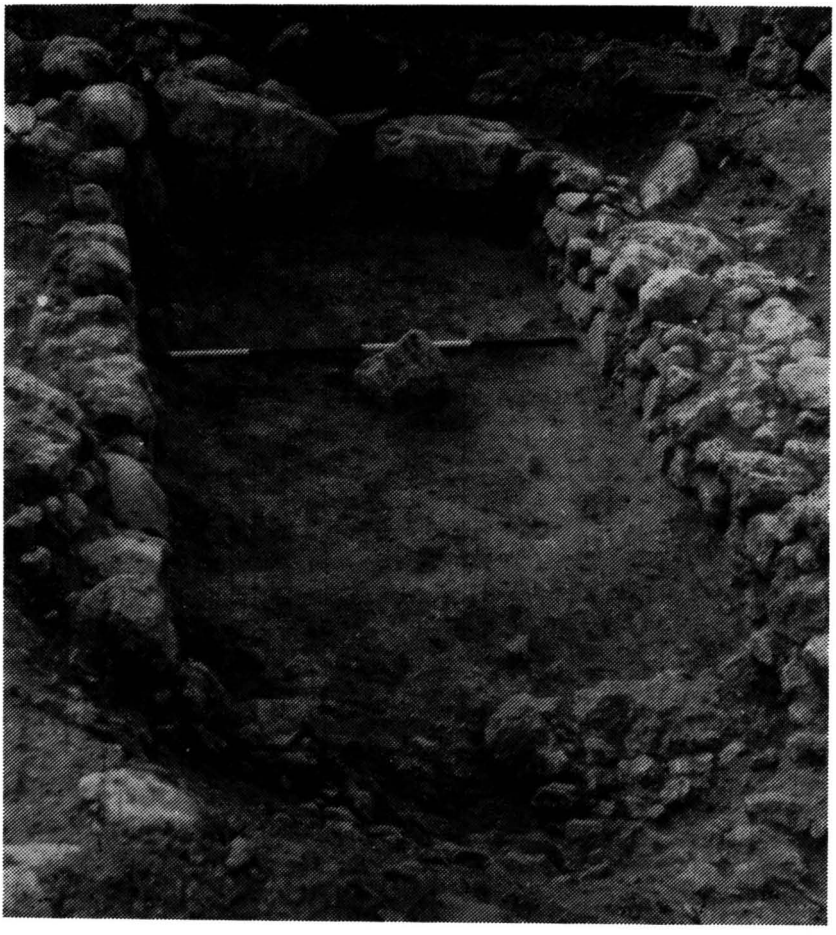

Figure 2.4 Room 1 at Ayia Kyriaki, looking to the south wall (the author).

continued through the doorway and into the antechamber beyond. The walls of the ante-chamber were poorly preserved but they enclosed an area only 2.4m x 1.3m, with an entrance probably at the north-east corner, no more than 0.6m wide. A second room, the same length but an even narrower 0.95m wide, lay beyond the antechamber (Figure 2.4). It was constructed at the same time, and both rooms were contemporary with the construction of the tomb chamber itself. The floor of the outer-room, however, was of a different material to that from the tomb and the antechamber, and was set at a different (lower) level. The pottery recovered from deposits beneath the floors suggests that the tomb and these two chambers were built in EM.I.

THE ROOM WITH THE BENCH

Sometime after the tomb, the antechamber and the outer room were built a third rectangular room was added to the complex. This lay immediately south of the first two rooms, and abutted onto them. Its west wall was built against the outside face of the tomb, and therefore thickened at the south end as the tomb wall curved away. Buttressed as it was by the strong wall of the tomb, the wall-facing of this third room survived three courses high and its core even higher. The south wall was less well preserved but strongly built with large facing-stones and a packed core of earth and small stones. The room was entered through a narrow door at the north-east corner. Inside, the room measured 2.35 m x 1.95m and had a floor of hard, compacted yellow soil. Against the south wall was a stone bench, 0.5m wide and 1.5m long; it had been built before the floor was laid and was therefore part of the original furnishing of the room. In one place the tomb robbers had left a small area of the deposit on the floor of the room at least partly undisturbed, and from this we recovered nearly three dozen pieces of pottery as well as small fragments of human bone. Two of the pottery sherds were of types used in EM.II (that is, later than the potttery found beneath the floors of the tomb and antechamber). Beneath the floor, further pottery sherds were found and these included three more of EM.II date, so that we could be sure that there was a gap of some time between the building of the tomb and first two chambers (in EM.I) and the addition of a third chamber (early in EM.II).

THE PIT, THE PLATFORM AND THE PAVEMENT

About a metre and half in front of the three chambers we found a pit about a metre square and 0.6m deep. It had been back-filled with the soil into which it was dug, and the majority of the nearly 300 pieces of pottery found within it were small and probably residual from earlier use of the site. But there were much larger pieces of pottery from between ten and fifteen vessels which had been placed freshly broken into the pit. These included four to eight tall chalices, three or four round-bottomed bowls, and a handled askos for holding liquid. The latest of these vessels probably belong at the beginning of EM.II, and it looks as if the pit was dug and filled at about the same time as the building of the room with the bench. Its contents suggest that it is perhaps a 'foundation deposit', containing the deliberately broken vessels which had been used in some sort of ceremony associated with the extension of the tomb complex.

The pit was covered by a hard compacted level of stony brown earth which was found to extend over an area about 11m x 6m. Down-slope from the tomb complex a deposit of stony soil had been introduced to try and partly level-up the site before this compacted layer was constructed. Around the southern and south-eastern edge of the area covered by this deposit a rough but strong revetment wall was built, which survived up to four courses high in places. It was about half a metre wide and ran for a distance of over 12m. At each end a large stone was set upright, and a third upright stone was set about half way along the wall where it changed direction. It may have continued further northwards, but if it did, disturbance by tomb-robbers had destroyed all traces of it. Traces of a possible northern wall running eastwards from the corner of the outer chambers were also noted; large blocks set into the compacted level ran in a straight-line for over two-metres. The fragmentary evidence suggests that an area in front of the tomb was partly enclosed and a compacted pavement laid down within this enclosure, soon after the construction of the third chamber (Figure 2.5).

The final feature probably constructed at this time was a platform, about 1.5m x 1.3m, made of large slabs laid flat, which was laid directly onto the compacted surface immediately outside the third chamber, and between it and the upright stone which marked the west end of the enclosure wall.

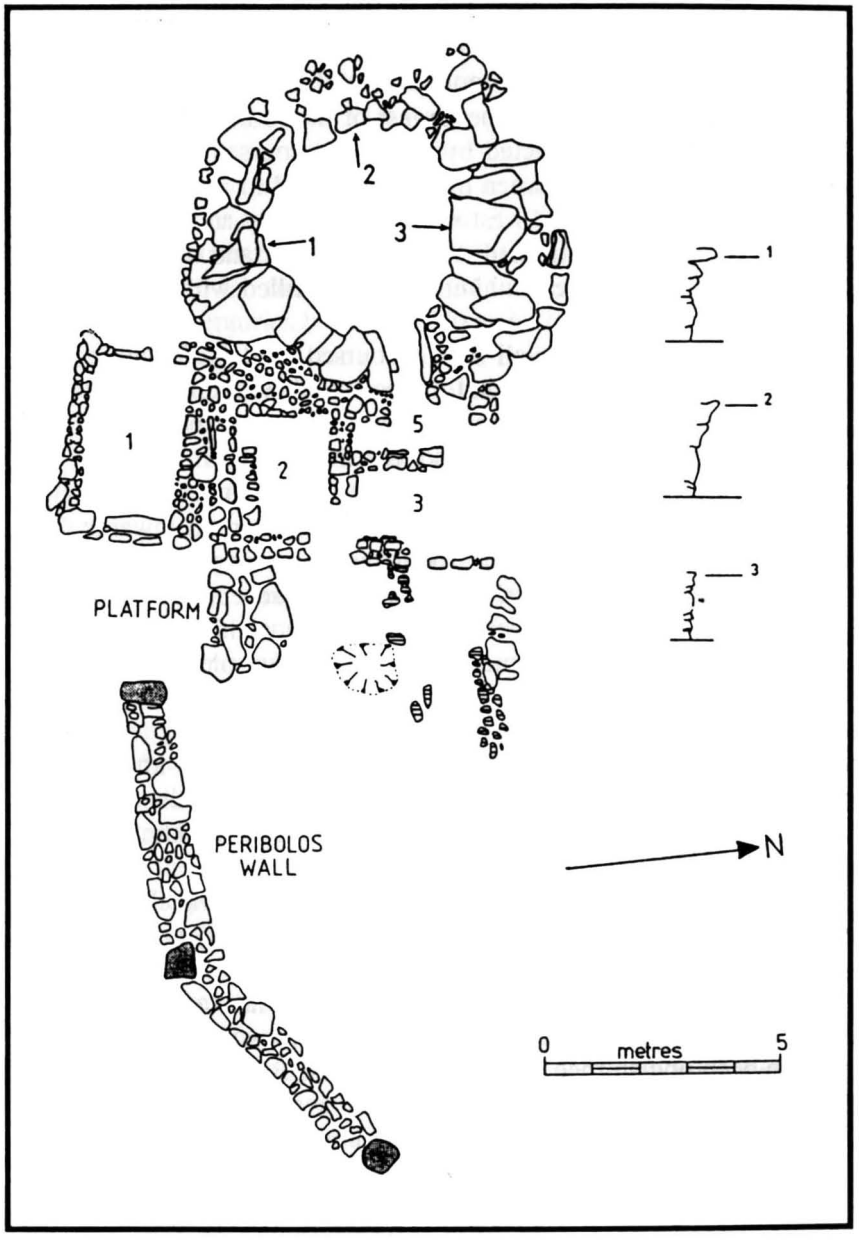

Figure 2.5 Plan of Ayia Kyriaki, showing tomb, outer chambers, platform and enclosure wall.

A FINAL ADDITION

Sometime after the construction of the third room, platform and enclosure, a fourth and final room was built at the south end of the complex. This proved to be the largest of the rooms, 3.25m x 2.1m. Its north wall was constructed by building a coursed inside face and then filling in the gap between this and the wall of the third chamber with stones and earth. The west wall also had only an inside face, for it was built into a cutting made in the hill-slope, and once the inside face was constructed the remaining gap was filled with small rubble and stones.

In contrast the south wall was a coursed wall 0.75m wide, still standing three courses high, and the east wall was simply two large boulders laid end to end. Entrance to the room must have been over these boulders, unless they were not put in place until the room was abandoned and sealed. That seems likely to have happened soon after it was built, when the west wall of the room collapsed inwards. The robbers had begun to loot this room but apparently found little or nothing in it and had left the west end untouched. We found the tumbled wall as it had fallen and beneath it a thin black deposit containing fragments of human bone and twelve pieces of pottery. These included rims of three wheelmade MM.I cups and a piece of a cordoned pithos or large storage jar. These pottery fragments suggested the use of the tomb went on until sometime after c.2000 BC, and the room was probably not even built until then to judge from fragments of two more wheelmade cups in the building material of the north wall.

The latest pottery from the site apart from these wheelmade cups are a handful of polychrome (red and white on black) and barbotine (with raised dimples) sherds. Nothing later than MM.I, which in this relatively remote part of Crete might mean as late as *c.* 1750 BC. Thereafter, until the modern tomb-looters got to work, the site seems to have been undisturbed for over 3700 years! But the looters had, of course, removed all the deposits and taken away all the artifacts they thought they could sell. In these circumstances, what could we possibly learn about the burials and their grave-goods, and about the funerary behaviour which had led to them being buried there ? The answer was, a great deal more than we might reasonably have expected.

WHAT THE LOOTERS LEFT BEHIND

To begin with the looters had left behind large quantities of broken pieces of pottery from within the tomb and the outer chambers. In fact, we recovered over 15,000 such pieces. The first value of these sherds is of course to confirm and emphasise the dating brackets which the much smaller quantity of stratified pottery sherds has suggested. There are large quantities of EM.I and EM.II pottery, and significant amounts of EM.III and MM.I; there can be no doubt the use of the tomb ran from EM.I to MM.I – a period of perhaps between eight and ten centuries between 2750 and 1750 BC.

By long and careful study we could estimate the minimum number of different vessels this mass of broken pottery represented, and what the shapes and functions of those vessels were. We believe we have the remains of at least 1950 pots,of which over 1050 were cups, and 370 were jugs. Another 200 were bowls and 120 were jars (Figure 2.6).

The remaining two hundred included many forms of which the most interesting were small round boxes with lids (pyxides), tall pedestalled 'fruit-stands', baking plates, and pithoi. We suggest that the cups, jugs, bowls and jars are the vessels which made up the normal burial-group and that a 'typical' group might include three cups, a jug and a bowl or jar. Differences in the relative quantities of early (EM.I–II) and late (EM.III–MM.I) cups, jugs and bowls found mean that the interpretation is not quite so simple as this, with more cups but far fewer jugs and bowls of the late period. This may imply a change in the nature of the funerary ritual or else in the number of people participating in it, but this needs further discussion.

Spatial distribution of some of these different types of vessel is also interesting. Large numbers of broken conical cups were found in the robbers spoil over the first two chambers and the area immediately north of them. These will almost certainly have been dumped there from either the tomb chamber itself or from the room with the bench. In the tomb chamber they would presumably have accompanied burials, but in room 2 they could have been used for a ritual in which the corpse was not involved. The most exclusive distribution was that of the large sherds from tall pedestalled 'fruit-stands' and large 'communal' (as opposed to individual) bowls. Of more than 120 sherds of these vessels, all but eight were found in an area about 5m x 3m at the east end of the enclosed pavement area. As far as we could

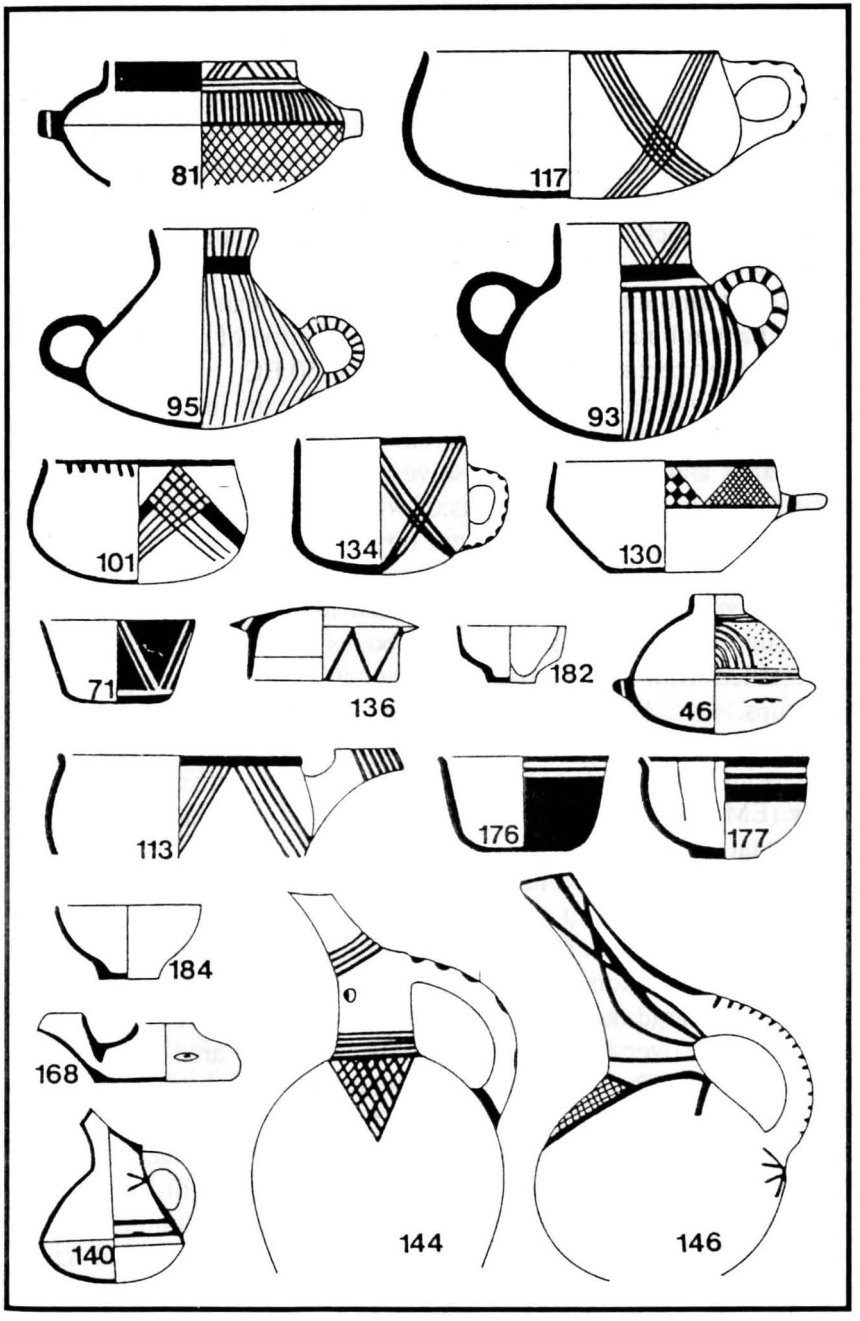

Figure 2.6 A selection of pottery – jugs,bowls,jars, and cups – from Ayia Kyriaki.

judge there were about forty of each of these vessels represented and it seems reasonable to think they were used together – a bowl and a 'fruit-stand' – in some ritual which took place outside the tomb, in the open area of the enclosure. One other group of sherds was of interest. To the north of the tomb was found a deposit containing hundreds of small weathered sherds which were all of EM.I. Their small size, weathered condition, and uniformity of fabric and date suggest to us that they were not debris from looting activities but the remains of an early clearance of previous burial material made by the tomb users themselves in EM.I, or perhaps at the beginning of EM.II when the construction of the room with the bench, and the enclosure and platform mark a new phase in the cemeteries use.

We were lucky to find so many pieces of pottery, and in particular such large pieces, at Ayia Kyriaki. Our visits to other looted tombs suggested that in many cases the looters had removed all the large sherds – presumably in order to try and stick vases together again for the antiquities market. We have to remember nevertheless that many complete or semi-complete vases will have been taken away by the tomb-robbers and that our sample is still a distorted and a minimal one. This applies even more to other artifacts from the tomb, a fact of which we were visibly reminded on site by the piles of finely sieved earth – the result of the grave-robbers careful search for sealstones and fragments of gold jewellery. We found not a single scrap of either in the excavations, and the only jewellery of any kind recovered by us was a single steatite bead and a simple bronze finger-ring. There were other occasional finds, however, which point to some of the other grave-goods of which the bulk were presumably removed by the robbers. Fragments of nine stone vases dating from EM.II to MM.I (Figure 2.7) represent a typical range of these miniature vessels as found in far greater numbers in other tombs such as those at Platanos and Koumasa. Their scarcity in contemporary settlements suggests that these tiny cups and bowls were made almost, if not entirely, for funerary use.

The only other group of finds were four stone and four clay figurines (Figure 2.7). The term may be somewhat misleading, if not grandiose, but we are convinced that all eight items were regarded as symbolic representations of humans or animals and put in the tomb for that reason. Three of the stone figurines are anthropomorphic and represent, apparently, a pair of fat legs, a torso and a torso and head respectively. The fourth stone item is a bull's head of buff sandstone,

very probably shaped entirely by nature without help from human hands, but still almost certainly selected for use and burial by the users of the tomb. Three of the clay figurines were probably zoomorphic projections attached to the ends of clay vases, from which they have been snapped off. The fourth clay figurine is the most fascinating. It takes the form of a flat plaque only 5mm thick, made of smooth buff clay. It is 5.1 cms wide, and was at least 6cms long originally, possibly as much 8cms or 10cms. Both sides carry red painted decoration – zones of multiple chevrons on one side and row of hatched triangles on the other. These motifs are found on some of the red-on-buff decorated pottery vessels from the tomb and there is no doubt this is a local product of EM.II. But it has an uncanny resemblance to a whole series of schist plaque idols from Iberia, of about the same period (mid 3rd millennium BC). Some of these are simply flat plaques with a suspension perforation, but others have a

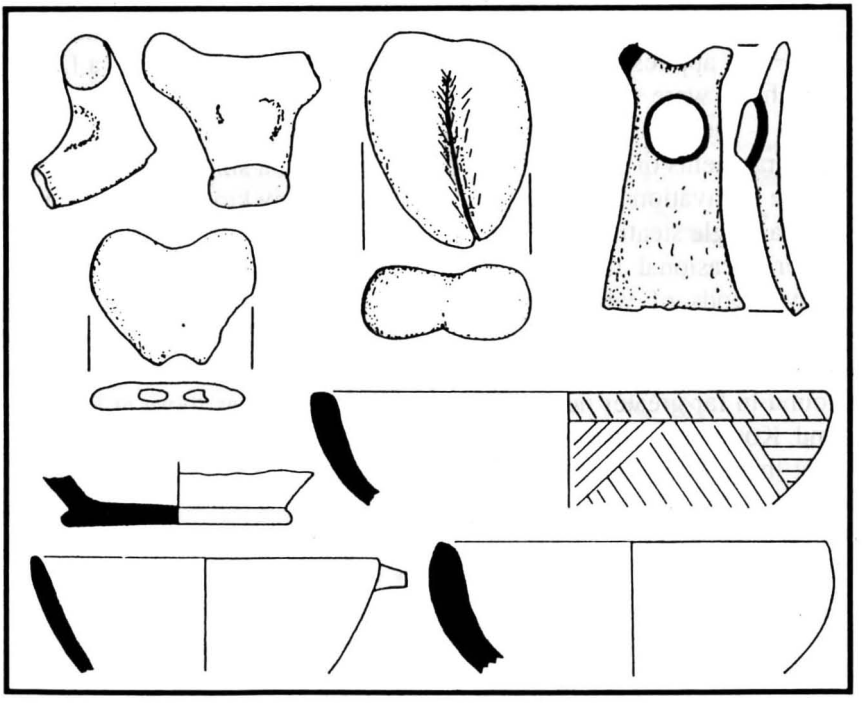

Figure 2.7 Broken figurines and fragments of stone vases from Ayia Kyriaki.

pair of eyes engraved at one end and the latest examples develop a head and shoulders. Our example is unfortunately broken so we shall never know what form its upper part took.

REAL PEOPLE

Interesting as figurines are, one of the attractions of excavating a tomb is that it brings the archaeologist into touch with real people.

One can identify the individual, his or her sex, age, height and general state of health. With luck, and skilled assistance from palaeo-pathologists, one can go further and and say something about the persons life-style and perhaps even how or why they died. This is always much easier with single-graves rather than communal ones, where the remains of individuals become easily mixed, but much to our regret it proved impossible to say anything about our ancient population at Ayia Kyriaki for we found only a handful of very small fragments of bone. Where did our people go ?

Undoubtedly they suffered badly at the hands of the tombs robbers, but that was only the final indignity. Before any plunderer ever entered the tomb, their bones had been trodden underfoot time and time again as burial after burial was inserted into the chamber. There were also probably periodic clearances of the tomb, the evidence for one episode of which we noted above. Preceding this activity there may have been fumigatory fires lit in the chamber, for some of the fragments of bone that we did find were charred. There is also the possibility that some bones were deliberately broken in antiquity. Five of the shaft fragments of bone that we found appeared to have been cleanly cut or chopped at each end. Taken together with the destructive chemistry of the soil the odds were very heavily stacked against the people of Minoan Ayia Kyriaki in the skeletal survival stakes!

In these circumstances we can say nothing about the people buried in the tholos and very little about the mode of burial itself. The only clue we have to the latter are the fragments of six clay larnakes (boxes or tubs) and eighteen large storage jars or pithoi. These are unlikely vessels to find in a tomb but we know from discoveries elsewhere that in EM.III and MM.I burials began to be made in these larnakes and pithoi.

Initially at least, the individual burials so made were often then placed inside a communal tomb, so that the individual got the best of

both worlds – a single burial in a communal context. It appears that this probably happened at Ayia Kyriaki, as elsewhere, shortly before the tomb came to the end of its working life.

It is unlikely that burials in the tomb ceased abruptly, they probably became less and less common in the first century or two of the second millennium BC for reasons we may suggest later. By the time the last burial was laid in the chamber the tomb was possibly as much as a thousand years old.

CHAPTER 3

Circular Arguments

Despite its looted condition, the excavation of the tholos tomb at Ayia Kyriaki was important for several reasons, amongst which the insights it gave into the architectural history of a typical tholos must be considered particularly significant. When *The Tombs of Mesara* was written in 1970 the final chapter opened with a confession that we could say little about the history of the tholos as an architectural form. 'Their origins are much disputed, their architectural development is unclear and seems to be almost non-existent, and their relationship to the Late Bronze Age tholoi has yet to be established' (Branigan 1970, 139). The lengthy and meticulous excavations of Prof. Sakellarakis at Arkhanes have thrown much new light on the relationship between the Early and the Late Bronze Age tholoi, and we now have a better, if incomplete idea, of the architectural development of the Mesara tholos betwen EM.I and MM.I. But the origins of the tholos are still elusive and open to debate.

LOOKING ABROAD

We still have no built circular tombs of the Neolithic period in Crete, and thus no obvious indigenous ancestors for the tholoi. Their sudden appearance, in some numbers, in a restricted area of the island during EM.I has not unnaturally led to suggestions that they were introduced to the island by immigrants at that time. In the Levant there are indeed structures which are similar in form to the Mesara tholoi. The earliest are probably the vaulted round houses of Khirokitia in Cyprus, followed by the circular buildings with a rectangular outer chamber found at Arpachiyah in Syria (Hood 1985; Hutchinson 1962, 225). Both are far too early in time to have any direct connection with the Mesara tholoi, however, and neither form served a funerary function. The distribution of the Mesara tombs in the Asterousia Mountains, and of many of the earliest on the southern slopes of those mountains, has encouraged Professor Alexiou (1967, 484) to add his voice to

those of Evans (1928, 34), Pendlebury (1939, 74), and Xanthoudides (1924, 128) in supporting a north African, perhaps Egyptian, origin for the tholoi. Evans was much taken by the apparent similarities between the tholoi and some of the circular built tombs found in Libya (Figure 3.1). But the similarities are more apparent than real, for the Libyan tombs are not tholoi at all.They are circular, flat-topped cairns built over graves which had already been made. That is, both their architecture and their method of use is very different to that of the Mesara tholos tomb. Furthermore, there is no reason to think they pre-date the Cretan tholoi.

In north Africa this leaves only the brick-built vaulted tombs of Archaic Egypt as possible ancestors for the Cretan tholos. If we followed Evans in believing that much in the material culture we find buried in the tholos tombs was inspired by Egyptian prototypes and that these many similarities pointed to an immigrant Egyptian population – perhaps refugees from the political upheavals of the unification and its aftermath – then an Egyptian origin for the Minoan tombs would deserve careful consideration. But studies of many of the artifact types identified by Evans as Egyptian inspired have revealed that some of the similarities are entirely superficial

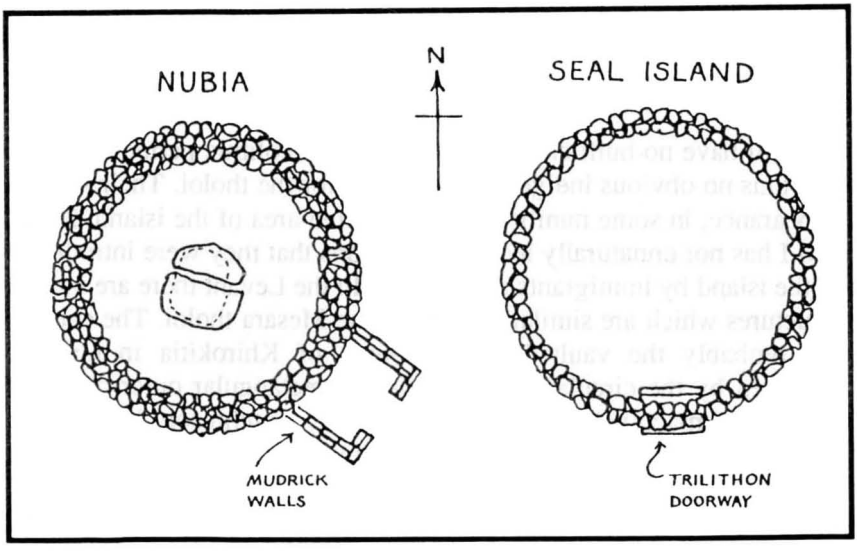

Figure 3.1 Plans of circular Libyan tombs of uncertain date.

(Branigan 1970a). Others – such as the pointed-base figurines, foot amulets, and stone vases – only appear in Crete in EM.II or EM.III, so that even if a relationship exists it is too late to be of any relevance to the question of tholos origins (Branigan 1973). In any case, the Egyptian vaulted tombs are significantly different in architectural form to the tholos tomb, for they are barrel-vaulted not corbelled.

NEARER HOME

Of even greater importance, however, to the whole argument over a foreign origin for the Mesara tholoi is the concensus which emerges from the detailed studies of the Cretan Early Bronze Age by Renfrew (1972) and the present author (Branigan 1988a). This is that the overwhelming impression is of continuity from the preceding neolithic era, and that there are no grounds for identifying immigrant populations in EM.I Crete except possibly for Aegean peoples along the north coast of the island. The possibility of a Cycladic element in the EM.I–II population of northern Crete has become much stronger over the last twenty years as a result of excavations in the cemeteries at Arkhanes in central Crete and Ayia Photia in the east of the island. Arkhanes has now yielded dozens of fragmentary or complete Cycladic folded-arm figurines, some of which are not of the distinctive Cretan variant which we call the Koumasa type, but of types associated more specifically with islands such as Naxos and Amorgos. The finds from the Ayia Photia cemetery are even more significant for they include hundreds of pottery vessels with strong Cycladic connections, including some locally-produced versions of the curious 'frying-pans', and copper and bronze daggers and implements of Cycladic type. Together with previous finds from northern Crete, such as the herring-bone decorated clay bottles of 'Pelos' type from Pyrgos, these finds are sufficient to allow the possibility of some migrants from the Cyclades settling in northern Crete at the beginning of the Early Minoan period.

This could be relevant to the origin of the Mesara tholos, for R.W. Hutchinson suggested, back in 1962 (153), that the tholos might be descended from the circular built Cycladic graves of the Final Neolithic and Early Bronze Age. He proposed that we might 'perhaps claim Tholos A at Koumasa, a tomb containing two Cycladic figurines and incised pottery of Early Cycladic I type....as only an improved and more elaborate form of the Cycladic primitive tholos'.

The immediate question which this suggestion poses is why, if the form is derived from Cycladic-style tombs, the earliest Cretan tholoi are concentrated not in the Cycladic-influenced northern part of the island, but rather in the Asterousia mountains south of the Mesara.

There is now a partial answer to that question, for alongside the small and rather primitive tholos excavated by Marinatos at Krasi (1929) we have some evidence for other early tholos tombs in the north of the island. There is indeed one such, still unexcavated, which was found in the late 1950s not far from Krasi itself, but little is known of it (Platon 1959, 387). Excavations in the cemetery at Arkhanes have now shown that the small tholos C which was built in EM.III was preceded by a slightly larger tholos, Epsilon, erected in EM.II (Sakellarakis xxxx; Rupert 1976, 732). This, however, is too late to be considered as an early Cycladic-inspired prototype of the tholos. The Krasi tomb, however, with its crude boulder-built wall and tiny 3m diameter (Figure 3.2) chamber was certainly built and used in EM.I and could be interpreted as a transitional form between

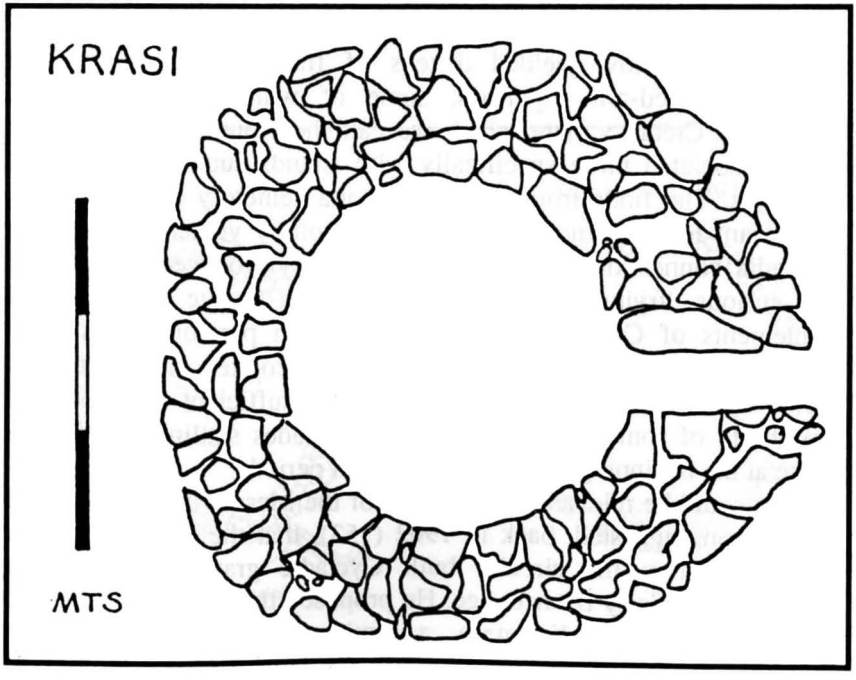

Figure 3.2 A plan of the small tholos at Krasi.

the Cycladic built grave and the tholos. A second equally early, and even more primitive example, has now been found and excavated in the west of the island at Nea Roumata (Tzedakis 1984). This tiny tomb had a fully corbelled vault with a large flat capstone and was completely buried within the ground.

Inside was a single burial with two pottery vessels. There is indeed little difference between this tomb and some of the larger Cycladic built graves, but it is the similarities between Nea Roumata and the Cycladic graves that emphasise how far removed from the Mesara tholoi these tombs really are. The Mesara tombs are not built below ground, they are considerably larger than the 1m – 2m diameter Cycladic graves (the smallest EM.I tholos has a diameter of 3.5m), and they are clearly built and used for multiple burials over a long period of time rather than for one-off single burials. There are other architectural features of the Mesara tholoi which are not found amongst the Cycladic built tombs and these, and the controversial problem of the roofing of the tholoi are matters to which we shall return later. The important point to establish here is that the Cycladic graves do not provide plausible ancestors for the Mesara tholoi architectually or behaviourally, and the spatial distribution of the early tholoi is not easily reconciled with the areas apparently most influenced by Cycladic culture or Cycladic migrants at the start of the Early Bronze Age.

HOMES FOR THE DEAD

Can we persuasively argue an indigenous origin for the Mesara tholoi? There are certainly no Neolithic built tombs which might be regarded as obvious forerunners of the tholoi, but Evans and Xanthoudides both believed that the tombs were built as imitations of the houses of the living. There are of course very few neolithic houses which have been excavated in Crete but almost without exception, those which have been discovered have proved to be essentially rectilinear rather than curvilinear. The block of houses at Knossos (Evans 1928, 5ff), the houses at Magasa (Dawkins 1905) and Katsamba (Alexiou 1954), and the fragment of a Final Neolithic building at Kaloi Limenes (Vasilakis 1987, fig.1) are all rectilinear. So too was the fragmentary structure found beneath the Ayia Kyriaki tholos. The only evidence that there may have been contemporary circular houses comes from a clay lamp actually found in one of the

tholos tombs at Lebena (Alexiou 1960) and a small structure discovered beneath an Early Minoan house at Phaistos (Levi 1976, 414–6). The clay lamp takes the form of a circular hut with windows and a door, and perhaps a thatched roof. Until the discovery of the structure at Phaistos, the lamp stood alone as evidence for round huts in prehistoric Crete; it seems likely that is still the situation. The Phaistos structure with a diameter of only 2.5m and but a single row of stones and a rock cutting outlining its shape seems unlikely to be a house; it may have been a working area of some sort. Fragments of EM I houses at Phaistos and Ellenes, and more plentiful EM.II houses at Myrtos, Vasiliki, Palaikastro, Knossos, Mallia, Phaistos and Trypiti all confirm the dominance of the rectangular building in the Cretan domestic tradition.

There remains, however, one further possibility to be explored. Crete is a limestone landscape in part, and not suprisingly it is rich in caves. The evidence suggests that these caves have been used from at least the later neolithic onwards. More than a dozen caves are known to have been in use in the Final Neolithic, and from the type of material found in them we can identify four caves as being used for domestic occupation and another five for burials (Vagnetti and Belli 1978, 142). On present evidence we cannot be sure what the others were used for. By the Early Bronze Age these caves had mostly gone out of use for domestic purposes and,if they were used at all, they were retained for burial. Early Minoan burials in caves or rock shelters are commonest in northern Crete, with rock shelters mostly in the east at Zakro, Ayia Photia, and Vrokastro, and caves in the centre and west at Trapeza, Ayios Haralambos, Pyrgos, Kanli Kastelli, Ellenes Amariou, and Koumarospelio. All of these date to EM.I or EM.II and some of them, such as Pyrgos, Kanli Kastelli and Ellenes Amariou include pottery which is probably early in EM.I.

Is it possible that Early Minoan tholos tombs were developed as an alternative to, and a representation of, natural caves? In and around the plain of Mesara itself caves are few and far between, so that if a mode of burial normally associated with caves were adopted here it is possible to understand why an artificial alternative might be needed. Such a pattern of burial might first have emerged in the Asterousia Mountains, where the earliest tholos tombs may be found. The Final Neolithic character of some of the pottery from Lebena tomb Y2 has been noted since its excavation in the 1960s, and occasional sherds of similar material have been found in Trypiti tomb A, Kaloi Limenes B,

and Megali Skinoi A. Since caves, as opposed to rock shelters, are not as common in the Asterousia Mountains as they are in the central massif of the island, it is again explicable perhaps why the tholos tomb was developed. Certainly the only cave in the Mesara region yet found to contain Early Minoan material, near the village of Plora, is reported to have been used for burials rather than occupation (Faure 1969, 200), repeating the pattern noted elsewhere in the island of a change-over in cave usage from domestic occupation in the Neolithic to funerary use in the Early Bronze Age. Pulling these strands together it is possible to present a hypothesis which envisages the development in the Final Neolithic/Early Minoan period of a new funerary tradition in which first former habitation sites became tombs, and then as growing population and social complexity demanded more burial places than were naturally available, groups began to build artificial 'caves' in the form of the tholos. One early tholos, excavated by Davaras at Chrysostomos, might even be seen as an experimental or transitional example, for it was constructed by taking advantage of an arc-shaped overhang of rock which was used to form about a quarter of the tomb's circuit wall (Davaras 1968). In all respects the tomb was small and primitive, and the second tholos built alongside was little better, with an entrance which was unusual in tombs built in EM.I and II being both oriented to the south and built in drystone rather than the characteristic trilithon arrangement.

There is, however, a weakness in this hypothesis which needs to be addressed, which is the relative scarcity of caves and cave usage in the Asterousia Mountains. It would be far easier to see the suggested sequence of development occurring in northern and western Crete where we have far more evidence of cave habitation in the Neolithic and cave burials in the Early Bronze Age. The EM.I small circular built tombs at Nea Roumata and Krasi show that in these area there was indeed an experiment with circular vaulted tombs at the beginning of the Early Minoan period, which might owe something to the strength of contacts with the Cyclades at this time, as we suggested earlier. But if these tombs are to be seen as representing an early stage in the development of a distinctive Cretan tholos, then we have to recognise that the type must have been introduced to the Mesara, and in particular the Asterousia Mountains, at an early stage by peoples originating in the northern areas of the island. A possible mechanism by which that could have happened would have been transhumance. This is an ancient practice documented in recent times

with shepherds from Kroussona and Anogeia in the west and north of the island bringing flocks to winter pastures in the mountains south of the Mesara (Bintliff 1977). Links between the Mesara tholoi and contemporary burials in northern Crete can in fact be suggested on the strength of similarities both in the EM.I pottery assemblages and some of the funerary practices adopted.

The Final Neolithic pottery from Lebena Y2, Trypiti A, and Megaloi Skinoi A has already been mentioned, and these sherds and vessels are particularly closely linked to the deposit of pottery found in a rock shelter at Partira, west of Arkalokhori in the hill country between the Ida and Dikte massifs. Even more striking is the relationship between some of the Early Minoan I pottery from Pyrgos and Kanli Kastelli and that from tholos tombs such as Lebena, Ayia Kyriaki, Kaloi Limenes A, and Koutsokera. The red-painted Ayios Onouphrios ware spouted jugs, and two-handled cups, bowls and jars, are very similar in details of form and decoration. The tall dark-burnished Pyrgos chalices are common to most or all of these deposits, and so too are the small eared boxes and lids in dark plain or burnished fabrics. The burial deposits in which these vessels are found appear to be the result of identical funerary practices in both north and south – communal, primary burial with associated grave-goods, with periodic fumigation of the tombs resulting in the charring of some of the skeletal remains. One suspects that if one had only pure EM.I burial deposits from all of these sites they would be almost (but not quite) indistinguishable – the principal difference would be in the form of the tomb, cave in the north and tholos in the south, with Krasi and Plora the respective exceptions that prove the rule.

Whether or not one accepts a conceptual, and perhaps a cultural, link between the cave burials of northern Crete and the development of tholos tombs in southern Crete, the case for an indigenous origin for the Mesara tholoi seems much stronger than that for the introduction of a foreign tomb tradition from another, unspecified, region of the east Mediterranean. The possibility that tholoi were intended to represent caves, however, is of importance for more than just the debate about tholos origins. It must also impinge on the other great controversy about the architecture of the Mesara tholoi, namely, whether Xanthoudides was right when he titled his book *The Vaulted Tombs of Mesara.*

CIRCULAR ARGUMENTS

Xanthoudides believed from the first that the tombs he excavated had originally been totally roofed by a corbelled stone vault – he pointed to the quantity of stone found fallen inside some of the tombs, and the marked inward lean of the walls produced by corbelling (Xanthoudides 1924, 4,91,128). Sir Arthur Evans supported this view (1924, xi), and so did Enrico Stefani (1931). But Marinatos (1931, 168f) and Pendlebury (1939 64), raised doubts about this interpretation in the 1930s, and Hutchinson repeated them in 1962 (152). They were concerned in particular that because most of the Mesara tholoi were free-standing structures, not buried within the ground, they would have been unable to withstand the outward thrust of a full stone vault. For this reason they thought that the roofing of the tombs must have been completed with wooden beams and/or thatch. An alternative hypothesis first proposed by Gustav Glotz (1923, 157) and subsequently supported by Sinclair Hood (1960, 1985) and Treuil (1983, 435f) was that the vaults were completed not in stone but in mud-brick. Amongst the more recent excavators of tombs, opinions have been divided, with Stylianos Alexiou (1969, 225), Nicolas Platon (Daux 1960, 821) and Doro Levi (1962, 104f) agreeing with Xanthoudides and Costis Davaras (1968) believing that the larger tholos at Chrysostomos, at least, must have had a flat rather than a vaulted roof. Before excavating the tholos at Ayia Kyriaki in 1972 I had myself expressed the view, in *The Tombs of Mesara*, that Xanthoudides choice of title had been a misnomer and that with the possible exception of some of the small, late tholoi the tombs of Mesara had not been vaulted in stone. I am no longer convinced that the truth is so simple; certainly it can only be established by a careful review of all the evidence.

The evidence includes the size of the tombs, in terms both of their diameters and the thickness of their walls. It must also take into account the methods of wall construction, and any evidence for buttressing or other forms of external support. The primary evidence must include any trace of corbelling and any identifiable remains of fallen vaulting. We can perhaps look at each of these sources of evidence in turn, before trying to arrive at any general conclusions.

TOMBS LARGE AND SMALL

The size of the tombs varies greatly, from tombs like Moni Odiyitria B, Ayios Georgios and Arkhanes C each with an internal diameter of only 3.5m, to the two large tholoi at Platanos, tomb B with a diameter of 10.25m and the giant tholos A measuring just over 13m across its chamber. This range, and even the average internal diameter of 5.7m and the median of 5.4m, obscures the tremendous clustering of tombs in the range 3.5m to 6.m, within which are two thirds of the tombs (Figure 3.3). There are also some significant chronological and regional variations in tomb size. If we divide the tombs into early (EM.I–II) and late (EM.III–MM.I) groups, we find that whilst 60% of early tombs are below 6m in diameter that over 85% of late tombs fall below that size. That is, there seems to be a trend towards building smaller tombs. This is to some extent confirmed by the regional variations too, since all five of the northern and eastern tombs for which we have measurements fall below 5m and of these only Arkhanes Epsilon is an early (EM.II) tomb. But the picture is more complicated than this, for we find a regional variation within southern Crete itself. Almost two-thirds of the tholoi found on the southern side of, or along the crests of, the Asterousia Mountains are smaller than 5.5m in diameter, whilst less than one third of the tholoi in and around the plain of Mesara itself are this small. Yet only one of the Asterousia group is thought to be a late tomb. It may be that this is partly a reflection of a chronological division within the early group, between the EM.I foundations and the EM.II ones, for on the evidence that survives there are certainly more EM.I tombs in the Asterousia area than in and around the plain of Mesara. In other words we may have a general development through time which begins with small tombs, sees the building of larger tombs in EM.II, and then sees a return to smaller tholoi in EM.III–MM.I. Whether or not there is any social significance in this pattern is something we shall return to in a later chapter.

In assessing the probability that a tomb was fully vaulted in stone, the thickness and strength of the circuit wall is at least as important as its diameter, particularly if we are dealing with structures built largely or entirely above ground. The relationship between diameter and thickness is easily expressed as a ratio of the latter to the former; the higher the resulting figure the thinner (relatively) the circuit wall. The average thickness/diameter ratio of the forty-eight tombs for which

we can make this calculation is 3.9:1. with a median of 3.7 (Figure 3.4).

There is again a chronological variation worth noting, and related to the variation of size noted above. The average ratios of the EM.I tombs and the EM.III–MM.I tombs is 3.6 and 3.3 respectively whilst that of the EM.II tombs is 4.3. Two-thirds of the EM.I and EM.III–MM.I tombs fall below the median whilst three-quarters of the EM.II tombs are above it. In other words, there is not only a tendency to larger tombs in EM.II but also a tendency to relatively thinner and, one might argue, weaker walls. But when we come to assess the likelihood of stone vaulting the actual as well as the relative thickness of the walls is significant, for if the intention is to build no more than a circuit wall, perhaps two to three metres high, then there is no reason why such a wall need be any thicker to enclose a chamber 10m across than one which is only 4m across. Although there is a tendency for the larger tombs to have relatively thinner walls, the fact that the walls of Platanos A and B are 2.5m thick compared to the metre wide walls of Lasaia A and B, for example

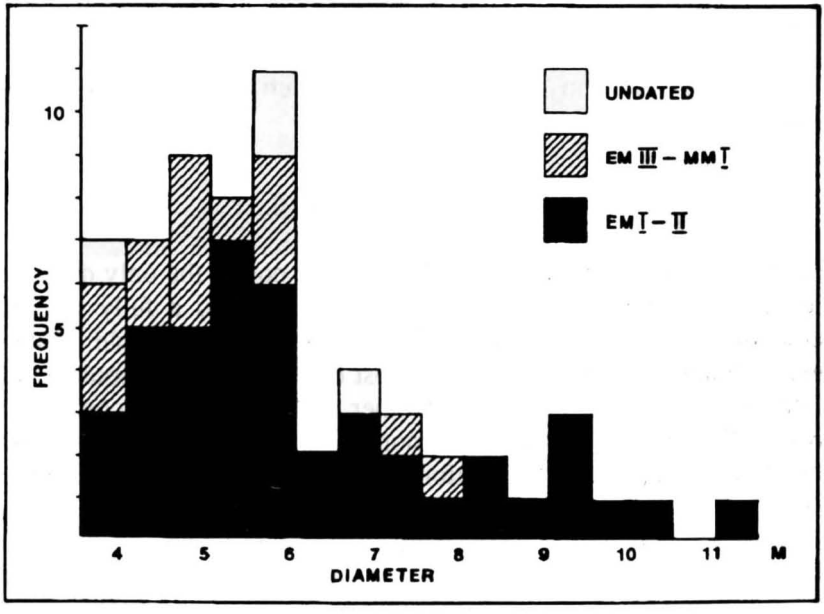

Figure 3.3 A histogram plotting the internal diameters of the Mesara tholoi.

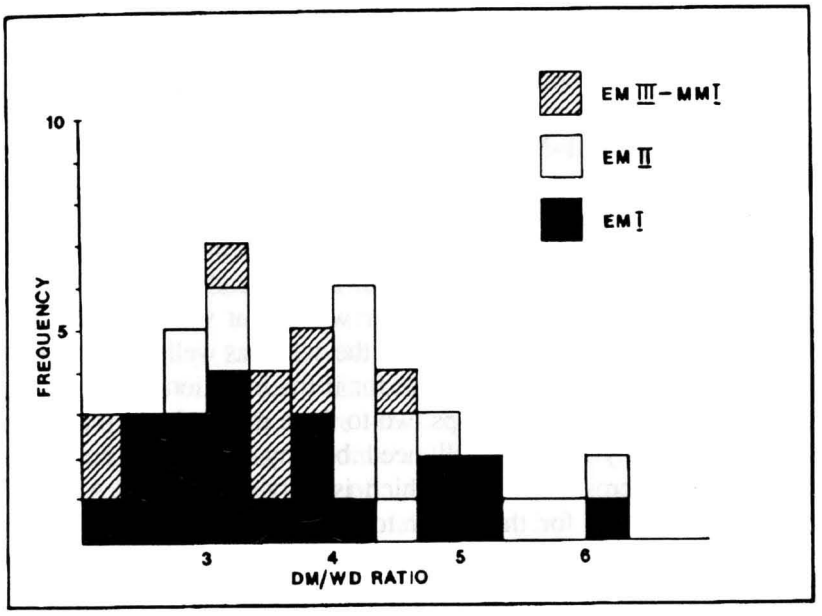

Figure 3.4 A histogram plotting the diameter/wall thickness ratios of the tholoi.

does raise the question of why they are so much thicker if all walls are to be built simply as enclosing walls.

BUTTRESSING THE ARGUMENT

The thickness of the tomb wall alone would not be the only decisive factor in whether or not it could be built up into a fully vaulted structure. The wall would need to be constructed in a suitable manner and with appropriate materials. In most cases blocks and boulders of limestone have been utilised, but other rocks are used according to availability. Many tombs have notably large blocks or boulders incorporated into their foundations. They are particularly notable at Koumasa B, Lasaia A and B, and Lebena Y2 for example, and it seems to be common practice. Since the bottom course of stones in the wall had to carry the weight of the entire wall above, this seems a sensible attempt to ensure that as far as possible the wall did not collapse on itself. But some notable exceptions to this have been

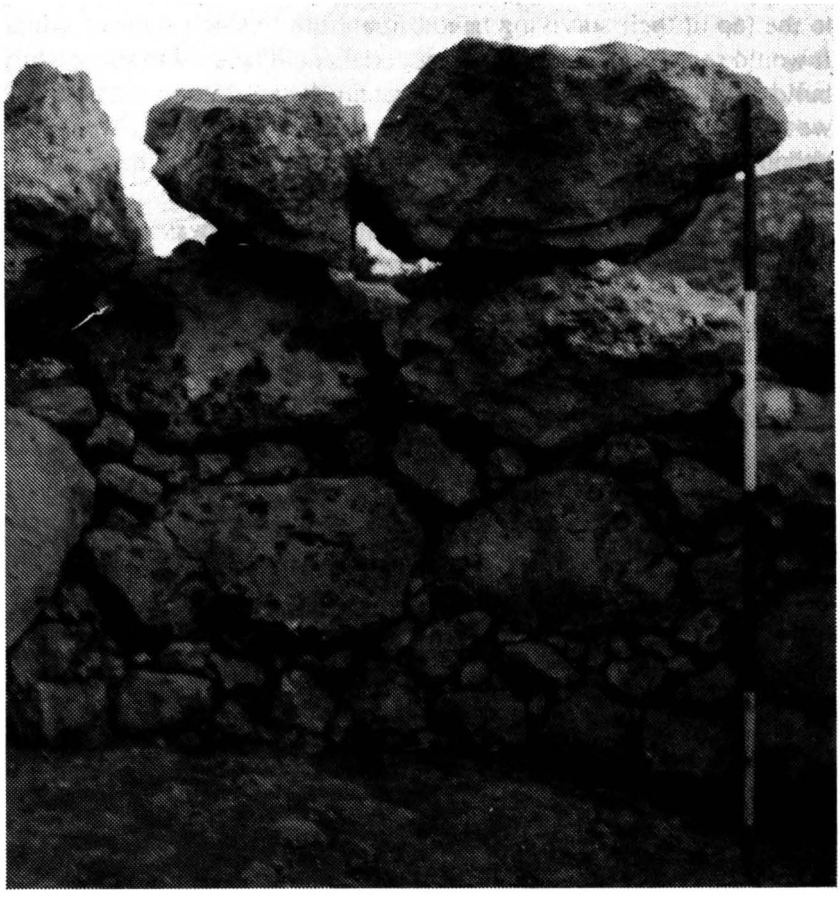

Figure 3.5 The wall of the tholos at Ayia Kyriaki showing the foundation course of small stones (the author).

recorded, for example at Megaloi Skinoi, Kaloi Limenes A and B, Platanos and Ayia Kyriaki. It may be recalled in particular that at Ayia Kyriaki the foundation of the tomb wall was built of a single course of smallish blocks on top of which massive blocks of stone were placed, often 'framed' by smaller stones. A similar foundation of small blocks can be seen in both Megaloi Skinoi A and B, again overlain by much larger blocks (Figure 3.5). In some other tombs,

such as Chrysostomos A and Kaminospelio (Blackman and Branigan 1973, pl.E,1) the walls appear to have been built from the foundation to the top of their surviving height in uniformly small slabs of schist. It would seem unlikely that such material could be used to successfuly build a vaulted roof over a chamber as much as 8.25m in diameter but we do not know what the uppermost parts of these walls were like, although Chrysostomos A stands to a height of 2.3m with no sign of variation in construction.

The construction of the upper parts of the wall was obviously of key importance if a corbelled vault was to be produced, and here we are obviously restricted to looking at the evidence from those relatively few tombs which have survived to any reasonable height.

Figure 3.6 Part of the wall of Megaloi Skinoi A, preserved to a maximum height of 3.4m (the author).

Information is recorded for less than a dozen tombs which survived to a height of more than 2m, of which the most impressive is Megaloi Skinoi A with a maximum preserved height of 3.4m (Figure 3.6).

Here, and at Ayios Kyrillos, Kephali, Koumasa B, and Ayia Kyriaki there are large blocks, often of roughly oblong shape, in the surviving top courses of the walls. One could imagine such blocks being used for crude corbelling. Kalathiana and Kamilari A on the other hand are built in relatively neatly coursed regular, rectangular blocks to their surviving heights (2.7m and 2.1m respectively). Three other tombs, Ayia Triadha A, Apesokari B, and Megali Skinoi B are built of medium sized and small blocks throughout with little trace of any larger blocks in the upper courses. The uniformly small build of Chrysostomos A has been commented on above. Clearly, the picture is a varied one which must complicate any discussion of vaulting.

Figure 3.7 The tomb and outer chambers of the tomb at Ayios Kyrillos, excavated by Prof.I.Sakellarakis (courtesy I.Sakellarakis).

The same may be said of the evidence for the buttressing of the tomb walls in various ways. At Apesokari A, Lebena P,1b, and both tombs at Vorou, the tomb wall is thickened for part of its circuit, though in no case is it clear that this is intended to support a particularly vulnerable part of the circumference from the anticipated thrust of a vaulted roof. Similarly the six short radial walls noted on the south side of Platanos A, which Xanthoudides thought were buttresses, and the unspecified number on the north side of Marathokephalo B, seem altogether too insubstantial to have fulfilled this function. Far more effective would have been the way in which tombs such as Chrysostomos A, Ayia Kyriaki, and Ayia Triadha B were built back into the hillside so that up to half their circumference was supported by the rock and earth of the hillside itself. At the tholoi of Ayios Kyrillos (Figure 3.7) and Arkhanes C this appears to have been done to such an extent that the entire circumference was well supported. Finally we should note that the tombs at Megali Skinoi, though sitting on relatively flat ground, seem to have been built substantially below ground level. Only the final publication of the tombs will allow us to confirm or reject that suggestion, but it is difficult to interpret the surface evidence in any other way.

PRIMARY EVIDENCE

The key evidence in this debate is obviously the surviving remains, if any, of a corbelled vault. Amazingly, given the ruined and robbed state of many of the tholoi, thirty tombs do retain clear evidence of corbelling. In fact only two tombs with walls surviving to 1.5m height or above have not yielded evidence of corbelling – Vorou A and Skotomeno Kharakas A. Elsewhere the evidence is persistent, even in some tombs with walls preserved less than 1m high. Xanthoudides mentions the overhang in describing most of the tombs he excavated and comments on the particularly marked overhang achieved by corbelling in the tholoi at Porti, Christos and Kalathiana (1924, 56,70,81). At Christos the corbelled overhang was 25cms, a vertical deviation of 1:7. A similar deviation has been noted at Megaloi Skinoi A, with an overhang of 40cms, and significantly greater ones at Ayia Triadha A, Ayia Kyriaki (both 1:4) and Trypiti A (1:3). In both the latter cases the corbelled overhang was 50cms. It is difficult to understand what possible reason there could be for corbelling the walls at all if they were to be no more than circular enclosure walls

Figure 3.8 Fallen wall and vaulting in tomb A at Kamilari (courtesy D. Levi).

for a burial area. But of course it remains possible to argue that although some sort of roofing was envisaged for the tombs, it was not in the form of a full stone vault.

If full stone vaults were indeed built over the burial chambers of the Mesara tholoi, then it is reasonable to ask why no trace of them has been found, collapsed inside the tombs. In most cases the answer to this is simple enough – the tombs have been thoroughly robbed of their contents and to do this, the entire fill of the chamber has usually been emptied. To compound the problem, some of the removed stone has subsequently been carried off for building purposes. In a small number of cases, however, excavators have found substantial quantities of stone fallen inside the chamber, overlying unrobbed or partially robbed burial deposits. At Christos, for example, Xanthoudides found what he considered to be 'nearly all' of the limestone slabs used for a complete vault, lying inside the tomb.

Alexiou found a mass of fallen stones in a tomb at Lebena, and Levi has provided an excellent photo which shows a similar situation

in the large tomb at Kamilari (Figure 3.8). Platon considered the quantity of stone found in the tholos at Myrsini to be sufficient to confirm that there had once been a full stone vault. But in none of these cases did the excavator actually measure the quantity of fallen wall and roofing found inside the tomb. The only tomb for which we have this information is tholos B at Platanos, from which Xanthoudides (1924, 91) carefully stacked up all the removed stone and calculated its volume as 25 cubic metres. The volume of wall which this originally represented would have been greater than this, of course, because of the clay bonding and small packing stones which would have infilled the gaps between the larger blocks recovered and measured by Xanthoudides. A generous allowance for this material would increase the total of fallen walling to perhaps 35 cubic metres. What does this volume mean in terms of collapsed vaulting? At Platanos B the 35 cubic metres would have raised the wall from its surviving height of one metre to about one and a half metres. Given the overall size of Platanos B, at just over ten metres diameter, this would be a completely inadequate amount on which to conjecture a full stone vault .

Is there any primary evidence then that the vaults were completed in mud-brick, as Hood has proposed, or that the roofs of the tombs were constructed of timber as Pendlebury and Hutchinson suggested ? The only tomb known to have produced any mud-brick at all is Kamilari A, where a single piece of mud-brick was discovered inside the tomb chamber (Levi 1962, 34). Hood (1985, 46) has suggested that the white layer of material found by Levi sandwiched between the burial deposit and the overlying collapsed stones might be the remains of dissolved mud-brick. We have no analysis of this material, but it is unlikely to be dissolved mud-brick for this explanation would require the whole of the upper mud-brick vault to totally dissolve whilst the lower sections of wall and vaulting in stone remained in place. It is far more likely to be a deliberately introduced deposit of material similar to the white sand and earth levels found in several other tombs, sometimes sandwiched between phases of burial activity. One small fragment of mud-brick from one tholos is totally insufficient evidence on which to postulate the use of mud-brick vaulting in the tombs of Mesara.

There is equally flimsy evidence for the use of wooden roofing materials, and paradoxically it comes from the same tomb as the piece of mud-brick – Kamilari A. Here, below the fallen stones but over the

burial deposit Levi found the remains of charred timbers (Figure 3.9). Four, perhaps five, timbers can be identified and could be interpreted as the burnt remains of spars which supported a lightweight timber or brushwood roof, perhaps of conical rather than flat form. Such a roof would certainly enable fumigatory fires to be lit inside the chambers – as we know they were – by simply removing the roof on the rare occasions when fumigation was to take place. Indeed, the need to occasionally remove or rebuild a timber-based roof to the tombs might explain the curious projecting slabs found on the outside wall face of at least ten tombs. These slabs would facilitate access to the upper part of the tomb wall and roof. Our problem in accepting this scenario is principally that Kamilari is the only tomb to have produced reasonably unequivocal evidence for the presence of wooden beams in a tomb – whatever their function. Evidence of fire, and of hearths, has been noted but nowhere is there any reason in the published reports to think this is other that either fumigation debris or

Figure 3.9 Burnt timbers on top of the burial deposit in Kamilari A (courtesy D. Levi).

remains of fires lit for ritual reasons within the tomb chamber. There is also the question of whether a half or three-quarter stone vault completed in wood would have been a stable structure, particularly in an earthquake prone island like Crete.

THE ENGINEERS AND THE MITATA

When I was writing *The Tombs of Mesara* in 1970, I sought the views of two engineering colleagues as to the stability of the Mesara tholoi.

Having seen plans and photos of many of the tombs, both agreed that the construction of the tholoi walls was too random to allow a purely theoretical analysis of their strengths and weaknesses. But the comments they made at that time have since been confirmed and extended in the studies by Cavanagh and Laxton (1988) of the vaulting of Mycenaean tholoi. If the tombs are corbelled, then as long as 'the line of action of the combined weights of the structure... pass within the structure at all levels' then a corbelled vault will stand.

Figure 3.10 An early twentieth century 'mitata' (courtesy of Liverpool University Press).

Cavanagh and Laxton go on to make two key points. Because the forces in corbelling operate directly and vertically through gravity, there is no need of buttressing devices to counteract horizontal forces. And because the forces operate through compression, corbelling can be achieved with a rubble stone structure, or even with a mixture of stone and earth.

Both of these points are in fact demonstrated in modern Crete by the remarkable shepherds' houses (mitata) and cheese-dairies (tyrospita) found on the isolated upland plain of Nidha, below Mount Ida (Figure 3.10). These were first noted and illustrated by Xanthoudides himself, and have since been the subject of a short paper by Warren (1973). Both the mitata and the tyrospita are free-standing without any form of buttressing, and whilst the roofs of the mitata are corbelled with stone slabs, those of the tyrospita are roofed with a vault of packed earth and stones. The mitata vary in overall diameter between about 5m and 8m, and some are only 3m – 4m in height. In size they are therefore at the lower end of the range found amomgst the tombs of Mesara, comparable to tombs such as Kamilari C, Ayios Georgios, Moni Odiyitria B, and Arkhanes C.

The combined and complementary evidence of the engineers and of the mitata of Nidha must make us look with greater confidence at the possibility that the tombs of Mesara were fully vaulted in stone.

FROM KAMILARI TO KYRIAKI

The great value of what the engineers have to say, and the mitata have to demonstrate, is that all the ambiguities of our evidence from the Mesara tholoi should not deter us from coming to a conclusion. Ambiguity there certainly is. There are some tombs where their small size and large building blocks make a full stone vault entirely feasible; their are others with big chambers and walls of small stone blocks which are difficult to envisage being completed in this way.

Equally some tombs seem to have selective buttressing and others have none,and where there is buttressing it varies considerably in its form and its strength. again there are tombs choked with collapsed masonry but many others with very little. Mudbrick and charred timbers are singular occurrences. Effectively, the engineers and the mitata are saying we can ignore these ambiguities and discrepancies.

In this positive frame of mind we might perhaps look again at the evidence from Kamilari. We know the diameter of the tomb chamber

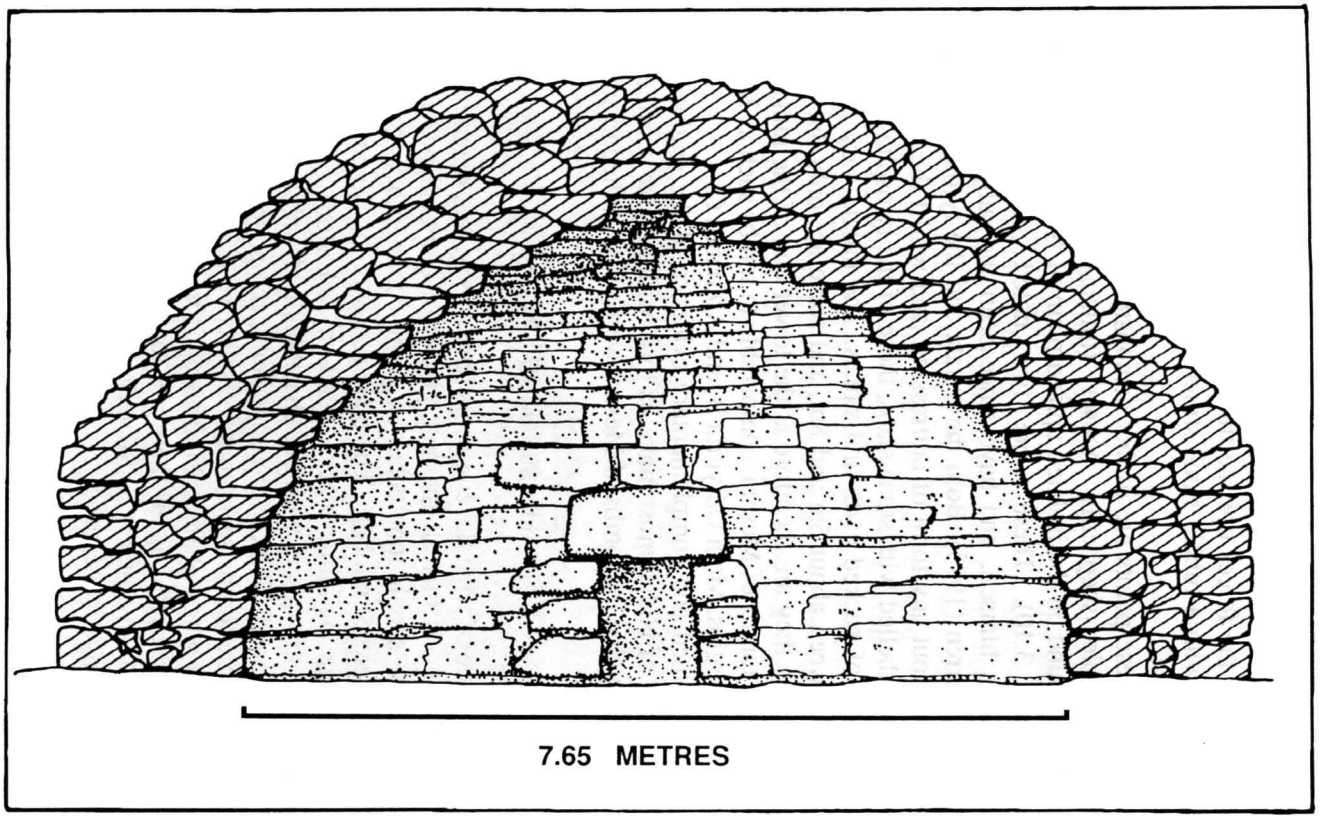

Figure 3.11 A possible reconstruction of Kamilari A as a fully corbel-vaulted tomb.

and its surviving depth, and we know it was full to the brim with collapsed walling; a simple calculation suggests that the stone fill would have been in the order of 90 cubic metres. This calculation presents interesting possibilities for the amount of fallen wall and roofing here would allow us to envisage a corbelled vaulted structure in excess of four metres in height (Figure 3.11). To this we can add the observation that many of the fallen stones found inside the chamber at Kamilari were wedge-shaped, with their thin ends pointing inwards. Such stones would be ideal for building a circular corbelled vault, and it is significant that they were much more numerous amongst the stone fill than they were in the surviving wall structure. That is, there is reason to think that the upper part of the wall/roof may have been built in a different way to the lower part.
This is certainly what Xanthoudides claimed at Christos (1924, 70), where he drew an absolutely clear distinction between the 'large and small undressed stones' in the standing build of the wall and the 'slabs of limestone' found collapsed into the chamber. The undisturbed fill in the tomb excavated by Alexiou at Lebena also included many wedge-shaped stones which he described as having fallen like 'rows of books'. Together with the evidence for different walling in the upper levels derived from four or five tombs with walls still standing to two metres or more, discussed above, there is thus some evidence to suggest that the poor preservation and robbing of the majority of tombs has left us with a misleading impression of what their upper structure may have looked like.

There are sufficient tombs where the evidence can now be confidently said to point towards full stone vaulting for us to wonder, in the light of Cavanagh and Laxton's comments on corbelled vaults, which of the tombs of Mesara cannot be envisaged as roofed in this way. If there are such, then they will be found amongst the tombs with large diameters, thin walls, and small block construction. The most likely candidates are Platanos A (over 18m in diameter, and a diameter/wall ratio of 5.4) and Kaminospelio (over 10.5m in diameter, and a diameter/wall ratio of 5.9).

In both cases, however, we have no idea at all of what the upper wall and roof material was like and this is a key factor. In the absence of evidence here, and elsewhere, we must perhaps reserve our judgement. In general however, I am much more confident now, and after our own excavation of the tholoi at Ayia Kyriaki, that Stephanos Xanthoudides was right when he called his newly discovered tholos

tombs *The Vaulted Tombs of Mesara.*

CHAPTER 4

The Eye Of The Needle

Understanding the process of burial in an Early Minoan tholos tomb is not an easy task. Constant disturbance of the previous burials as new ones were made, together with the occasional clearance and fumigation of the tombs, and the episodic looting of the tombs both in the past and the present, has completely confused the skeletal and other remains. It is no longer possible to say which grave-goods went with which corpses, or to distinguish the postures in which the dead were laid to rest. All we can say with certainty at the outset of this discussion is that the dead were inhumed in communal tombs together with some of their personal possessions. But there can be little doubt that the process of burial was much more complex than this, and that preparation for it began at the time the tomb was constructed.

BUILDING FOR BURIAL

In perhaps the majority of cases, before burials were ever put into a tomb the earth inside it was stripped away to expose the bare rock, and burials were then made on the cleared rock surface. But in other instances the first burials to be made in a tomb were laid on carefully prepared floors of material introduced into the tomb before it was used. In Drakones Z and Platanos B sand and gravel was gathered from a nearby stream and used to floor the tombs (Xanthoudides 1924, 77,91), and a floor or layer of pebbles was found to underlie the burials in Arkhanes C (Sakellarakis 1973, 120). In Platanos A the floor was made of red clay, whilst in the small tholos B at Kamilari a floor of polygonal slabs was laid (Levi 1962, 107). At Koutsokera and Kaloi Limenes B the floor was of beaten white earth, and in the case of Ayia Kyriaki the pinkish-tinged beaten earth floor could be shown to have been laid after the tomb wall was built and the original earth removed down to the bare rock.

Such preparations must have been considered important, if not necessary, and evidence from elsewhere suggests that in some way

the laying of a floor of new material was considered as ensuring the purity of the tomb environment. In Lebena Y,2A and Platanos A, for example, white floors were laid immediately over the remains of a fumigation fire (Alexiou 1960, 227; Xanthoudides 1924, 89) whilst a major clearing out and cleaning up of Koumasa E was also followed by the laying of a white clay floor (Xanthoudides 1924, 34). At Vorou A a white floor was introduced to separate the extended inhumations from the later pithos and larnax burials (Marinatos 1931, 146). These floors, whether of cleared rock or introduced sand, gravel or white earth, were continued through the tomb doorway into the small antechamber immediately outside, where such existed.

Many, but not all, of the Mesara tholoi had rectangular antechambers in front of their doorways. Details are recorded of about thirty examples, and there were probably many others which have been destroyed or simply covered over by robbers spoil heaps. The antechambers usually have thin walls and were probably never built higher than about 2m, possibly less. They would most probably have

Figure 4.1 The trilithon doorway of Megali Skinoi B – just a metre high and only 0.8m wide (the author).

Figure 4.2 Kamilari A with its built doorway and massive lintel stone (courtesy D. Levi).

been roofed with packed mud or clay on brushwood and short wooden beams.

Their most remarkable feature is undoubtedly their small size. Even the largest of all the tholoi, Platanos A with an external diameter of around 18m, is fronted by an antechamber which measures only 2.75m x 1.5m. The largest antechamber yet recorded is that discovered in front of Apesokari B, measuring 3.5m x 2.3m, but this is a late tomb and appears to be far removed in this respect from the early tombs. The smallest antechamber yet recorded is the tiny 1.45m x 0.8 room at Koumasa A, and other particularly small examples are found at Lebena Y2 and Ayia Triadha A.

Matching the small size of the antechambers was that of the doorways which led from the antechamber into the tomb. These doorways fall into two types according to their construction. Most of the early tombs have doorways built on the trilithon principle, with two large upright slabs supporting a third horizontal slab which forms the lintel of the door (Figure 4.1). In some cases the width of the tomb walls inevitably required two lintel stones, yet the simple structure

remains essentially the same and makes an impressive frame to the entrance to the tomb. Some of the later tombs do not use a trilithon entrance but have a built doorway, although they still employ massive lintel stones (Figure 4.2). It is amongst these latest tombs of EM.III–MM.I date that we find the highest doorways too, with doors between 1.5m and 2m high at Gypsades, Ayios Kyrillos and Drakones Z. Since these same three tombs also have doorways a metre or more wide it might be argued that the building of taller, wider doors to the tombs reflects a changing attitude either to the funeral process or to the dead.

Certainly this handful of large doorways is in marked contrast to the overwhelming preponderance of low, narrow doors amongst the early tombs. Eighty percent of the twenty-six early tombs for which information is available have doorways less than a metre wide, and only two doors are more than a metre wide. The narrowest doorways

Figure 4.3 The outerchambers of Kamilari A, with the entrance closed by a massive slab (courtesy D. Levi).

are those at Lebena Y,2A and Kepahli at around 0.5m, but eight or nine other tombs have doors which are only 0.7m wide. As for their height, over seventy percent are less than a metre high, with the lowest entrances being at Lebena Z3 and Y2 respectively (0.5m and 0.65m). Several of the doorways are approximately square, and one can imagine the difficulty of taking a corpse through the doorways of tombs such as Ayia Kyriaki, Lasaia B, and Megaloi Skinoi C, each of which was about 0.7m square. Since there was no structural benefit in building such small doorways we must assume that their tiny proportions are a reflection of attitudes to the dead and that it was made as difficult as possible for the dead to pass, in either direction, through these needle-eye openings. In some cases surviving slabs which close the doors suggest that further attempts were made to secure the tomb and its contents. The slab at Kamilari A is probably the most impressive (Figure 4.3), but the two slabs – one at either end of the doorway – at Porti is perhaps the most interesting example, with its clear suggestion that the slabs were perhaps intended as much to keep the dead within as the living without.

CEREMONIAL CHAMBERS

Given the tiny dimensions of both the doorways and the antechambers, it is unlikely that large numbers of mourners entered a tomb at the time of burial in any case. A good many tombs, however, preserve remains of further chambers some of which seem likely to have played their part in funerary ceremony. Amongst the early group of tombs there are broad similarities in the suite of chambers which is provided but no common plan. The two suites which are almost identical are those at Lebena Y2 and at Ayia Kyriaki, where in each case the antechamber is fronted by a room of very similar size, flanked on the south by a squarish room with a bench and by a third, larger room (Figure 4.4). The tomb at Moni Odiyitria A is fronted by a square block of five rooms, and that at Ayia Triadha A by a square block with three tiny cell-like rooms on either side of a central corridor. There were probably multiple chambers outside the early tombs at Megaloi Skinoi too. Irregular suites of chambers are found at some of the later tombs too, such as the three or four outside Vorou A and the three outside Kamilari A (Figure 4.3). What is not clear in most cases is whether these suites are irregular because they represent a series of rooms added one by one over a long period of time. At

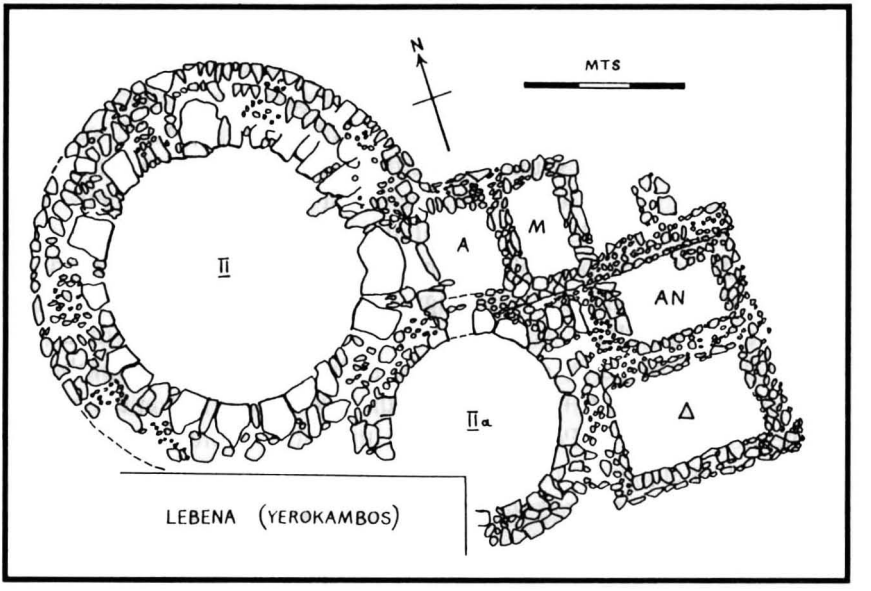

Figure 4.4 A plan of Lebena tombs Y2 and 2a with the suite of outer chambers.

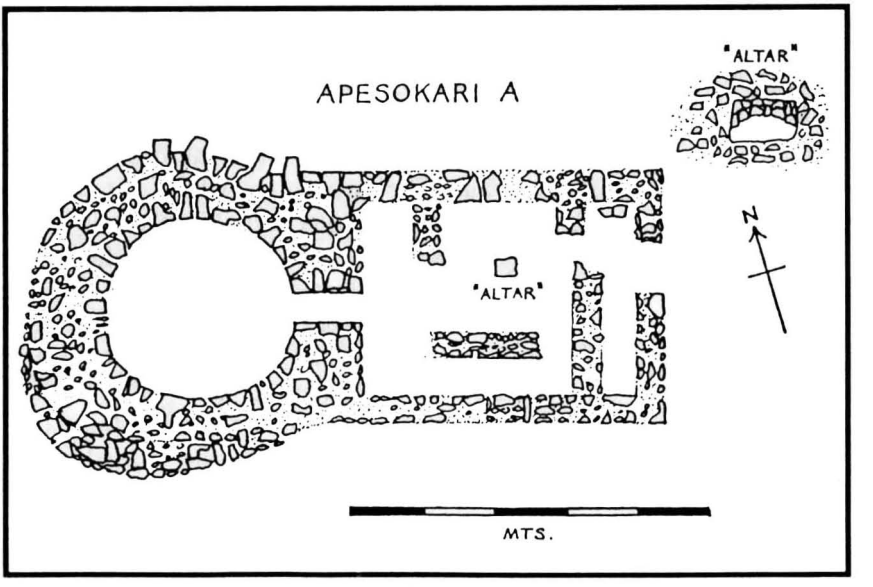

Figure 4.5 The plan of Apesokari A with outer chambers and altar.

Ayia Kyriaki that point was clearly demonstrated, and at Kamilari A a fourth room was added onto the original three in MM.III. Preliminary reports on Moni Odiyitria refer to two phases in the construction of the outer chambers, and from the published plan of Lebena Y2 (Figure 4.4) it is certainly possible to see how rooms AN and Delta may have been added onto the original antechamber and room M. The weight of present evidence, therefore, suggests that these outer chambers were not designed, built and used as an integral suite at all but represent responses to developing needs, and possibly to changes in funerary ceremony.

In contrast, there is a group of five or six tombs which are fronted by a rectangular structure which has internal partitions which usually include a narrow side corridor or chamber, an antechamber space, and one or two further chambers in the centre of the block. The best known example is Apesokari A (Figure 4.5), but Platanos B and Ayios Kyrillos (Figure 3.7) are reasonably well preserved too, and further examples include Apesokari B, Kamilari C, and Sopata Kouse. There is a possibilty that Platanos C was also fronted by a structure of this kind. Four of the tombs are MM.I in date, and it is tempting to see these suites as a late regularisation of the ideas developed piecemeal in the preceding centuries. But Platanos B cannot be placed later than some time in EM.II and unless it is assumed that the suite is built onto the existing tomb at a late stage of its existence, then the first signs of this standardisation of part of the funerary ceremonies must be put back into Early Minoan II. Just what part these outer chambers played in the funerary rituals we may be able to suggest when we have established more clearly what went on inside the tomb chamber itself.

POSTURES AND PITHOI

Given that the doorways to the tombs were in most cases so small, the corpse must have been dragged into the chamber by one or two men who had already entered the tomb. They most probably carried torches or lamps, and Alexiou noted fire-blackening on the underside of the lintel of Lebena Y2, whilst Levi believed that at least some of the charred wood found in Kamilari A came from torches. They may also have burnt aromatic substances on small clay tables like that from Porti, or in a pithos base in the case of Vorou (Marinatos 1931, 147).

The posture and orientation in which the dead were laid to rest has been only rarely noted in the Mesara tholoi, due mainly to the constant disturbance and trampelling which the skeletons underwent and also their often total disturbance by tomb robbers. It is self-evident that most, if not all, the articulated skeletons that have survived will have been amongst the latest put into the tombs and that they can provide us with a glimpse of funerary practice only towards the end of the era in which the Mesara tholoi were in use. Remains of articulated skeletons were found in Ayia Triadha A, Vorou, Gypsades, Arkhanes C, Lebena, and apparently some of the tombs excavated by Xanthoudides.

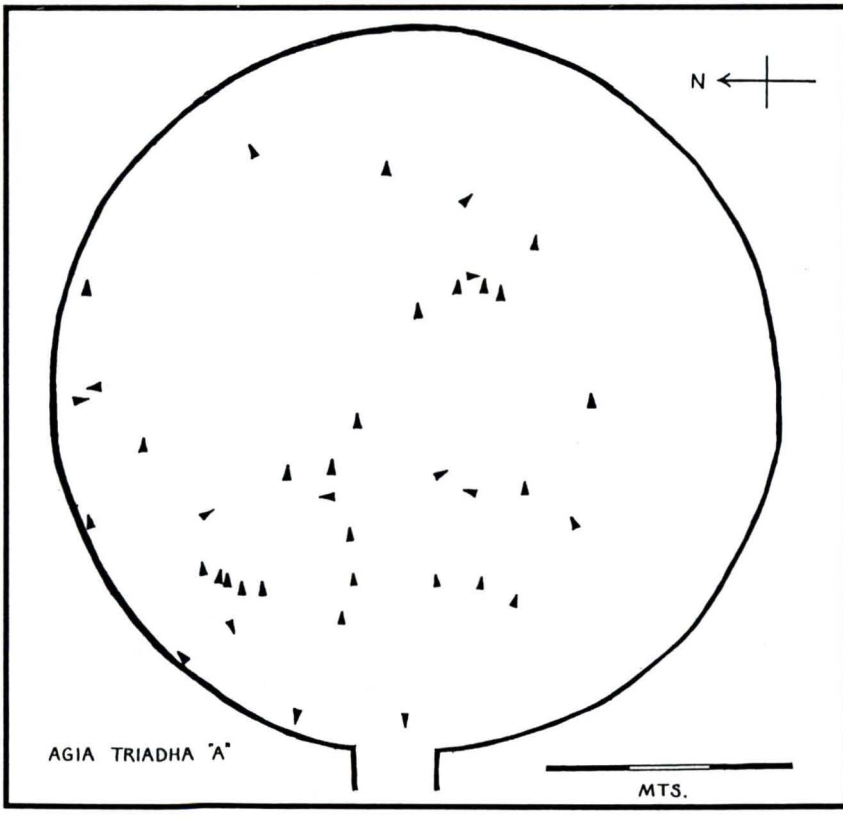

Figure 4.6 The orientation of daggers found in tholos A at Ayia Triadha.

The two skeletons found *in situ* in Ayia Triadha A and Gypsades both had their knees bent so that they were buried in either the flexed or contracted position. Evans noted legs bent at the knee among the articulated limbs at Ayia Triadha (Evans 1924, xii, n.2), and Xanthoudides certainly believed that the burials were made in the 'contracted' position. But it is equally clear that burials were also made in the extended position. Alexiou describes the burials in Lebena P1 as 'extended inhumations' and Marinatos (1931, 145–6) refers to several of the burials at Vorou as being in the extended position. We assume, in the absence of comment to the contrary, that the extended burials were laid on their backs.

The only direct evidence yet published for the orientation of the burials derives from Marinatos' excavations at Vorou in 1930. Here most of the articulated skeletons were oriented east–west with the head facing west, and therefore presumably placed at the east. It is possible that confirmation of this orientation, and evidence that it applied in the earlier as well as the later tombs, can be adduced from the records of the finds made in tomb A at Ayia Triadha. Banti's plan of this tomb shows the position of the forty or so bronze or copper daggers found in the tomb, and over three-quarters of them have their point towards the west (Figure 4.6). If the Minoan male wore his dagger in death as he wore it in life (to judge from the Petsopha figurines), then three-quarters of the persons buried in tholos A at Ayia Triadha were buried with their heads at the east and their daggers pointing at their feet, to the west. Certainly an east–west orientation seems the most likely for the Mesara burials, given the overwhelming orientation of the tomb doorways themselves to the east.

At some time in EM.III or MM.I a change of burial practice seems to have been initiated. Rectangular clay coffins and large jars (pithoi) begin to appear inside the tholos tombs with remains of burials inside them. They were noted by Xanthoudides at Drakones (1924, 76) to sit in the level overlying the main burial stratum, and this observation has been repeated at Arkhanes by Prof. Sakellarakis (1972, 1991). About fifteen tombs have yielded larnax burials, and most of these have produced evidence of pithos burials too. In Arkhanes C there were eleven larnakes, in Arkhanes E there were thirty-one, and in Ayia Eirene E there were fifteen. Fragments of at least six were found in Ayia Kyriaki, but here there were a large number of pithoi – at least eighteen. The pithos burials and the larnax burials appear to be

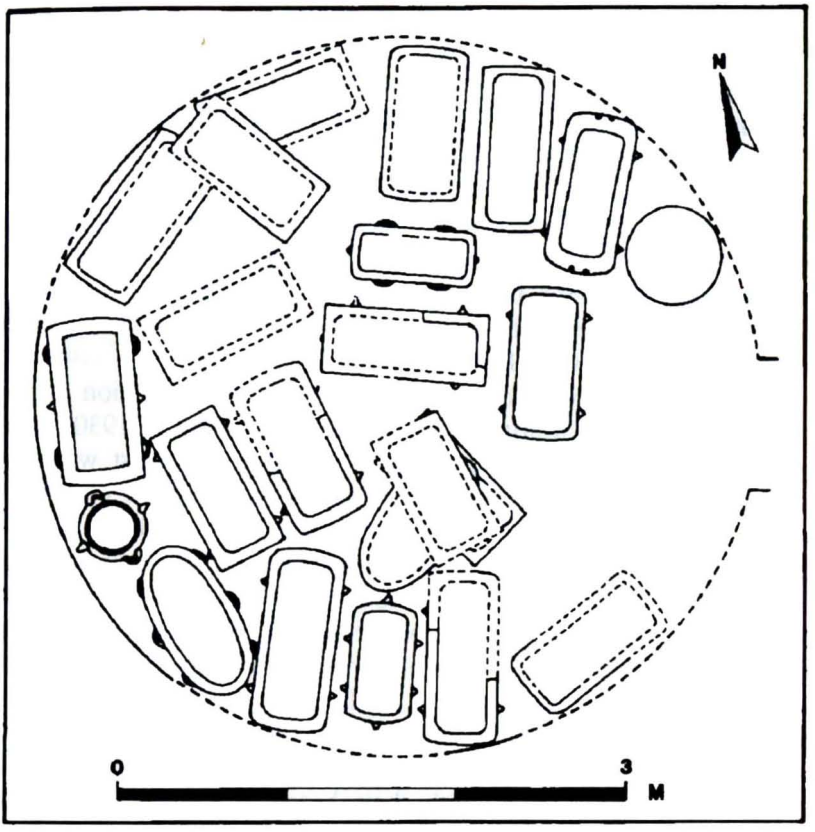

Figure 4.7 Tholos E at Arkhanes, showing the location of lakarnes and pithoi as excavated by Prof. I. Sakellarakis.

broadly contemporary, and therefore alternative or complementary forms of burial for in Arkhanes E a pithos burial is placed against the wall opposite the entrance and must have been put there before most, but not all, of the larnakes.

On the face of it, the appearance of larnax and pithos burials in the tombs would seem to point to a developing trend for individual inhumations, though initially at least they were still made in the communal context of the tholos tomb. Later Middle and Late Minoan pithos burials were found outside some of the tholoi, as if to confirm that the concept of the burial of the individual had at last broken free from the demands of communal burial. This may be a correct interpretation of the evidence, but if the intention of the larnax and pithos burials was to express individuality rather than communality,

then it was an intention that was subverted. In tholos E at Arkhanes for example, the thirty-one larnakes and two pithoi contained the remains of thirty-six individuals Whilst in the nearby tholos C the larnakes near the entrance to the tomb had each received multiple burials (Sakellarakis 1972,1973; Rupert 1976, 732). Similarly three of the pithoi from tomb A at Vorou each held two burials, and here heavy lids and large stones had been used to keep the dead firmly in their place (Marinatos 1931, 151).

POSSESSIONS

It is at least an arguable hypothesis that the very considerable quantities of grave-goods found in the Mesara tholoi are also a reflection of an attitude of fear and/or hostility to the dead, rather than an attempt to provide generously for the deceased in after-life. The range of grave-goods found in the tombs is remarkably wide and so is the range of possible explanations for them being there.

The most prolific material in the tombs, as in contemporary settlements, is pottery. The tombs at Lebena yielded many hundreds of clay vases, and over 300 were recorded at Moni Odiyitria. The largest tholos at Kamilari yielded about a thousand clay cups, apart from many other vases, whilst at Ayia Kyriaki we estimated that nearly two thousand vessels were represented by the remaining sherd material after the looters had taken the complete vases. Here too cups were particularly numerous, with over a thousand examples identified.

In general there seem to be more cups in most of the tombs, and they span the entire period of tomb usage, the earliest examples being Pyrgos chalices and Ayios Onouphrios cups, followed by Vasiliki and other EM.II goblets and handled cups, then the EM.III white on dark cups and the first of the conical cups, and finally the mass of small conical cups of MM.I (Figure 4.8)

Next to cups the commonest clay vessels are jugs and various dishes and bowls. At Ayia Kyriaki there were about 370 jugs and 200 bowls, and again they were found in fabrics of all periods, although both jugs and bowls were much more numerous in EM.I–II than they were later. The same was true of the hundred plus jars. These vessels present in large numbers – cups, jugs, bowls and jars – appear to be similar in most respects to the contemporary domestic pottery assemblages (Figure 4.9). Equally, although we do not have detailed

figures published for other tombs, the general balance of the Ayia Kyriaki assemblage seems to be broadly the same as that of other tombs, and most of them produce a small number of anomalous vases in weird and wonderful shapes.

Of these the most fascinating are the jugs in zoomorphic and anthropomorphic shapes. The commonest zoomorphic vessels are in the shape of bulls or birds, but sheep and goats are also found and there is a superbly aggressive pig from Lebena. Anthropomorphic jugs are in the shape of women, but there are also a few 'vessels' in the form of a pair of 'drainpipe' trousers (Figure 4.10)! In addition there are vases which take the form of gourds, barrels, and boats. Of all the ceramic vessels, it is this group which appear to be most likely to be produced largely, if not exclusively for use in the tholos cemeteries, although female jugs have been found in other contexts elsewhere, such as the settlement at Myrtos.

An almost exclusively funerary use must also be ascribed to the thousand or so stone vases which have been discovered in the excavated tholoi. About a third of them were recovered from Platanos A alone, and this tomb may well have been particularly well endowed with them, but they are amongst the recorded finds from more than thirty of the excavated tombs so that they were clearly widely used in

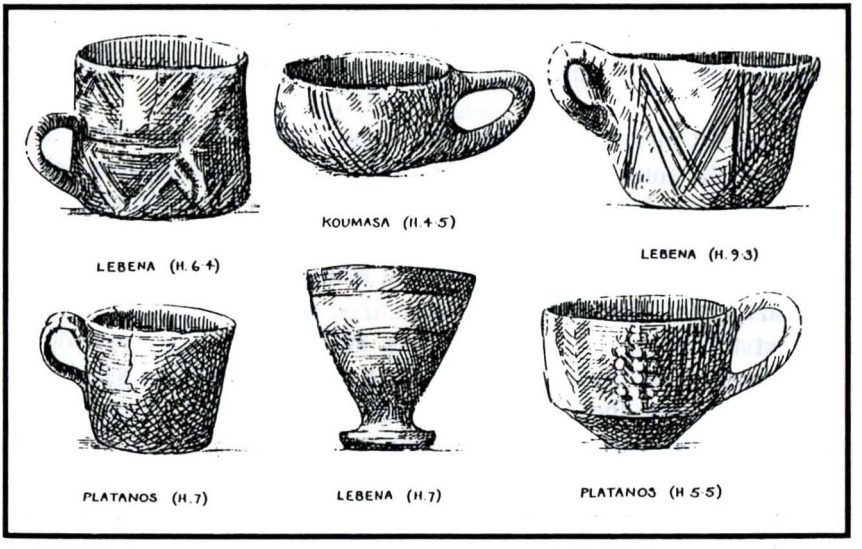

Figure 4.8 A selection of typical cups found in the tholos tombs.

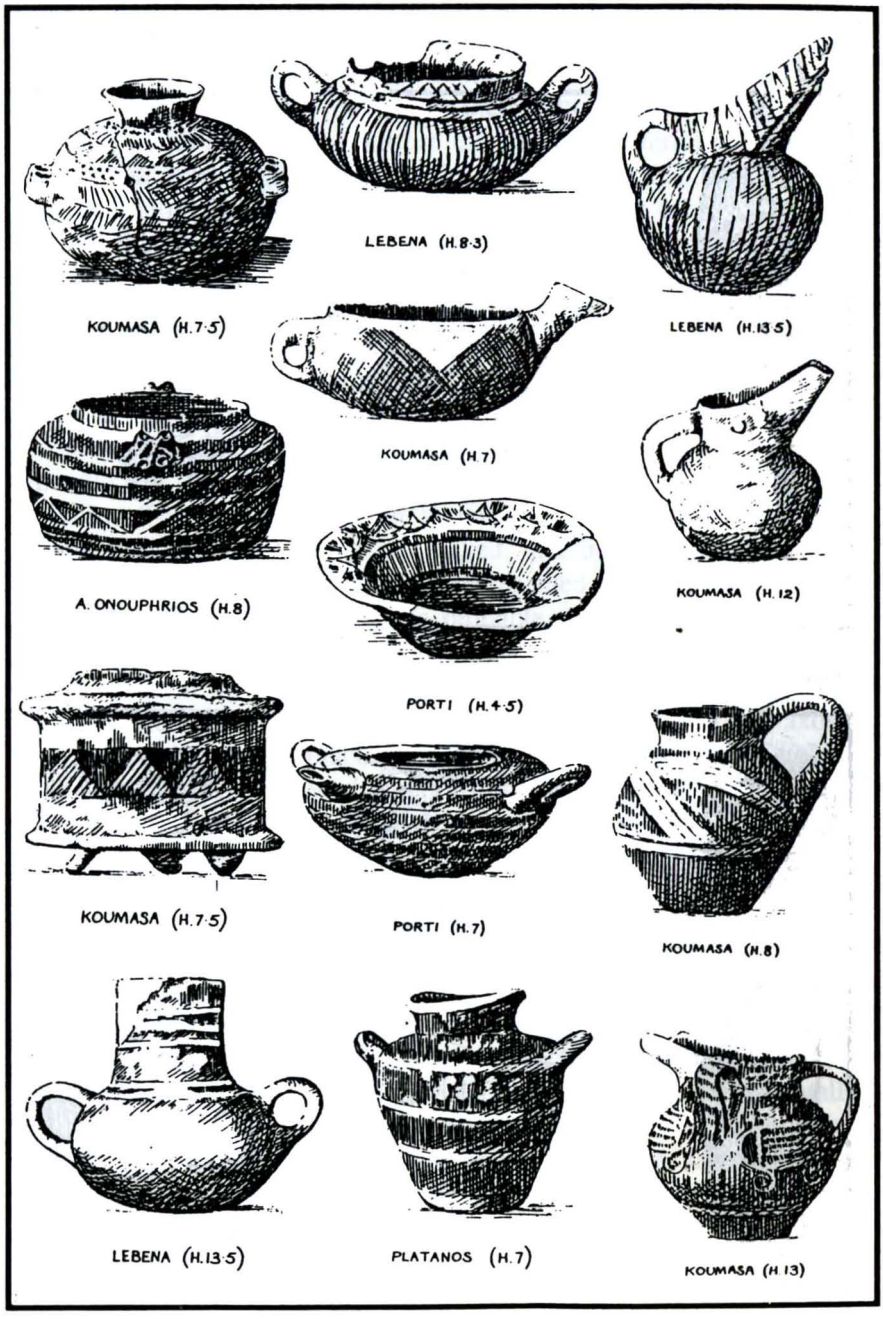

Figure 4.9 A selection of typical jugs, jars and bowls from the tombs.

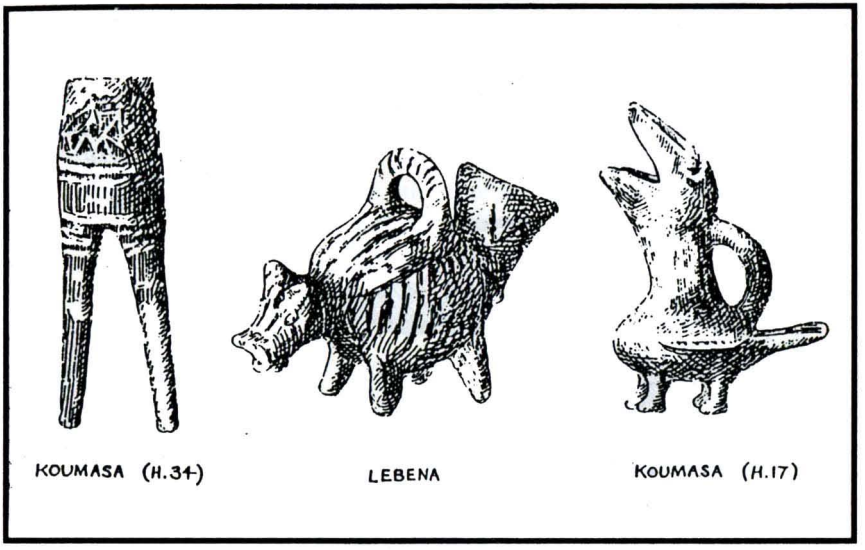

Figure 4.10 Vessels in the form of 'trousers', a pig and a bird.

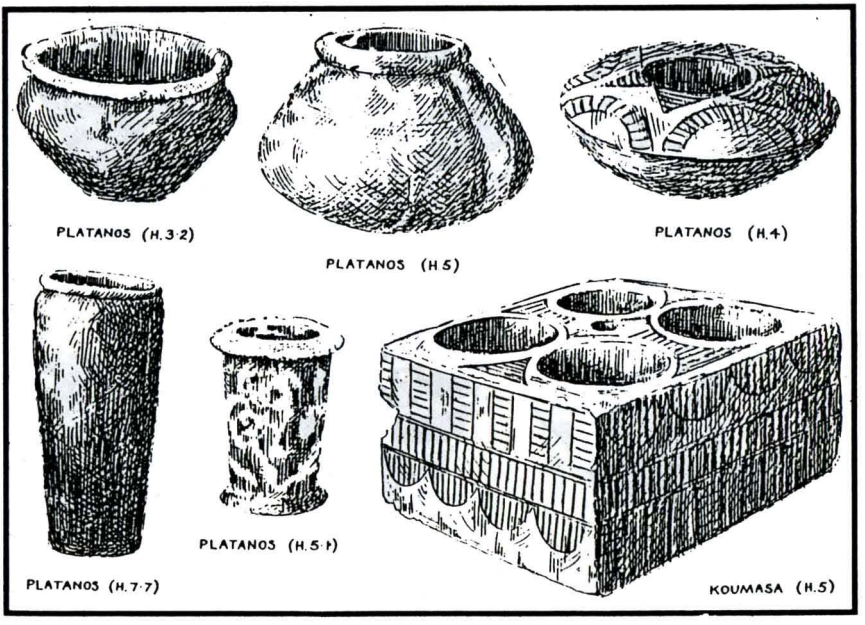

Figure 4.11 A selection of some stone vase types from the tholoi.

Early Minoan burial rites. What picks them out as principally manufactured for funerary use is their small size. Most are bowls and dishes of various types and are no more than 5–6cms in diameter, with a cylindrical space drilled at their centre. If they ever held anything it can have been no more than a token offering. The same observation must apply to the smaller numbers of cups, beakers and jars, the majority of which are also miniatures (Figure 4.11).

A third category of grave-goods which one might suspect as being made primarily for funerary deposition are the figurines. These are less common finds, but almost twenty tombs have yielded examples, of which the majority are variants of the Cycladic Folded-Arm-Figurine. Some of these, particularly those from the numerous finds at Arkhanes, might be actual imports from the Cyclades but others are of a distinctively Cretan variety which Renfrew labelled the Koumasa type. No less than five examples were found in the tholos cemetery at Koumasa. The other figurines are varied in type and include male and female figures, both clothed and naked, and in various degrees of stylisation. In fact, most of the types represented have also been found in non-funerary contexts and it is probable that figurines were not, after all, made principally for funerary usage (Figure 4.12). This view is strengthened by observation of the way in which Folded-Arm-Figurines were buried in graves at Haplomata on the island of Naxos. They were not carefully placed alongside the body, or set aside with a group of offerings, but were simply tipped into the grave as if the prime intention was to dispose of them.

We suspect that this may apply to most of other categories of grave-goods found in the Mesara tholoi too, which for the most part were almost certainly possessions owned and used in everyday life by those they accompanied to the tomb. Next to figurines, the other grave-goods of overtly religious significance are the amulets, mostly carved in stone but sometimes of clay or metal. For the most part they are either zoomorphic or anthropomorphic in form – bulls, fish, birds, human torsos, or human feet (Figure 4.13). But some are simply small tablets of stone with simple incised linear designs and a suspension hole. Some of these amulets were certainly worn in life, and examples of the distinctive foot amulets for example have been found in domestic contexts at Phaistos and Tylissos. There is no reason to think they were produced exclusively or primarily for funerary use.

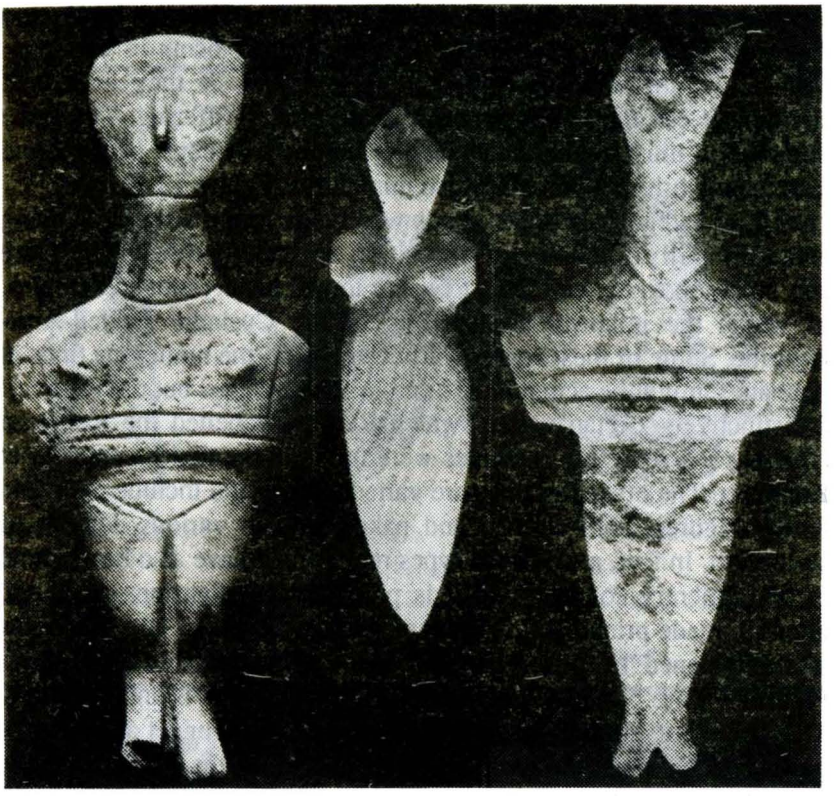

Figure 4.12 Cycladic and (centre) indigenous style figurines.

More prolific than the amulets are sealstones, some of which appear to have served a dual purpose as both amulets and sealstones; they appear in more tombs and in greater numbers than the amulets. Given that they have been an attractive and legally disposable item for looters, the numbers which have been found in some tombs are impressive – over a hundred in Ayia Triadha A, nearly 80 in Platanos A, over 50 at Moni Odiyitria. Although the overall form in which they are carved from stone or bone includes a number of standard shapes – the cone, the cylinder and the disc for example – the overall variety and individuality of the sealstones are quite staggering (Figure 4.13). So is the craftsmanship and the artistry which they reveal. Many are miniature masterpieces of sculpture with finely detailed friezes of lions or scorpions parading a field no more than 1.5cms in diameter.

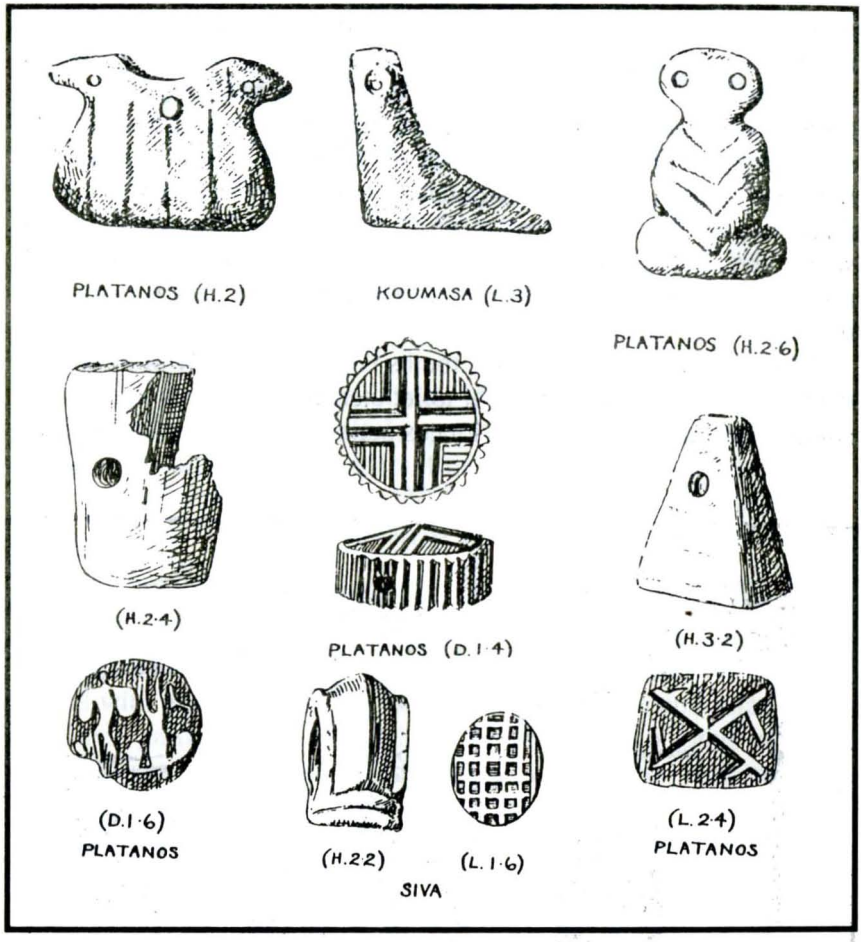

Figure 4.13 Sealstones and amulets from the Mesara tholoi.

There can be little doubt that they were highly personal items, the equivalent perhaps of an identity card! Again, although they are scarcer than amulets, seals found in southern settlements like Myrtos and Trypiti confirm their use in everyday life.

Similarly stone beads and pendants from necklaces appear to be no different to examples recovered from domestic contexts, and the occasional bronze bangles, finger-rings and hair-pins are equally unremarkable. Gold jewellery on the other hand cannot be so lightly dismissed, not only because it is virtually unknown in Early Minoan

domestic contexts but also because much of it is so flimsy that it is arguable that it could never have been worn in real life. The latter comment applies particularly to the diadems – broad strips of thin sheet gold with simple repousse decoration – and to some of the hollow beads (Figure 4.14). Xanthoudides himself noted how fragile some of these items were and concluded that they were 'so thin that they can only have had a sepulchral purpose'. We must concede, therefore, the possibility that some of the people of the Mesara were sent to the tomb dressed in gold regalia or jewellery of a kind they did not wear in their lifetime, and which was made especially for funerary use.

Other metalwork found in the tombs is almost entirely of bronze or copper and includes a number of toilet utensils – tweezers, razors and small scrapers probably used with cosmetics – all of types which have

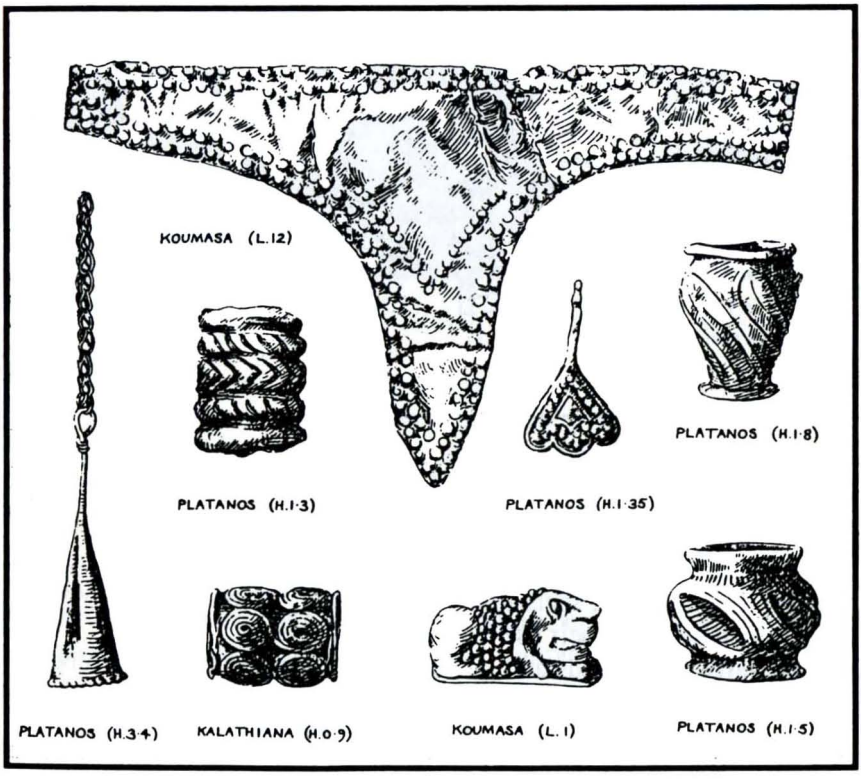

Figure 4.14 Gold beads, pendants and a diadem from various tombs.

been found in small numbers in non-funerary contexts. The commonest items of bronze and copper however are daggers, which can be divided into two principal types – the long daggers and the so-called triangular daggers (Figure 4.15). Around two hundred of these weapons have been recovered from the tombs to date, and although the cemeteries of Platanos with about 80 examples and Ayia Triadha with about 50 dominate the sample, about half of the tombs for which we have details of finds have yielded some daggers. These and other bronze objects, which could be easily melted down and re-used, must have been a favourite target of Bronze Age tomb looters and they are almost certainly heavily under-represented in the surviving grave-goods.

It is amongst the bronze objects that we find small numbers of items which are found so rarely, yet must have been quite common everyday tools, that one wonders if their occasional appearance in the tombs is of some significance. Whilst the examples of double-axes found in Ayia Triadha, Kamilari B and Apesokari, may have ritual significance, the chisel and saw from Koumasa are more likely to have been the tools of a carpenter. The double-axe mould reported from Koumasa, the crucible from Ayia Kyriaki and the copper ingot from Platanos are similarly most economically interpreted as items buried with metalworkers – certainly it is difficult to understand why else these particular things should be buried in a tomb. Other artifacts which might point to similar conclusions are the fish-hook and net-mending needle(?) from Lebena and Platanos respectively, and the leather-cutter from Marathokephalon. Any or all of these items may point to the practice of identifying or marking the deceased's role in the local community by burying them with a typical tool or artifact of their craft.

Overall, the vast majority of artifacts buried in the Mesara tholoi appear to have been everyday belongings and personal possessions rather than specially produced funerary goods. The exceptions might be some of the gold diadems and necklaces, and the miniature stone vases. They may have been buried to accompany the deceased into some after-life, but the apparent lack of provision of any food-stuffs and the clear evidence that many tombs were extensively robbed of some of the grave-goods whilst the tombs were still in use does not commend this view. It is at least as likely that the personal belongings were placed in the tomb with their former owner because the living were anxious to dispose of them both.

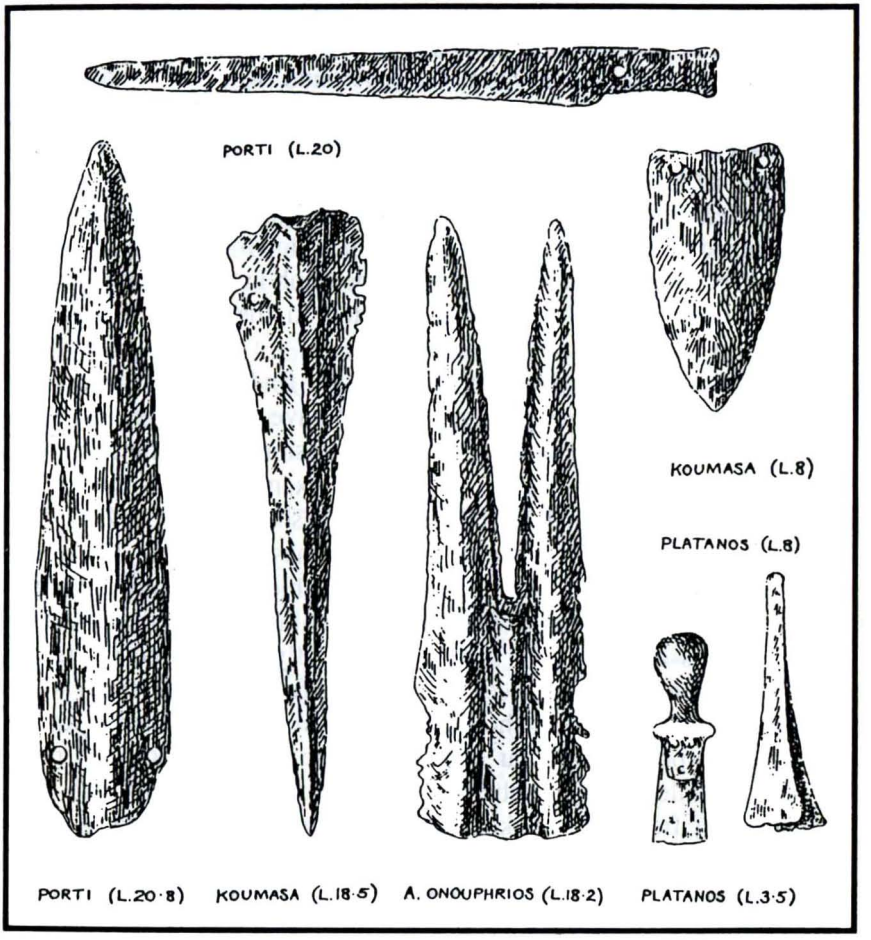

Figure 4.15 A selection of bronzes found in the tholoi.

FOOD AND DRINK

The one group of material often found in prehistoric graves which is extremely scarce in the Mesara tholoi is food residues. Given the problems of preservation of organic materials, it is unusual to find much other than animal bones, but even these have rarely been recorded in the Mesara tholoi. It may be that amongst the mass of human bones from the tombs those of animals have gone unnoticed,

Figure 4.16 Room L, to one side of the entrance in Ayia Triadha tomb A, with a deposit of conical cups, all placed mouth upwards (courtesy the Italian School of Archaeology at Athens).

but if they were present in any quantity they must surely have been recognised. In fact, the only tombs from which animal bones are recorded to date Lebena P1 and Y2 (Alexiou 1960, 226), Ayia Triadha A (Banti 1933, 216) and Arkhanes C (Sakellarakis 1973, 121). In addition fish bones were noted at Arkhanes and olive seeds at Lebena Y2. The significance of the almost total absence of food residues in the tombs is two-fold; it suggests that food-offerings were probably not made with the burials, nor was feasting a part of the funerary ritual, unless it involved only token amounts of food and/or took place outside the tomb chamber.

This is a possibility which might be seriously considered, for there is reason to believe that some rituals were practised in one or more of

the chambers which stood outside several of the tombs. Where no such chambers were built these rituals could still have been performed in the open. The finds from these outer chambers are worth noting, where they have been recorded. At Apesokari B the small chamber contained hundreds of clay cups whilst the larger room contained bronze and steatite double-axes. In the two chambers immediately outside Vorou A were found only jugs and conical cups, with a single 'sheep bell' idol. These rooms wre deliberately kept clear of burials, it seems, since the three rooms behind were packed with bones and artifacts clared from the tomb chamber. The same was true of most of the tiny rooms in front of Ayia Triadha A, except for room L which contained a mass of conical cups (Figure 4.16). From the preliminary reports on Lebena Y2 we learn that room AN contained many conical cups and jugs, and we concluded that the very similar 'room with the bench' at Ayia Kyriaki had been the original location of many of the fragmentary conical cups thrown to one side by tomb robbers.

Amongst the finds from these outer chambers then, the conical cups are by far the most prevalent, and there can be little doubt that they played an important part in the ceremonies taking place here. That the ritual was itself important we can assume both from the prevalence of the cups and the way in which the rooms where they were found were kept clear of burials, even when rooms all around were being pressed into use as osssuaries or burial chambers. The ritual itself is most plausibly envisaged as some sort of 'toasting' ceremony in which a small quantity of wine or other liquid was drunk. Two points about the ritual seem reasonably clear. The number of people participating in it was small. Not only are rooms like AN at Lebena and the room with the bench at Ayia Kyriaki too small to have housed accomodated more than three or four people at a time, but at Vorou Marinatos (1931, 149) observed that both inside and outside the chambers conical cups consistently appeared in groups of two or three. We might also note that a rough guide might be derived from the ratio of jugs to cups at Ayia Kyriaki – one to three. Secondly, when the 'toasts' had been drunk the discarded cups were usually placed on the floor of the room in a uniform position. This varied from cemetery to cemetery but in any one tomb appears to have been standard. Thus at Vorou, Kamilari and Ayios Kyrillos cups were almost always placed in the inverted position, whilst in room L at Ayia Triadha the cups were overwhelmingly placed with their mouths upwards (Figure 4.16).

Given the numbers of earlier, EM.I–II cups, goblets and chalices which are found in some tombs (nearly five hundred at Ayia Kyriaki for example) it must be likely that before the appearance of the conical cups in EM.III, the 'toasting' ritual was actually carried out within the tomb chamber itself. In that event we might envisage the jug and bowl or dish which seem to have accompanied the cups into the tomb as containing the toasting liquid and token foodstuffs respectively. On present evidence it would seem that this aspect of the ritual changed its focus in EM.III from within the tomb to an outer chamber, and that at the same time the amount of liquid which was drunk was reduced to little more than a token amount, as the conical cups replaced the much larger handled cups and the capacious chalices of EM.I–II.

What other rituals, if any, were practised at the time of burial is uncertain, but the discovery of zoomorphic and anthropomorphic vessels inside the tombs at Lebena, Koumasa and Porti might suggest that special libations were poured. That this ritual two was later switched to outside the tomb chamber itself is perhaps suggested by the evidence from tholos B at Koumasa. The EM.II libation vessels found in the tomb were matched by three further examples found just

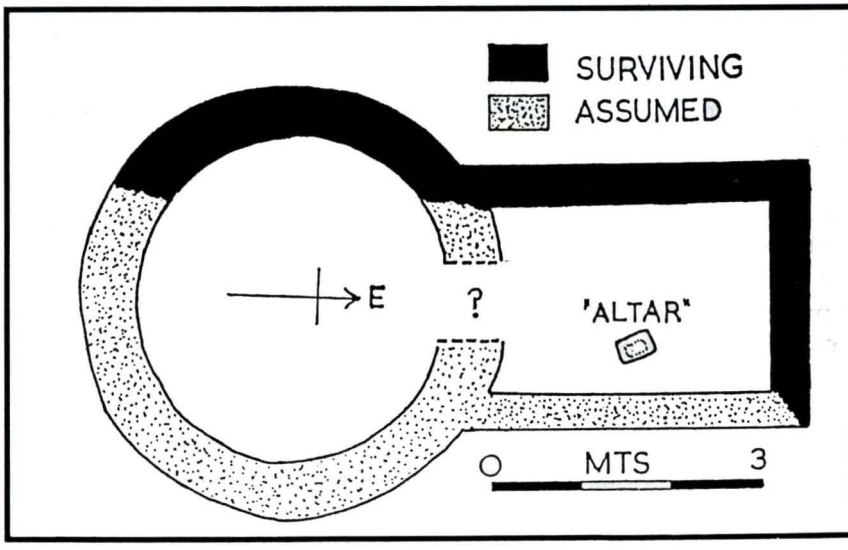

Figure 4.17 A plan of Kamilari C with outer chamber(s) and altar.

outside the tomb, but these were painted in the EM.III–MM.I white-on-dark style. The types of libationary vessels – bird vessels, bull jugs, and woman vases – remain the same in EM.III as in EM.II. It seems reasonable to suggest therefore that the ritual too remained the same, and that only the location changed. In the case of tombs with EM.III–MM.I suites of outer chambers libations and token offerings may well have been made there. At Apesokari A (Figure 4.5) and Kamilari C (Figure 4.17) altars were placed in the main outer chamber, whilst in Apesokari B votive double-axes were found in the principal room and at Ayios Kyrillos a bull jug was discovered in one corner of the block. There is no reason to think that all of the activities associated with these items was anything other than funerary in character.

LAID TO REST

We can now summarise what we have deduced about the burial of the dead in the Mesara tholoi. Burial it seems was not a particularly elaborate affair. The body may first have been placed in the antechamber, which was clearly regarded as an integral part of the tomb chamber, as a preliminary to burial. How long it may have remained there we cannot say. At the funeral would be perhaps only two or three chief mourners who would enter the tomb and participate in a toast and token meal before depositing the jug, bowl and cups used for this alongside the deceased. He or she would be laid, head at the east, in either an extended or contracted position, with a small quantity of personal possessions. Before or after the deposition of the body, libations might be poured from a special zoomorphic or anthropmorphic jug. These short and simple rituals were originally practised within the tomb itself, but were later more commonly performed outside the chamber either in an outer room or else in the open air. Here a much larger group of people might have gathered to observe the more public aspects of the ceremony.

The funeral rites in themselves, however, were not the end of the funerary process, nor should we assume that funerary rituals were the only ceremonies performed at the Mesara cemeteries. When an inhabitant of a Mesara village of 2500 BC died they may have been laid to rest in their local tholos tomb but it is quite certain that their rest was not to be uninterrupted as we shall see in a later chapter.

CHAPTER 5

Body Counts

Probably the most frustrating problem which faces anyone in studying the tholos tombs of the Mesara is the almost total lack of primary evidence for the people who built and used the tombs – that is, of preserved and published skeletal information. Communal tombs, used for centuries, are always problematic in this respect. Constant use of the tomb for burial with all the disturbance and damage to the remains of previous burials that this involves inevitably results in collections of very fragmentary bones rather than identifiable skeletons, however incomplete. In the case of the Mesara tholoi the problem has apparently been compounded by the Minoan practice of occasionally clearing or fumigating the tombs and of deliberately moving and/or removing some bones from the burial stratum. A final and catastrophic complication, has been the extensive modern looting of the tholoi in order to remove the highly marketable grave-goods for sale on the antiquities market. Little wonder that in the previous chapter we had to search hard to find any evidence to indicate the posture in which the dead were buried, and that being so what chance that any accurate estimation of the total number of burials can be arrived at?

Yet for all the problems, which seem almost insurmountable, we must try to arrive at some sort of order of magnitude for burials, because the tombs and the funerary practices they represent must remain one of the few sources of evidence for the structure of the living societies which used them. This is all the more so because excavations have provided so few glimpses of the contemporary settlements in which the tomb builders lived. It is not surprising, giving the dearth of both settlement evidence and estimated numbers of burials, that many scholars have been ambivalent about the size of social group which contributed burials to a Mesara tholos tomb. Pendlebury (1939, 63,65) was undecided whether the group was a family or a clan, Cadogan (1976, 22) widened the choice to the village, the family or the clan, and Alexiou (1969, 18) was ambiguous

in ascribing the tombs to 'a whole village clan'. Amongst those who have a clear preference, Glotz (1921) is alone in believing that the tombs were used by an entire tribe. It is generally believed that the contributing population group was smaller than this, and the choice falls between a nuclear family and a small clan or genos. Use by a clan group has been favoured by Bintliff (1977, 83–4), Hood (1971, 140), Hutchinson (1962, 233), Warren (1972, 267) and the present writer (1970b, 128–9), whilst the argument for nuclear family usage has been put by Whitelaw (1983, 334–5) and followed by Cherry (1984, 31). The only writers to explore the issue at length, however, have been Whitelaw and myself, and we have both had to struggle with the same inadequacies of data and seek unusual – and to be honest, less than satisfactory – alternative approaches to solving the problem.

In any sort of equation which one creates to arrive at an estimate of the size of the contributing population to a tholos there are three essential components. These are the total number of burials made in the tomb, the period of time over which the burials were made, and assumption that a nuclear family would contribute about twenty corpses per century to a family tomb. This last point is one which is widely agreed to be a reasonable assumption, partly based on observations of mortality in peasant societies (Bintliff 1977, 83). The other two essential elements in the equation, however, are much more difficult to assess due to the inadequacy of the archaeological material and records, but we need to discuss them in some detail since they really are central to the problem.

MONUMENTS OF A MILLENNIUM?

The period of time over which burials were made in the Mesara tholoi is a particularly complicated issue. In general terms, the Mesara tholoi seem to have been in use over a period of about a millennium; in relative terms this means from Early Minoan I to Middle Minoan I, and in calendar years from around 3000 to 2000 BC. But of course each tomb has its own history which has to be established. Even if we leave aside the problem of declining but continuous usage in the later phases, the period of use for each tomb has to be first expressed in terms of Minoan relative chronology and this translated into calendar years. Due to the paucity of diagnostic finds in several tombs, and the uncertainty of dating some of the less diagnostic material, the period

of use in terms of relative chronology is often difficult to establish. Fortunately, since we need only concern ourselves with those tombs for which any evidence is available to indicate the number of burials, the problem is limited to no more than a dozen tombs for which the relative dating is well established.

When we attempt to translate these relative dates into calendar years, however, we move into an area of much greater debate and controversy, for this translation requires the use of C14 dates. We recognise that, for various reasons (Renfrew 1973), 'raw' C14 dates under-estimate the true age of Bronze Age remains. The C14 dates are therefore 'corrected' by reference to a tree-ring calibrated chronology. The effect of this calibration is to very considerably expand the time-span envisaged for the Aegean Early Bronze Age, including that of Crete. There is no doubt about the general validity of tree-ring calibration of C14 dates, but there remain difficulties in accepting the present calibrated chronology for Early Bronze Age Crete. I have previously drawn attention to some of these difficulties (1973) and will mention here only that which is directly relevant to the problem of the Mesara tholoi and their period of use.

In their magisterial review of Aegean Bronze Age chronology Hankey and Warren (1989, 125–7) summarise the important synchronisms for late Early Minoan II provided by Minoan imitations of Egyptian miniature stone amphorae and cylindrical jars. Both of these types appear to be based on specific Egyptian forms manufactured from the VIth dynasty onwards, and their appearance at Mochlos can be placed near the end of Early Minoan II. The end of EM.II must then be placed, at the very earliest, some time after 2250 BC. This is difficult, though not quite impossible, to reconcile with the lowest possible calibrated date for the end of EM.II as it is now calculated on the basis of the lowest of the seven C14 dates from the Early Minoan settlement at Myrtos. It is certainly incompatible with the calibrated dates provided by the majority of the Myrtos C14 dates – all of which came from a single destruction level (Hankey and Warren 176). In other words, a considerable degree of special pleading is needed to reconcile the historical synchronisms and the tree-ring calibrated C14 dates. For this reason I believe it would be wrong to simply accept the calibrated C14 dates as they stand. On present evidence there is, I believe, no good reason to place the beginning of Early Minoan I before about 2800 BC and the end of MM.Ia later than about 1900 BC. The effect of adopting the tree-ring

chronology is, of course, to greatly extend the estimated length of time the tholoi were in use, and thereby to dramatically reduce the size of the contributing population to each tomb. However, arguments about the absolute chronology of the Minoan Early Bronze Age will no doubt continue, and when we come to calculate the contributing populations of the Mesara tholoi we must certainly consider alternative absolute chronologies in estimating the period of the tombs' usage.

BODY COUNTS

We have already commented on the totally inadequate information available on the number of burials made in the Mesara tholoi. The only tomb for which a firm number of burials has been identified is Arkhanes C with 45 (Sakellarakis 1991, 114). But this is a late (EM.III) tomb and is northern Crete, not the Mesara. Xanthoudides was convinced that the majority of tombs he excavated originally contained hundreds or even thousands of burials (1924, 134). Of Porti, for example, he wrote 'At the lowest estimate the bodies ... must have totalled many hundreds'. Halbherr, excavating Ayia Triadha A was more specific, and estimated (1905, 249) a total of about 250 burials. Alexiou observed a density of about ten burials per square metre of burial stratum at Lebena PI (Daux 1959, 743). This suggests a total of about 200 burials in this tomb. The small and late tombs at Myrsini and Vorou not surprisingly, both produce lower figures. At Myrsini Platon estimated the number of burials at a little under a hundred (Daux 1960, 821) whilst Marinatos' meticulous recording at Vorou provides a figure of 55–65 burials for Vorou A (Marinatos 1931, 152,167). These are the only excavators' estimates based on skeletal material that we have for relatively undisturbed burial deposits from Mesara tholoi. It is not surprising, therefore, that attempts have been made to estimate the number of burials in various tombs by other means. In 1970 I pointed out that the evidence from Vorou indicated that two or three conical cups were used at each funerary ceremony (Marinatos 1931, 149). Similarly we have already noted earlier, in the description of the finds from the tholos at Ayia Kyriaki, that cups outnumbered both jugs and bowls/dishes by about three to one, perhaps suggesting a typical burial assemblage of three cups, a jug and a bowl or dish. On this basis, the number of burials represented by the remaining pottery at Ayia Kyriaki would be around

350 in round figures. A similar number might be estimated for Kamilari A on the basis of the 1000+ cups found in that tomb.

Whitelaw, in attempting to find alternative methods to estimate the number of burials in a tholos, took up an idea first propunded by Renfrew (1972, 388). This was that 'each male occupant (of the tomb) may originally have been buried with a single dagger or sealstone'. Renfrew drew attention to the similar numbers of sealstones and daggers from the tombs of Koumasa B, Koumasa A, E, and C, Kalathiana, and Platanos.

Whitelaw (1983, 343, n.16) slightly adapted this proposal and suggested that sealstones and daggers were the exclusive possessions of not all males, but rather the heads of nuclear families. On this basis he proposed 'body-counts' for Drakones, Kalathiana, Christos, Koumasa, Marathokephalon, Platanos and Porti, in each case multiplying the number of daggers/sealstones by a factor of five (the normally assumed size of a 'typical' nuclear family). As can be seen from the following table, not all of Whitelaw's estimated number of burials (ENB) can be squared with these calculations.

Table 5.1 Estimated number of burials based on daggers/sealstones

Tomb	*Seals*	*Daggers*	*Whitelaws ENB*	*ENB Maximum*	*ENB Average*
Drakones D	2	0	50	10	5
Kalathiana K	6	9	100	45	38
Christos	0	0	50	–	–
Koumasa A	16	7*	50	80	58
Koumasa B	20	23	100–200	115	108
Koumasa E	2	4*	50	20	15
Marathokephalon	22	10	100	110	80
Platanos A	24	60	300	300	210
Platanos B	78	3*	50	390	205
Platanos C	4	2*	50	20	15
Porti	18	4	100	90	55

(Number of seals from CMS; number of daggers from Xanthoudides 1924 with additional information from Branigan 1974). * dagger totals for Koumasa A and E and Platanos B and C not separated by Xanthoudides.

Apart from the discrepancies, Whitelaw's calculations note but ignore the problems of grave-goods removed by both ancient and modern tomb robbers, and they also fail to take account of four other assumptions, namely: changing burial customs, unchanging availability of grave goods, constant rates of deposition and the totality of burials. All five points need some examination and comment.

COMPLICATIONS

Of all the problems we face, that of tomb robbing, both ancient and modern is the most serious. Xanthoudides (1924, 81) gives a graphic description of the looting of Kalathiana K and the removal amongst other things of ' knives of copper' – presumably dagger-blades. Similarly both daggers and sealstones are explicitly mentioned as looted from Koumasa and daggers at Platanos (Xanthoudides 1924, 1,88). Furthermore, in the case of tholos E at Koumasa, tholos B at Platanos, and the lower stratum of tholos A at Platanos, Xanthoudides was convinced they had been largely looted in antiquity (Xanthoudides 1924, 34,92,89). Modern looting is recorded at almost every more recently discovered tholos (e.g. Blackman and Branigan 1977, sites E9, E10, E27, W6). In fact, it is difficult to find tholos tombs which have not been extensively looted amongst the forty or so excavated examples. The only undisturbed, or little disturbed, tombs seem to be Lebena PI, Arkhanes C and E, Vorou A and Kamilari A. Of these, only the last two are published. Given that in addition to this general problem of looting, sealstones and bronze weapons are particularly attractive items for the antiquities market, calculations based on the number of daggers and sealstones found in a particular tomb must be viewed, at best, as a very minimal estimate and at worst as totally unreliable.

Another factor which has to be taken into account is the possibility that the nature of deposited grave-goods changed through time. Can we assume that, even if the head of each family was buried with a dagger and/or sealstone (itself an assumption) that this practice was maintained throughout the lifetime of a tomb, particularly in tombs used over a period of many centuries? At Ayia Kyriaki an examination of the pottery corpus suggested that the pattern of pottery deposition probably changed through time, with fewer jugs and bowls, and more cups, being deposited in the later period of the

tomb's usage (Blackman and Branigan 1982, 40,51).

Another assumption that one must make in using daggers and sealstones as the basis for calculating the number of bodies buried in a tholos is that these two groups of artifacts were equally available to the contributing population throughout the period of the tomb's usage. In the case of tombs built in Early Minoan I this was clearly not the case. There is no evidence that Minoan sealstones were manufactured before Early Minoan II (Warren 1970, 30; Yule 1980, 229), although the date of the sealstones in the lower stratum of Lebena PI is still debated. Equally the quantity of Early Minoan I metalwork is small and it is clear that copper and bronzework was much more freely available in Early Minoan II than in Early Minoan I (Branigan 1974, 105). This being so, the total number of burials would be considerably underestimated in those tombs in use from Early Minoan I if one is relying on the evidence of daggers and sealstones.

All three of these complications – looting, changing burial customs, and changing availability of grave goods – tend to depress the number of bodies calculated using Whitelaw's formula, and we should also remember that this formula is based on a further assumption for which there is no evidence – that the head of each nuclear family was buried with a sealstone or dagger. If one accepts that daggers and sealstones were in some respects symbols of status or rank, there is still no reason to assume that the rank or status in question was the head of a nuclear family. It could as well be the head of an extended family or clan, and there are of course other possibilities. One's assumption here completely alters the calculations being made.

There are two further problems to take into account which also involve basic assumptions. The first is the assumption that the level of burial activity was maintained at the same rate throughout a tomb's period of use. Evidence from several Mesara tholoi strongly suggests that this was not the case. The number of finds attributed to MM.IB and MM.II in the tombs of Ayia Triadha B, Platanos A and B, and Porti is very small indeed, and clearly represents either very intermittent usage during the last century or so of the tombs being open, or a drastic reduction in the number of grave-goods deposited with the dead in this period. At Ayia Kyriaki, which Whitelaw's table carries down to MM.II *c.*1750 BC, there are just eight sherds of MM.IB–MM.II pottery out of a total of over 15,000 pieces of pottery; again very intermittent use of the cemetery, possibly not for burial at

all, is surely indicated by this tiny group of material.

Finally, we must return to the assumption that all of the dead of the contributing population are buried in a tholos tomb. Certainly there are few, if any, alternative Early Minoan burial places known in the Mesara region, and in general terms the tholoi seem likely to have been the only places of burial. There is the possibility that some burials were made outside the tholos tomb and its appended chambers (Xanthoudides 1924, 33,56,90) but the evidence is unclear. Many of the bones and grave-goods found outside the tombs were probably removed from the tholoi in clearing operations, and some of the others at least were of Middle or Late Minoan date. In the more recently excavated tholoi there has been no evidence for contemporary burials made outside the tomb complex, except for the burials made in the quite exceptional northern cemetery complex at Arkhanes.

There is, however, another aspect of this particular assumption which must be questioned. In adopting the widely agreed figure of twenty corpses contributed by a nuclear family each century, we have assumed that all twenty corpses are buried in the tholos. But the figure of twenty includes no less than eight immature individuals, and the evidence for the burial of children in the tholoi is scarce. This may well be largely the result of the poor preservation of the skeletal material as a whole, and the less robust bones of immature individuals would suffer particularly in this respect. The only clear evidence for the burial of children in tholoi comes from the late tholoi of Vorou, where tomb A included remains of three children and tomb B yielded the remains of 'a baby' (Marinatos 1931, 151–3). We might note that many child burials were made in the MM.I building 19 close to the Early Minoan III tholos C at Arkhanes (Catling 1978,61–3), but we cannot assume of course that burial practices in building 19 were the same as those in the somewhat earlier tholos. The most that the evidence from Vorou and Arkhanes contributes to the debate, is to suggest that some children were buried with adults in tholoi, and other contemporary tombs. We must remember, however that both tombs are late foundations, and more importantly that in both cases the number of children found is smaller than the eight out of twenty which the 'nuclear family' are assumed to lose each century. On that basis, we might have expected twenty-four juveniles in Vorou A, and perhaps as many as seventy in building 19 excavated by Prof. Sakellarakis at Arkhanes!

If we summarise our discussion of the various complicating factors which affect any estimation of the number of burials made in the tholoi, we can see that a series of assumptions are made in Whitelaw's model, all of which have the effect of depressing the estimated size of the contributing population. The affect of looting is assumed to be insignificant despite evidence to the contrary, and it is assumed that there was no change in either the choice or the availability of grave-goods through time, although again the evidence suggests there were changes in both. It is also assumed that indicators of status were buried with the heads of nuclear families. Finally there are assumptions that the rate of burial was broadly the same from the time the tomb was built to the time the last burial was made, and that all members of the nuclear family, whatver their age at death, were buried in the family vault. The cumulative effect of all five of these assumptions on the estimation of the size of the contributing group is considerable, yet there is no evidence to support any of these assumptions, rather the opposite. It must be said that the adoption of so many assumptions reflects our very imperfect knowledge of the tholos burials. It may be helpful to look at the two largely unlooted tholoi that have been excavated where we have both a reasonably complete burial deposit and also some estimation of the number of burials, based on the excavators observations. We may regard these as test cases on the basis of which tentative figures might be then calculated for other tombs.

TEST CASES

The two tholoi which provide possibilities for test cases are Vorou A and Lebena P1. Neither tomb provides all the information we need and Vorou A is a late tomb and may therefore not be typical of the earlier, often larger tombs. Both tombs, however, provide some opportunity to estimate the size of the contributing population, and each tomb also enables one of the assumptions discussed above to be tested.

Lebena PI appears to have been in use from EM.II to MM.IA, according to Warren (1969, 195), who has seen the material from this unpublished tomb. On the calibrated C14 chronology the total possible period of usage would be c 2900–1900 BC, that is *c.*1000 years, if its first burials were made at the very beginning of EM.II and its last at the very end of MM.IA. That, of course, is very unlikely; its

mean period of usage can be calculated by assuming it was built and closed half way through each of these periods respectively, and this would be about 550 years. The historical chronology would reduce this period of use to a maximum of *c.*650 years, and a mean of about 400 years. The estimated number of burials is based on Alexiou's observation that the bodies were packed in to a density of about 10 per square metre; this produces a total of about 200 burials.

Vorou A (Figure 5.1) appears to have been in use in MM.I–II, but almost all the material from the tomb is MM.I (and mostly MM.IA). The calibrated C14 chronology would give a total possible period of use of about 350 years; its mean period of usage would be 240 years. There is much less variance between the historical and C14 chronologies at this point, but the historical chronology would give a maximum usage of about 300 years, and a mean period of about 150 years. The number of burials, carefully recorded by Marinatos, can be calculated at between 55 and 65.

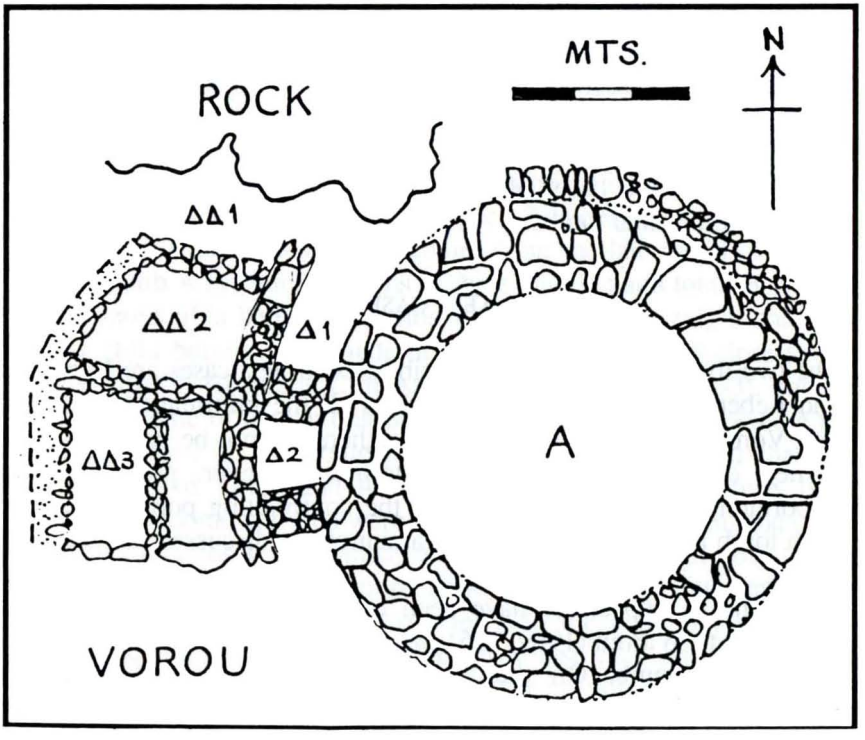

Figure 5.1 A plan of tomb A at Vorou, carefully excavated by Marinatos who noted the remains of 55–65 burials in total.

Using these figures it is possible to compute the estimated size of the contributing population for each tomb, using various assumptions. The table that follows allows for six different sets of assumptions about the length of use and the number of bodies contributed by a nuclear family over the course of a century.

Table 5.2 Estimated contributing populations to the tholoi of Lebena PI and Vorou A (expressed as nuclear families).

	Lebena PI	*Vorou A*
Calculation A	1.0 – 1.8	1.0 – 1.4
Calculation B	1.3 – 2.3	1.2 – 1.7
Calculation C	1.6 – 2.9	1.5 – 2.2
Calculation D	1.5 – 2.5	1.1 – 2.2
Calculation E	1.9 – 3.1	1.4 – 2.7
Calculation F	2.5 – 4.0	1.7 – 3.5

Calculations A–C all assume that the calibrated C14 chronology is correct, and the range within each calculation represents the maximum and mean periods of usage. Calculations D–F assume the historical chronology is correct, and again the range reflects maximum and mean periods of usage. The other assumptions concern the number of bodies contributed by a nuclear family over a period of one century. Calculations A and D assume 20 bodies, calculations B and E assume 16 bodies, and calculations C and F assume 12 bodies. These variations reflect the uncertainty about juvenile burials and range from an assumption that all juveniles were buried in the tholoi, to the observed frequency recorded by Marinatos at Vorou, that only about 1 in 20 burials were juveniles.

Clearly one can adopt whichever set of figures one prefers, but it is fair to say that the least likely figures in each column are those on the left . These assume that at Lebena PI, for example, burials were made from the very beginning of EM.II to the very end of MM.IA, and that they were made at a constant rate – this is most unlikely. The right hand column, assuming a mean period of usage, is also probably incorrect and too high, but nearer the truth. On present evidence it is also very unlikely that all juveniles were buried in the tholoi, so that calculations A and C are least likely to be near the truth. On the other hand, although calculations C and F are based on observed juvenile burials at Vorou, it may be wisest to prefer calculations B and E. This is because the apparently low life expectancy of Early Minoan adults,

around 32 years (McGeorge 1990) might increase the number of adult burials per nuclear family per century beyond the expected norm of 12.

Adoption of a figure of 16 (as in calculations B and E) may therefore compensate for lower than expected juvenile but higher than expected adult burials. In summary, calculations B and E should be the preferred calculations, depending on one's view of calibrated C14 and historical chronologies, with a preference towards the upper figure in each range (i.e. towards a mean period of usage). In that case we might suggest that Lebena PI was used by two or three nuclear families, and Vorou by between 1.5 and 2.5 families.

Having obtained these figures we can tentatively use them as a basis to explore other approaches to the problem of the contributing populations. For example, we might briefly note the figures that calculations B and E would give us for Ayia Kyriaki and Kamilari A, where the number of burials was estimated by the numbers of cups/jugs/bowls/dishes. At Ayia Kyriaki the preferred calculations suggest a contributing population of two to three families, and at Kamilari A a contributing group of four to five families.

We can also briefly return to the question of daggers and sealstones and test the hypothesis that they were buried with heads of nuclear families by taking the evidence from Lebena tomb PI. This tomb was unlooted, and it was used from EM.II onwards, so that both daggers and sealstones should be fairly represented within it. In fact only one or two daggers were found in Lebena PI suggesting they are not a reliable source of evidence. It may be that they were continuously removed during the tombs period of usage, as suggested for other tombs by Xanthoudides. Lebena PI yielded 18 sealstones, which means rather less than one burial in ten was accompanied by a sealstone. This is clearly too few to represent the head of a nuclear family, although it could (numerically) be reconciled with the head of a group of two or three families such as we have suggested used Lebena PI and Ayia Kyriaki.

If we take the ratio of sealstones to ENB at Lebena and apply it to some of the other tombs listed in Whitelaw's table of sites we find a substantial upward revision of the ENB in four cases, and can offer calculated contributing groups on the basis of calculations B and E above.

	ENB	*Nuc.Fam.*
Koumasa A	175	1.0 –1.5
Marathokephalon B	230	1.0 –2
Platanos B	850	6.5 –9
Porti	200	1.5 –2

The two tombs excavated by Vasilakis at Moni Odiyitria would yield an ENB of around 570, and contributing groups of 3 to 5.5 nuclear families, but we do not know how these would be apportioned between the large and small tholos.

Finally, one other approach to estimating the number of burials might be made on the basis of the total volume of burial deposit. At Lebena PI Alexiou recorded a density of about ten burials per cubic metre of deposit. If our estimate of the number of burials in Kamilari A (based on the conical cups) is broadly correct, then here too we can estimate from Levi's records a density of around ten burials per cubic metre of deposit. On this sort of density, we can calculate an ENB for several tombs where the depth of the burial stratum was recorded, and from this further suggest possible contributing groups based on preferred calculations B and E above:

	ENB	*Nuc.Fam.*
Marathokephalon B	160/180	1.0 –2
Koumasa B	420/430	2.0 –4
Porti	180/190	1.5 –2
Platanos A	550/650	4.5 –6

FAMILY, CLAN OR VILLAGE?

It is clearly impossible on our present evidence to arrive at an accurate estimate of the size of the contributing population to even a handful of the Mesara tholoi. But the various approaches tried here do, I believe, offer some idea of the size of these groups and it must be remembered that these are minimal estimates – because in none of our calculations do we allow for either artifacts or bones removed from the tombs or totally destroyed, whether in antiquity or recent times. On the figures arrived at here, it looks as if very few tombs might have served a single nuclear family, and as if the norm might have been between two and four families, or groups of similar size if

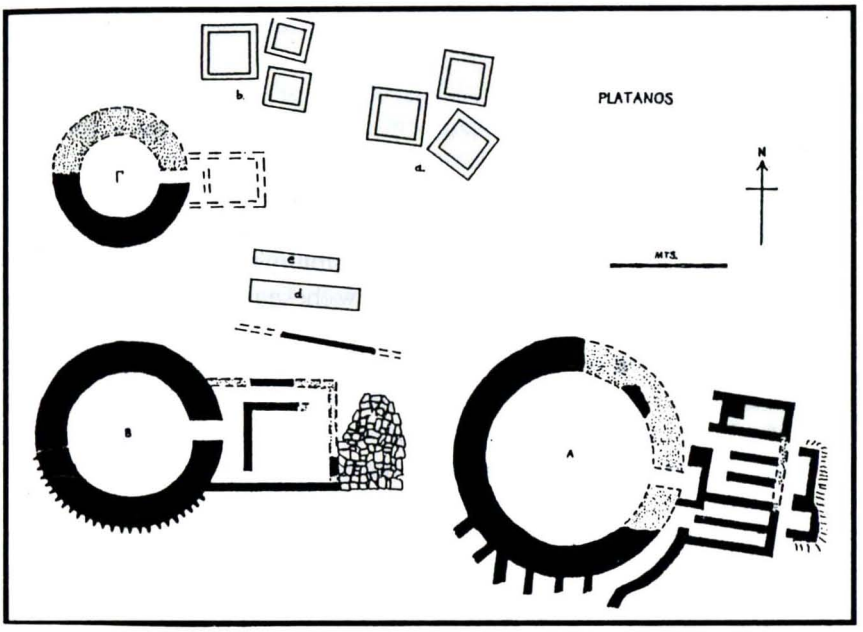

Figure 5.2 A reconstructed plan of the cemetery at Platanos showing the relative location of the three, broadly contemporary, tombs.

the groupings were not based on family relationships at all. The obvious alternative is that a tomb was simply used by the entire population of a village or hamlet until it was full and was then replaced by a new tomb.

But this is clearly not the case. It is true that the Mesara tholoi often appear in groups of two or three in very close proximity, but almost invariably when they occur in groups they are found to be largely contemporaries with each other. Whilst we can only ascribe opening and closing dates to tombs in broad terms of relative chronology, the evidence is nevertheless overwhelming that groups of tombs were all in use at once. In the cemetery at Platanos for example (Figure 5.2) all the tombs were probably used in EM.II, EM.III and MM.I, although tomb C may have been closed before the other two tholoi. Contemporaneity seems certain also at Megaloi Skinoi, Kamilari, and Koumasa – all with three tombs – and at sixteen other cemetery sites where there are pairs of tombs. On present evidence then it seems far more likely that these pairs and trios of

contemporary tombs were built by groups which in numbers were the equivalent of two to four nuclear families.

The most likely grouping of this size is some sort of extended family or small clan group based on family relationships, although other groupings are possible. The Merina of Madagascar for example also have groups of contemporary tombs, but these are built not by family or clan groups but by burial clubs or associations (Ucko 1969, 268–9). But this is an unusual arrangement, and we shall see in the following chapter that there are other reasons for thinking that our Mesara tombs were built and used by groups of two to four families in many cases.

CHAPTER 6

Settlement And Society

In studying the funerary architecture and customs of any people, it is all too easy to become engrossed in death and the dead, and to forget that the tombs and their contents are the artifacts of living societies. As such, they are very often amongst our best sources of information about those societies and the way in which they were organised. This has certainly been true of the Mesara in the Early Bronze Age, for until the last twenty years we had very little direct evidence of the settlements which were contemporary with the tholos tombs.

When *The Tombs of Mesara* was published in 1970, little was, or could be said, about the communities which built and used the tombs. Our ignorance was the result of several factors. Many prehistoric settlements undoubtedly lay beneath medieval and modern villages, as Xanthoudides himself realised, and others lay beneath important and extensive later Minoan centres such as Phaistos and Ayia Triadha. For understandable reasons, antiquity thieves have been much less interested in settlement sites than in tombs, and it must be said that Minoan archaeologists too, have found even the ransacked remains of the tombs generally more fascinating and 'rewarding' in terms of material remains than contemporary occupation sites. But the constraints under which archaeologists work in Crete has also dampened enthusiasm for exploring the settlement sites. The archaeologists of the Greek Archaeological Service spend much of their time responding to the emergencies created by both the tomb-robbers and, increasingly, the property developers, whilst the foreign archaeologists find the costs of excavation so prohibitive (especially the purchase of land) that extensive excavation of settlement sites can scarcely be considered.

Fortunately, over the past twenty years a combination of chance and choice have created new opportunities to at least begin the exploration of the settlements in which the tholos builders lived. In the 1960s the Greek archaeologists in Crete – Alexiou, Davaras and Sakellarakis – all took an active interest in the Asterousia area and in

addition to conducting emergency excavations on tombs under threat also noted the existence of several settlement sites. At the same time, the extensive excavations at Phaistos by the indefatigable Doro Levi were revealing the extent of the Early Bronze Age settlement which preceded the palace. Further Italian excavations at Ayia Triadha also revealed the first Early Minoan buildings found there, and around 1970 came the complete excavation of the Early Minoan settlement at Fournou Korifi, Myrtos, by Peter Warren. Although this is far to the east of the Mesara, it is only some twenty kilometres east of the tholos at Viannos, and the evidence for contemporary landscape and agriculture which it produced should be of relevance to settlements on the southern slopes of the Asterousia mountains further west. Furthermore, the more recent excavations at Trypiti by Dr Vasilakis show that in some respects, Early Minoan Fournou Korifi was similar to contemporary settlements occupied by the tholos builders. Something of the general pattern of settlement in the plain of Mesara itself has been revealed by the survey led by Hatzi-Vallianou and Watrous at the west end of the plain (Watrous, Hatzi-Villianous *et al* forthcoming). Finally, the survey of the Ayiofarango undertaken by David Blackman and the author in 1971 and 1972, together with a supplementary survey of the coast near Kaloi Limenes, was specifically undertaken to reveal, as far as possible, the complete settlement pattern of a small area rich with tholos tombs.

THE HOLY GORGE

The Ayiofarango is a narrow valley, *c.* 12 kilometres long, divided by a watershed at 550m above sea level from basins which drain northwards into the plain of Mesara. The Ayiofarango reaches the Libyan Sea about three kilometres west of Kaloi Limenes, the final stretch of the valley being a 600m long gorge with sides up to 100m in height. The survey was concentrated in the lower half of the valley.

Once through the gorge, the landscape is dominated by the red and green schist of the valley floor and lower slopes, and the step-like sandy limestone which hems in the valley on either side (Figure 6.1). The lower terraces are in many places covered with 'fill' eroded from the upper areas, and it is on these terraces that relatively flat land and deep soils suitable for agriculture can be found. A very detailed mapping of soils and of slopes by John Bintliff allowed the identification of the best areas for growing cereal crops and olives,

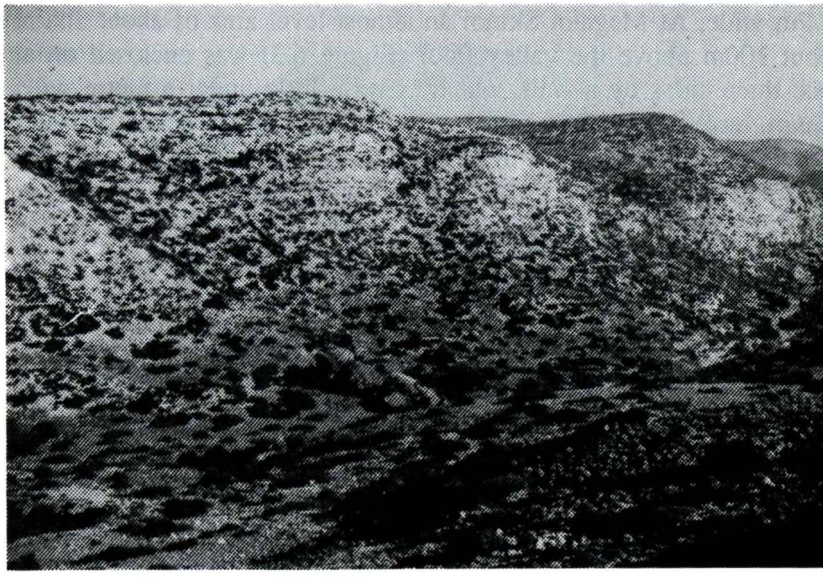

Figure 6.1 A view of the Ayiofarango with limestone cliffs above the schists; the tholos of Ayia Kyriaki is midway up the right hand margin (the author).

and also allowed some estimate of the total number of people that the lower catchment could support in terms of food supply. At the same time Alan Doe and David Holmes identified other key resources such as springs, sources of clay for potting, building stone and very small quantities of copper (Blackman and Branigan 1977, 14–30).

The results of the survey revealed three main periods of human occupation of the valley, of which the first was the Early Bronze Age. Spread through the lower catchment we discovered the remains of eight tholos tombs (though an unusual pair at Ayia Kyriaki were clearly never taken beyond the foundation courses). The third tomb at Ayia Kyriaki was that which we excavated and which is described in chapter 2. There were further single tombs at Ayios Andoni and at Yialomonokhoro, and no less than three at Megaloi Skinoi. Had we continued our survey just 100m beyond the Odiyitria Monastery (Figure 6.2) then we would have found a further pair of tholoi, subsequently excavated by Dr Vasilakis. However we found much more than the tholos tombs. We also identified the certain or probable sites of nine farmsteads of Early Minoan date. Where walls could be

seen and traced, the farmhouses all seemed to be rectangular, with perhaps two or three rooms, and measuring around 12m long and 6m or 7m wide. At Megaloi Skinoi an almost level area of about 3ha at about 100m above the valley floor (Figure 6.3) was enclosed on at least three sides by a wall, which being a little under a metre wide cannot have been defensive but must have been built partly to demarcate the area and partly to prevent down-slope loss of soil. On the fringes of this enclosed area, apart from two tholos tombs, remains of terrace and house walls were seen. Just outside the wall at one point the remains of a house 8m long and about 5m wide could be identified. There were further terrace and house walls on a lower shelf of land to the south, at the tip of which was the third tholos tomb. These remains suggest that at Megaloi Skinoi there was a settlement comprising perhaps eight to ten houses, built around the edge of the enclosed area of good arable land on which crops could have been grown. Pottery of the EM.I–MM.I period were recovered from the site, apart from that found on the robbers' spoil heaps at the tombs.

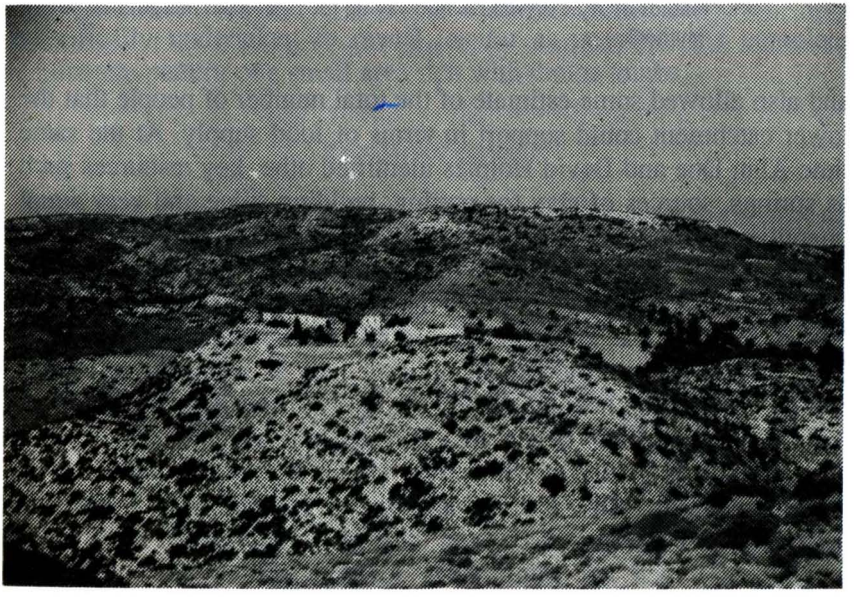

Figure 6.2 The Odiyitria Monastery. The two tholos tombs here are in the olive grove to the right (the author).

Figure 6.3 The plateau at Megaloi Skinoi, the site of a small village and three tholos tombs (the author).

Subsequently, Dr Vasilakis identified a further settlement site near the south end of the gorge, which might have had more than one farmhouse on it, and two more close to the Odiyitria Monastery, one of which is large enough to have been a small hamlet (Vasilakis 1990, 65, site 32). Finally, we also discovered three, perhaps five, small sites which did not appear to be farmsteads but were rich in broken pottery, were located on prominent, though often small, hills and were tentatively identified by us as open-air shrines. The most unusual example was on top of a small hill made of bare purple schist. On the summit were scattered limestone blocks, and others still *in situ* apparently forming part of a short flight of steps that led to a sheer drop of about 10m on the west side of the hill. Around the steps were sherds of Middle Bronze Age goblets, a limestone quern and two rubbing stones. The latter might suggest a domestic occupation site

were not the summit of the hill only a few metres square.

Quite different to this site was another just north of the settlement at Megaloi Skinoi.This was a small white hill, jutting out like a promontory into the valley side, with very large grey limestone boulders sitting on its summit. The neck of the promontory was shut off by a wall, just inside of which was a concentration of pot sherds, and a limestone quern and rubbing stone. A further wall seemed to have enclosed the summit with its group of large boulders, whilst at the west end the hill had a pronounced and rather artificial looking semi-circular flat area on which were large numbers of small pot sherds. These included both Early and Middle Minoan pottery, and nearby the base of a stone vase made of serpentine. This site provided no space for, and no trace of, a domestic house and is again thought to be an open-air shrine. John Bintliff (1977, 82) has made the interesting suggestion that small rural shrines like these are to be associated particularly with the use of arable land, whilst the major peak sanctuaries on high summits relate to transhumance practices.

When all of these discoveries are plotted onto a map of the lower part of the valley they provide considerable food for thought (Figure 6.4). It can be seen that not only are tombs distributed throughout the valley, but so are farmsteads, sites identified as shrines, and sources of fresh water. With the larger settlement at Megaloi Skinoi, and a smaller hamlet just north of the monastery, one interpretation of this pattern of settlement is that all the population lived in the two villages, and held land there as well as discrete parcels of arable land elsewhere in the valley, on which they built secondary homes or shelters, and near which they erected their family tombs. But Megaloi Skinoi shows little sign of having been a major nucleated village, and the buildings glimpsed elsewhere in several cases look much more substantial than we might expect of shelters built on land used for farming. A more persuasive interpretation can be offered which makes sense of the entire pattern of settlement and resource distribution.

We suggest that the valley was divided into a number of discrete holdings, each held by one or more clan groups. Thus the settlement at Megaloi Skinoi with its three contemporary tholoi would be the home of perhaps 6 to 12 families, belonging to three clan groups. The two tholoi at the Odiyitria Monastery were for the use of two clan groups housed in the settlement to the north of the tombs, and in two or three farmsteads south of the Monastery. The small tholos at

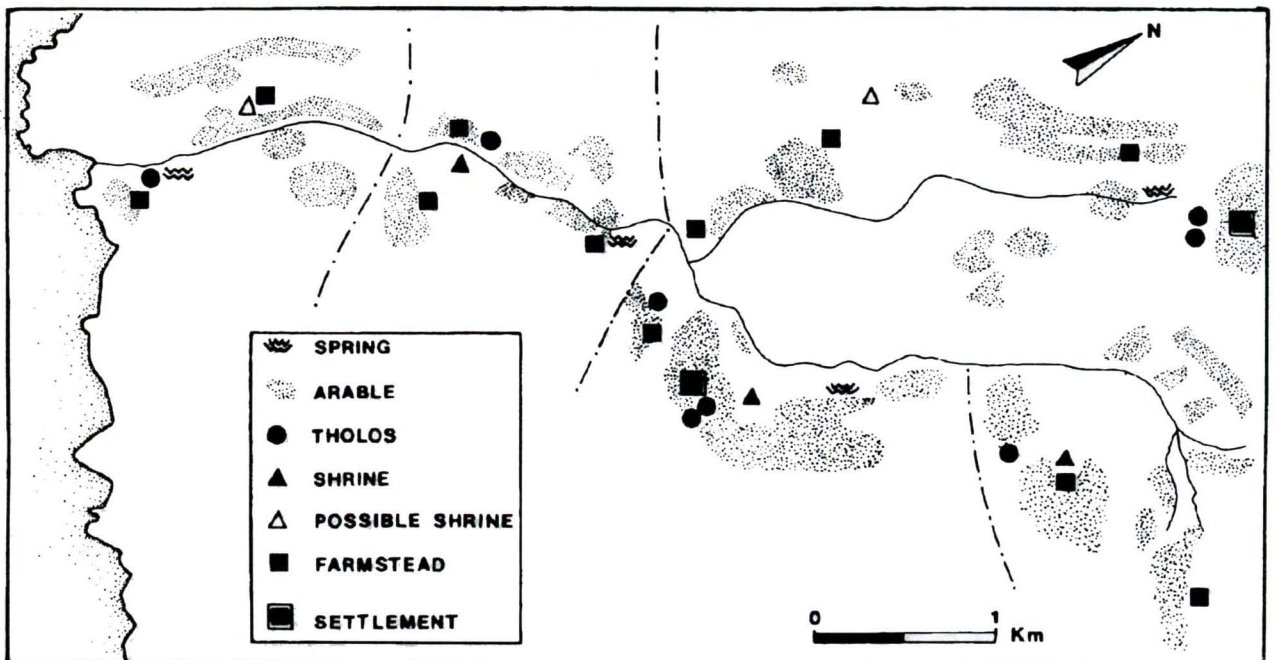

Figure 6.4 A map of the Ayiofarango showing the Early Bronze Age farms, settlements, shrines and tombs, and the location of better arable land and water supplies.

Yialomonkhoro may have served the two families utilising farmsteads to the north of this tomb, whilst Ayia Kyriaki would have been the burial place for the families living at the three farmsteads in this part of the valley. The final group would be that living at the southern end of the Ayiofarango, with their hamlet at Ayios Andoni overlooking their tholos, and a further family living in a farmstead north of the gorge. Looked at in this way one can see that each clan group would have its own arable land, fresh water supply, potting clay (with the exception of the southern- most group), and building stone, and that on each land holding were built not only the houses of the living but also the tombs for the dead and an open-air shrine.

Whichever interpretation one accepts, the results of the Ayiofarango survey are of importance for two reasons. The first is the glimpse it gives us of the nature and distribution of rural settlements in the Asterousia Mountains, and the second is the possibilities it provides for estimating population levels in this region. The discovery of eight tholos tombs in the survey area suggest – on the basis of our discussion in the previous chapter – a total living population of between 16 and 32 families; about 80 – 160 people. The three tombs in the valley for which any individual estimates were offered (Ayia Kyriaki and the two tombs at Moni Odiyitria) yielded estimated contributing group of *c.* 2.5 – 3 families, and a preferred estimate for the whole valley might therefore be around 20 – 24 nuclear families or 100–120 people. It should be noted that unlike the other tholoi, Ayios Andoni is probably a late foundation and that the valley might therefore have been occupied by around a hundred people until the late third millennium BC. We can compare this with a population estimate made on the basis of the identified farmsteads and settlements, although we have no clear idea of how many families occupied the latter. To our nine farmsteads we can suggest we add somewhere between 12 and 18 families for the settlements at Megaloi Skinoi, Odiyitria and Ayios Andoni. This would give a total estimated population of around 105–135 people *c.* 2000 BC, and 90–120 before then.

We can compare both of these estimates of Early Bronze Age population, with two other sets of figures. One is John Bintliff's (1977, 28–30) estimate of the 'carrying capacity' of the valley, that is, how many people the valley could supply with food. His estimate in 1977 was between 17 and 35 families; he subsequently lowered that figure but he did not include the area north of the Monastery which

has B–C grade land suitable for cereals and olives. This has to be included here because we now include the two tholos tombs discovered here, and the two occupation sites nearby. We can therefore retain the original estimates, which provide brackets of between 85 and 175 people, but with a clearly expressed preference by Bintliff for a figure at the lower end of the range.

Finally, we can compare all of these estimations, with the census figures (see Blackman and Branigan 1977, 79) for recent population levels in the valley (Table 6.1).

These are certainly relevant, since the valley has never been integrated into a modern transport network and occupation of it in the years between AD 1600 and 1930 was by peasant farming communities who were entirely reliant on the produce of the valley. The census figures are incomplete before 1881 since the figures between 1671 and 1842 do not include the Monastery, which was certainly in occupation then, and those for the early nineteenth century only account for Christian families. Thereafter, the figures are probably complete but they reveal very clearly the decline which had by then set in, with first the hamlet of Gavaliana abandoned, then the village of Yialomonokhoro. When I re-visited the monastery in 1991 I was told only five inhabitants remained.

Table 6.1 Modern census figures for the Ayiofarangfo

	Yialomonkhoro	*Gavaliana*	*Moni Odiyitria*
1671	60 adult males	–	–
pre 1821	7 Christian fam.	7 Christian fam.	–
1842	3 Christian fam.	4 Christian fam.	–
1881	52 (15 fam.)	18 (4 fam.)	9 monks
1894	18 Greek fam.	–	9 monks
1903	52 total	–	11 total
1928	5 total	–	16 total
1971	–	–	15 total

However, we can see that in 1881 the valley supported a population of 79, that in the early nineteenth century there were 14 Christian families plus an unknown number of muslims and inhabitants of the monastery, and that in 1671 the village of Yialomonkhoro must have had a total population of at least 150 persons, to which can be added the inhabitants of the monastery. These figures suggest that the

brackets of Bintliff's estimated carrying capacity are broadly correct and that the valley is capable of supporting a *maximum* population of between 150 and 200 persons. Our estimated Early Minoan population of between 80 and 120 persons is therefore a realistic one.

FEEDING THE PEOPLE

How the people of the Ayiofarango fed themselves and exploited their valley during the Early Bronze Age has always been indicated by the nature of the terrain and the Mediterranean climate, but it has been confirmed and amplified since 1970 by excavations at Myrtos and Trypiti and by palaeoenvironmental studies. New pollen studies in the vicinity of Ayia Galini at the north-west corner of the Mesara (Bottema 1980) and in western Crete (Moody, Rackham and Rapp 1990, 17–20) suggest that whilst the climate was more temperate in the Neolithic period (c.6000 – 3000 BC) than it is today, the Early Bronze Age saw a trend towards a drier climate, which resulted in a decline in deciduous plants. The amount of woodland at this time may have varied considerably from one location to another, particularly from one altitude to another, but there is clear evidence that trees capable of producing substantial timbers were scarce along the southern coast of Crete. At Myrtos olive prunings were extensively used for architectural purposes (Rackham 1972, 295, 299) and the largest room in the settlement 5.1 x 4.8 m in size featured a conspicuous roof support in the centre of the room (Warren 1972, 72, fig 26). Similar roof supports have been noted in the Early Minoan houses excavated at both Trypiti and Ayia Triadha in the region under study in this book (Figure 6.5). This shortage of timbers suitable for supporting roofs is obviously detrimental to any suggestion that the tholoi themselves were partly roofed with timber structures.

The soil studies undertaken in the Ayiofarango suggested that there were quite extensive areas of soil which could have been used for arable agriculture if the slopes were not so steep and the erosion so great. In the event, it is estimated that of the 1850 hectares (4600 acres) of land within the survey area, only about 260 hectares (650 acres) were suitable for arable crops. Wheat and barley have been grown in Crete since the beginning of the neolithic, and their cropping in the Early Bronze Age has been documented by their remains in excavations at Debla in western Crete (Greig and Warren 1974), at Myrtos to the east of the Mesara (Renfrew J, 1972), and most recently

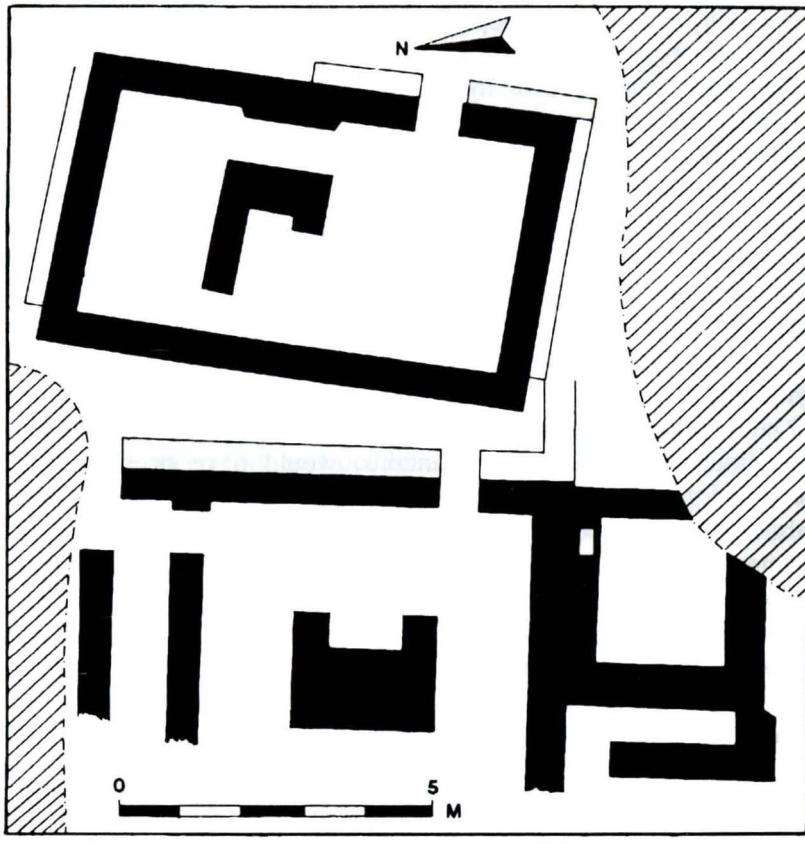

Figure 6.5 A plan of Early Minoan houses at Ayia Triadha, contemporary with the two tholos tombs here.

at Trypiti less than 20 kilometre from the Ayiofarango (Catling 1989, 101). There can be no doubt that these would have been the principal crops grown around the settlements and farmsteads in the valley, and elsewhere in the region, although the excavations at Trypiti have also produced remains of peas and vetch, suggesting a more broadly based subsistence regime than was evidenced before. The Early Minoan villages in the Mesara would certainly have been far better placed to grow cereal crops for the fertile soils here are deeper and subject to far less erosion than those in the mountain valleys. The Mesara has always been an important grain growing area and is thought likely to be the rich grain producing region called Dawos in the Knossos linear B tablets of the Late Bronze Age (Chadwick 1976, 54).

Given the problems of slope and erosion, it is quite likely that some of the cereals were planted in between widely spaced olive groves. Olives were being grown in southern Crete by the Early Minoan period, for at Myrtos pruned olive wood was well represented in the charcoal from the settlement (Rackham 1972a, 299–304) and an olive stone was also recovered (Renfrew J, 1972, 316). Olive growing amongst the tholos builders of the Mesara region is confirmed by the olive stones from Lebena. The olive is a hardy tree and it may well have been grown on narrow terraces on slopes where cereal growing was difficult, but at present we have no clear evidence for Early Bronze Age terrace walls associated with agriculture in the Ayiofarango.

The remainder of the usable land in the valley, like most of the land throughout the Asterousia Mountains, would have been used for sheep and goat grazing. Animal bones do not survive well in Cretan soils, and the very extensive excavations at Myrtos produced only 300 fragments of bone, of which many could not be identified to species (Jarman 1972). Of the identifiable bones, however, sheep and goat dominated the sample – over 90% of identified fragments. This is to be expected in this terrain and has been the situation throughout recorded history; the importance of sheep raising in Late Bronze Age Crete is again documented by the many linear B tablets recording the management of large flocks under state control. A famous bowl from

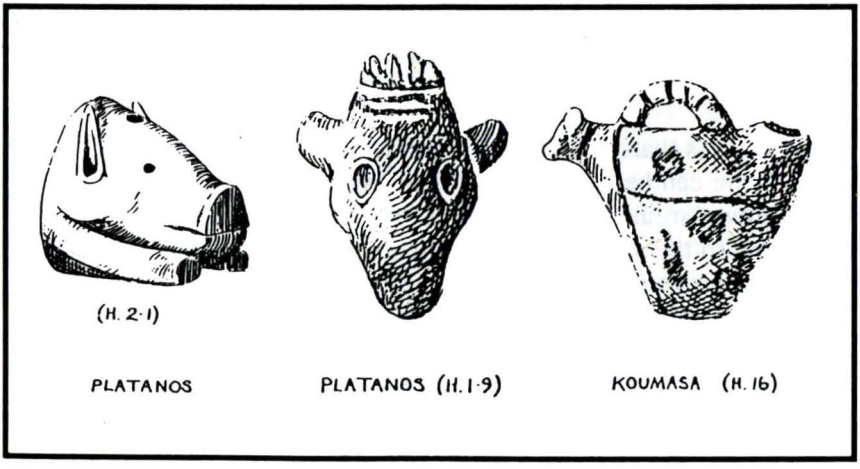

Figure 6.6 A pig sealstone, a cow amulet, and a cow vase from tombs in the plain of Mesara.

Palaikastro in which are modelled a shepherd and a flock of about 200 sheep suggests that large flocks were already known by around 2000 BC.

Nevertheless other domesticated animals were raised, and pig and cattle are represented in the bone sample from Myrtos, and again in that from the settlement at Trypiti. Furthermore, the creation of superb miniature sculptures of pigs and cattle for amulets and sealstones (Figure 6.6), and occasionally in the form of clay jugs, seems to emphasise that though their numbers were not high they may have been particularly prized. This could be especially true of pigs in an area like the Ayiofarango, where the subsistence regime must have been marginal when the valley's population reached its highest levels, for pigs represent a quickly replenishable source of animal protein. To the meat of sheep, pig and occasionally cattle, the people probably added that of hunted animals and birds, and where they lived near the sea there can be no doubt that they exploited sources of sea-food. Larger animals like the wild Cretan goat – the agrimi – must have already been scarce, although they appear on contemporary sealstones and other art forms. But Dr Vasilakis has recovered bird and fish bones from the houses at Trypiti to confirm that hunting and fishing did indeed play a part in the lives and diet of the tholos builders.

FROM VILLAGE TO TOWN

The tholos builders of the Ayiofarango, as we have seen, lived mainly in family farmsteads but there were also small villages or hamlets at Megaloi Skinoi and north of the Odiyitria monastery. This pattern was probably repeated elsewhere throughout the Asterousia Mountains, the Mesara plain, and the foothills to the north. Certainly the western Mesara survey recorded many settlements of hamlet size, and other isolated farmsteads, confirming a similar pattern of settlment in the plain around Phaistos (Watrous, Hatzi-Villianou *et al* forthcoming). Whilst the nature of the farmsteads seems clear even from the unexcavated and fragmentary remains seen in survey, which suggest free-standing buildings normally between 50–100m^2 in size with no more than two or three rooms, that of the villages is not. The excavations at Myrtos (Warren 1972) and even more so those at Trypiti (Catling 1989) have therefore been particularly important in throwing light on the small nucleated settlements in which some of the Early Minoan communities lived.

Myrtos, as we noted earlier, is some distance to the east of the Mesara and there is no evidence at present that at the time when the settlement was occupied any communities in the vicinty used tholos tombs for burials. We cannot therefore place too much reliance on the evidence from here as an indication of what the Mesara villages looked like. Myrtos was built as a rather irregular complex of roughly rectangular rooms, of which Warren numbered over ninety. Some of these were certainly not rooms, however, but open spaces of various kinds, and other rooms belonged to a small initial complex which was superseded by the main settlement. Warren regards the settlement as a village, and a very detailed analysis of the distribution of finds and of the architecture by Whitelaw (1983) led him to conclude that five or six families lived here. In that event, each household would have averaged around six to eight rooms, although the total area occupied would seem to have been lower than that of the average farmhouse (perhaps 40–70m^2).

In itself this is not surprising, since there was certainly pressure on available space on the hill-top selected for settlement, and Whitelaw's analysis suggested that most households set aside separate rooms for storage, cooking, and craft or other activities in a way which the farmsteads apparently did not. How far does this picture of the Early Minoan settlement at Myrtos compare to the initial, preliminary reports we have received on the settlement at Trypiti at the southern foot of the Asterousia mountains?

At the time of writing, the number of excavated rooms amounts to forty two and Dr Vasilakis identifies eight or nine households, so that here too there is the suggestion that some houses had more rooms and perhaps greater specialisation of room usage than is found in nearby farmsteads. A street, about a metre and a half wide runs between two blocks of houses. Inside the houses, features include benches and in one case a circular central hearth. The personal belongings found in the houses are broadly similar to those from Myrtos, including small numbers of copper artifacts, larger quantities of stone tools such as polishers, axes, pounders and hammers, and of course small knife blades of obsidian. The discovery of two steatite sealstones and of a clay sealing are important, confirming the evidence of six sealstones and a sealing from Myrtos that these Early Minoan II communities made and used sealstones for everyday purposes and not just for funerary deposition.

Although on the evidence seen so far, there are some differences between Myrtos and Trypiti, the overall impression is of very similar communities. To what extent we can extend that judgement to the unexcavated Early–Middle Minoan villages known elsewhere in the Mesara region is uncertain. One would expect settlements identified by survey at Lasaia, Lebena, and Megaloi Skinoi in the southern reaches of the Asterousia Mountains to be similar to that near by at Trypiti. Surface indications are similar, and each is associated with either two or three moderately sized tholos tombs. The same may be said of the settlement associated with the tholoi of Salame and Koutsokera, of which Xanthoudides excavated a small area (1924, 74), of the settlement between the Apesokari tholoi, and that noted by Xanthoudides at Marathokephalon. A second settlement on the north side of the Mesara was extensively excavated by Xanthoudides at Kalathiana, and comprised at least ten houses, each of which, he said, was square and with several rooms of different sizes. The houses all contained only MM.I – MM.II pottery so that we cannot be sure that the Early Minoan settlement was so large or the houses so regular and roomy, but Xanthoudides is surely right in believing the settlement was founded at the same time as the two tholos tombs here. The same is also to be said of the village at Koumasa, just north of the three tholoi and again partly excavated by Xanthoudides and producing houses with Middle Minoan pottery. Other extensive settlement sites have been noted near the tholos cemeteries at Platanos, Kamilari, and Ayia Triadha, and the western Mesara survey noted many hamlets or villages of Early Minoan date in the area around Phaistos (Watrous, Hatzi-Villianou *et al* forthcoming). It is possible that here, in and on the fringes of the Mesara plain, most families lived in villages.

Certainly the largest tholoi cemeteries here actually provide considerably more burial space than the biggest found in the Asterousia mountains, however one makes the comparison. The average burial space available in the thirteen cemeteries in and overlooking the plain for which we have data is over $80m^2$, whilst that for the corresponding nine cemeteries on the southern slopes of the Asterousia Mountains is below $50m^2$. Only one of the six largest cemeteries (in terms of square metreage of burial space) is found in the southern group, and conversely only one of the six smallest cemeteries is from north of the Asterousia watershed. We cannot prove that the provision of more burial space relates to a perceived expectation of more burials in larger village communities but it is a

reasonable proposition. Furthermore, the evidence for more capacious cemeteries in and around the Mesara plain can be set alongside a certain amount of evidence that the communities here were revealing greater signs of social differentiation than those beyond the horizon to the south.

There can be little dispute that in general terms, the tombs excavated north of the Asterousia watershed have yielded more items of display and more products requiring either high manufacturing time or scarce materials than the tombs to the south. Platanos for example yielded more than 90 pieces of goldwork, Ayia Triadha at least 25, Ayios Onouphrios at least 12 and the heavily looted tomb at Kalathiana 8 or 9. In contrast the almost untouched tombs of Lebena Y2 and Y2a yielded only 5 items of gold, and even the recent discovery of three diadems and a gold hafted dagger in the tholoi at Moni Odiyitria falls far short of redressing the balance. Similarly, although these same tombs yielded two dozen items of bronze, almost trebling the total known from all the southern tombs, this compares poorly with 95 from Platanos, 56 from Koumasa, and 54 from Ayia Triadha. Stone vases tell the same story, the 17 from Lebena and 30 from Moni Odiyitria being the best totals from the south to compare to the 64 from Ayia Triadha, 167 from Koumasa and 430 from Platanos.

The picture is repeated when we turn to indicators of external exchange and long-distance contacts. Despite the close proximity of the sea to many of the southern tombs, to date we have only three scarabs or scaraboid seals from Lebena to even hint at contacts with the east Mediterranean at the beginning of the second millennium BC. Similar seals are found at Ayios Onouphrios(4), Ayia Triadha(6), Platanos(3), Aspripetra(1) and Marathokephalon(1) to the north. It is from these sites too, especially Platanos, that sealstones made of imported north African hippotamus ivory come (Krzyszkowska 1988, 215–6). But these sites produce further evidence of wider horizons. The cemetery at Platanos has produced two Syrian daggers, a Mesopotamian cylinder seal, faience beads, and a Phylakopi-type figurine from the Cyclades. The Ayios Onouphrios deposit contained two Cycladic marble stone boxes and the heads of two Cycladic figurines, whilst a complete example of the latter was recovered from Koumasa, along with three silver daggers of probably non-Cretan origin. From Ayia Triadha came a circular stone box made in Egypt during the Third Dynasty, and it is from the this cemetery and

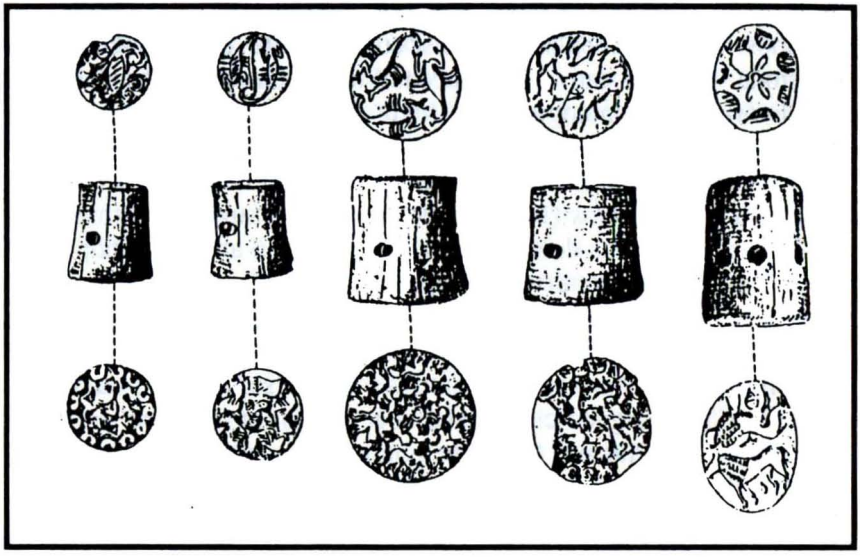

Figure 6.7 A selection of finely engraved truncated cone sealstones from Platanos.

Platanos that most of the fifteen copies of other Egyptian stone vases come, with single examples from Porti, Kamilari and Marathokephalon (Warren 1969, 71–2,75–6).

These imitations are made by local craftsmen, and it is in the Mesara plain that we find the clearest evidence in the Early Bronze Age for the development of craft specialisms. In the tholos tombs on the southern slopes of the Asterousia Mountains such evidence is hard to find. The unused crucible buried in the tholos at Ayia Kyriaki may have been buried with a coppersmith (it is difficult to explain its presence in the tomb otherwise), but there is little else here that suggests either the burial or the activities of local craft specialists. Indeed, our close study of the pottery from Ayia Kyriaki suggested that many of the finer wares were brought here from the Mesara and further afield, and this was almost certainly true of many if not all of the stone vases. (Blackman and Branigan 1982, 41–2; 57).

When we turn to the evidence from the tholos cemeteries in and around the Mesara plain, we find more prolific evidence both for the burial of craft specialists within the tombs, and for their products being widely used in the local communities. 'Tools of the trade' buried with their craftsmen-owners might be identified in the chisel and saw

from Koumasa, the leathercutter from Marathokephalon, two unfinished stone vases from Platanos, and the loomweights from Platanos. The presence of specialist coppersmiths, stoneworkers, and sealstone carvers can be deduced from their products. Distinct metalworking technologies and highly localised variations in the regional repertoire of metalwork were identified several years ago in the copper and bronze artifacts from the tholoi at Ayia Triadha, Koumasa and Platanos (Branigan 1974, 127–8), suggesting that each of these communities developed its own tradition and workshop. The huge numbers of stone vases deposited at Platanos and Koumasa, almost all made with the tubular drill, is suggestive of specialist production in these villages, which a detailed study of form, size, and proportions might further illuminate. As for sealstones, Krzyszkowska (1982, 165) has argued clearly and cogently for at least one group of sealstones from Platanos being the products of craft specialists. These are the truncated cones, carefully prepared from hippotamus tusk, with very elaborately carved seal designs, and each perforated by a deep-bored string hole (Figure 6.7). The products of a second specialist workshop might be isolated amongst the Ayia Triadha corpus of sealstones. These are the ring seals from tholos A with very narrow, sharply defined crests, marked out by incised lines, and simple cross-hatched designs sharply cut into the face of the seal (Branigan 1984, 33).

The evidence from the tholoi in and around the Mesara plain for the appearance of craft specialists, for the accumulation of wealth and imported products, for the deposition of items of prestige display, and for larger village communities suggests to me that new social forces and forms of organisation may have been emerging here in the later third millennium BC that were as yet unknown in the mountains to the south.

The more open landscape and the richer soils may have speeded this progress towards a society in which differences of wealth began to emerge at the same time as the need for new forms of social organisation to cope with larger communities.

It is at this time that we can trace the rapid growth of a large nucleated settlement in the Mesara at Phaistos. Here, on the prominent hill later occupied by the Minoan palace, the excavations of Doro Levi have greatly expanded our knowledge not only of the formative stages of the palace but also of the extent of the settlement which preceded it. The walls of an Early Minoan house under the

centre of the palace have been known for many years (Figure 6.8), but despite the overlying palace, we now know of the location of more than a dozen Early Minoan houses. Equally important, there are many other locations where EM deposits and levels have been glimpsed between the foundations of the palace which allow us to identify a minimum area occupied by the Early Minoan settlement (Figure 6.9). It covered at least a hectare, probably rather more. Although we cannot be sure how densely this whole area was built up, the evidence of buildings and deposits suggest it was a genuinely nucleated settlement. It is difficult to envisage a population of less than about three hundred people.

At present there is no other Early Bronze Age settlement of remotely comparable size and density known in the Mesara region, and it is not surprising that, if a palatial society was to emerge soon after 2000 BC in this region, that it was here that it was focussed. This is not the place to debate again the emergence of palatial society and civilisation in Crete. But the earliest remains of the palace of Phaistos excavated by Doro Levi do throw considerable light on the nature and functions of a primary palace (e.g. Branigan 1987a, 1988), and in

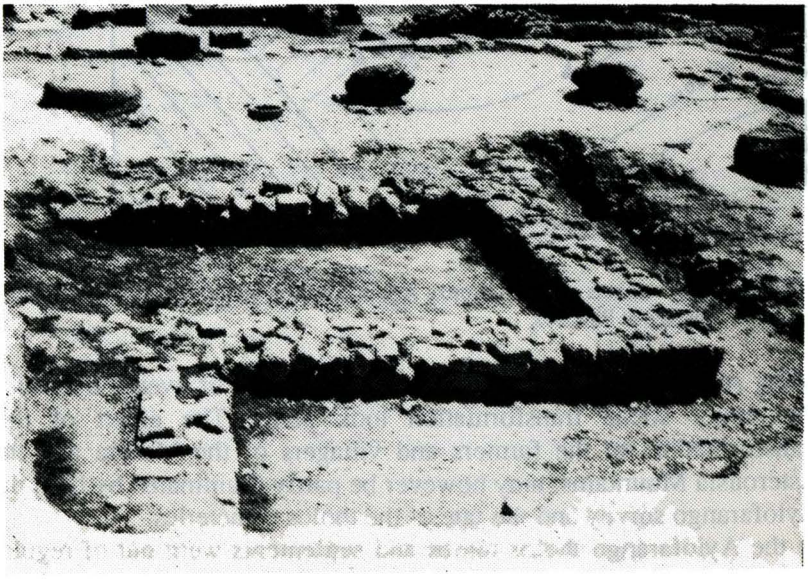

Figure 6.8 The remains of an Early Bronze Age house preserved beneath the later palace at Phaistos (the author)

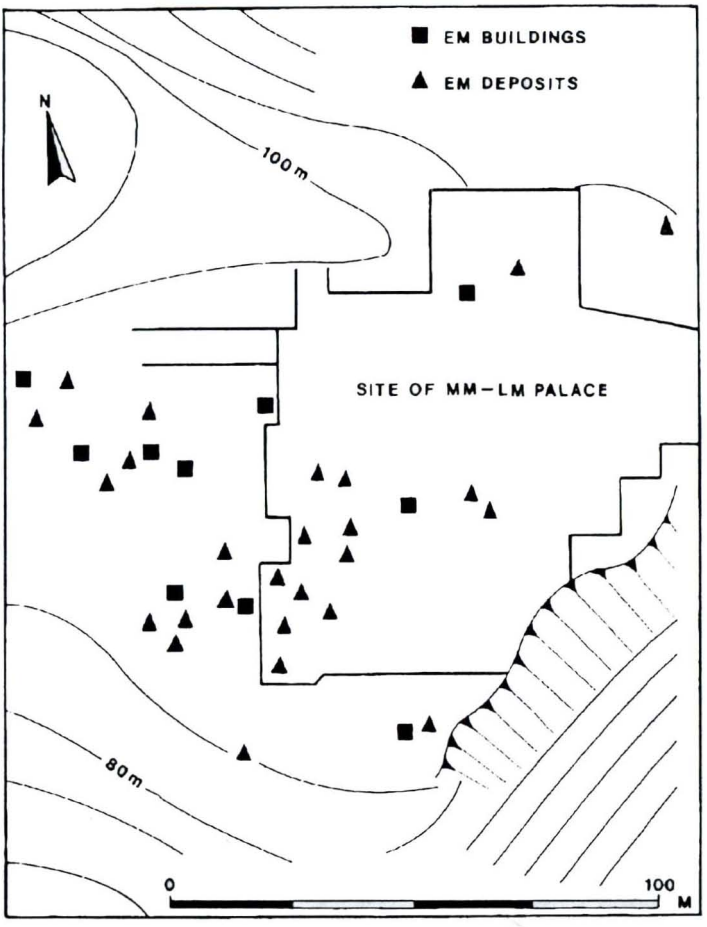

Figure 6.9 The remains of Early Bronze Age occupation under and around the later palace at Phaistos.

doing so may help us to understand the process or events by which this major social transformation took place. The effect of this transformation on the farmers and villagers of the Mesara and the Asterousia Mountains, may however be partly illuminated by both the Ayiofarango survey and the fate of the tholos cemeteries.

In the Ayiofarango tholos tombs and settlements went out of regular use in Middle Minoan I, although sporadic burials may have been made in some tombs later and people still apparently visited and made offerings at the rural shrines. A permanent population no longer

inhabited the valley, however, and to judge by the widespread abandonment of tholos tombs elsewhere in the mountains at this time this phenomenon was not limited to the Ayiofarango. It may be that some families moved over the watershed and down into the plain or its vicinity, swelling the populations of existing villages and perhaps leading to the creation of others. It may be such a movement that explains the late tholos cemeteries at Kamilari, Apesokari, and Vorou. But other families may have moved further afield and have been responsible for the apparently late surge of tholos building in northern and eastern Crete represented at Siderokamino, Gypsades, Viannos and Myrsini. Whatever the truth of the situation, however, it is clear that the tombs of the dead and the lives of the living were closely bound together.

CHAPTER 7

Dancing With Death

The importance of death to the living, and the way in which it is integrated into their way of life, is a theme which has been explored many times both in general and in relation to specific societies. The brilliant pioneering papers of Hertz and Van Gennep published in the first decade of the twentieth century and re-published in English translation in 1960 (Hertz 1960, Van Gennep 1960) have to some extent set the agenda for most, if not all, of the papers and books which have followed them, of which perhaps the most significant re-statement and extension of their theses was that of Huntington and Metcalf (1979). Although there is still much debate and controversy over the way in which living societies cope with death and manipulate death for social and economic purposes, there is also recognition that some human responses to death are remarkably widespread and essentially universal. If we can attempt to summarise them here, it may help to inform our discussion of the way in which the Early Minoan communities of the Mesara incorporated death into life.

It is clear that death, and the rituals associated with it, are of importance and significance both to the living population as a whole, and to specific segments of it – the family, the kin-group, the village or tribe. Death severs the relationships between individuals and in doing so reduces the social persona of the living. In any relatively tight-knit society, the death of an individual temporarily damages the social fabric of the community as well as that of the family and kin-group. The funerary process is a means of repairing that damage, and of re-stating the communality and the stability of the society. Part of this process may involve the deliberate removal of wealth from the living in order to return or maintain a balanced distribution of resources in an egalitarian society. In making statements about the stability and equality of society, funerary ritual can be seen as a communication system which conveys information not only about the status of the deceased (Tainter 1978, 113) but also about the status of the living. The size and ornateness of a tomb, the quantity and quality

of grave-goods or funerary offerings, the sumptuousness of a funerary feast and the number of mourners and dancers may also speak volumes about the importance of not only the deceased but also their successors. Further, because control and use of important resources (especially land) may be maintained and legitimised by lineal descent from the dead, tombs and cemetery areas may be used to make permanent and repeated statements about the ownership of territory by a family or kin-group.

The economic undertones of such funerary statements are found also in other repeated characteristics of mortuary behaviour, although their economic significance is neither explicit nor primary. Huntington and Metcalf, for example (1979, 93), have noted that 'it is common for life values of sexuality and fertility to dominate the symbolism of funerals'. Hodder (1982, 143) identifies the association of death with fertility as a particularly strong feature of the funerary beliefs and practices of the Nuba of the Sudan, and suggests that the Nuba are concerned with the fertility and continuity not only of the crops but of the family in particular and of the society in general. In such situations, the assistance of benign ancestors may be sought in securing fertility of crops and animals. The fertility theme may be expressed also in terms of regeneration and growth, and in this context it may take on a distinctly seasonal aspect. Huntington (1973, 65) noted that reburial ceremonies amongst the Bara of Madagascar takes place only in the period after the annual harvest, and Bloch (1971, 147) recorded a similar tradition amongst the Merina.

In associating death, fertility and the seasonal cycle, societies like these develop a greater awareness of both the repetitive or recurring nature of death, and that death is not an event but a lengthy process.

Funerary practices are correspondingly lengthy procedures, and these societies in Madagascar certainly practise 'secondary burial', whereby the burial process falls into three parts, the first and the third of which are often separated by many months or even longer. Van Gennep in his classic paper on rites of passage (1960) suggested that funerary rituals (among others) fall into three stages, which mark out separation, transition and incorporation. In separation, the deceased is removed not only from his family and friends but also from his status as a living member of society. He is eventually incorporated into a new status as a dead ancestor and a translated soul. But between these two states is a period when the corpse and the soul are in transition, the 'liminal' period which in physical terms is usually identified with

the period of decomposition. Attitudes to the dead will be determined partly by which of these three stages they are in, and the secondary burial itself will see the reburial or perhaps the manipulation of the defleshed bones of the deceased symbolising the act of incorporation and the completion of the funerary process. Until that point is reached, the dead will be viewed with a mixture of fear and respect.

THE UNCERTAIN FACE OF DEATH

Uncertainty in the face of death seems to underlie the ambiguous way in which the people of the Mesara treated their dead. The construction of substantial kin-group tombs, the careful orientation of both tombs and bodies to the east, the offering of libations, and the drinking of toasts all suggest that the dead were treated with care and respect. So too does the deposition of a variety of grave-goods, particularly those such as sealstones or tools of the trade which were highly personal and probably seen as part of the person's identity. Yet all of these features could be interpreted not so much as evidence of loving care but of fearful anxiety not to alienate or arouse the dead, or at the very least of a determination that traditional funerary rites should be observed in order to ensure that the soul or spirit of the dead was able to continue through the process of transition rather than attempting to return to the world of the living.

Certainly there are some indications that fear of the dead played a part in Minoan funerary behaviour. We commented in an earlier chapter on the tiny doorways of the tombs, and drew attention to the heavy door slabs that have survived in place at some tombs, like Kamilari (Figure 4.3). There is no reason why such small doors and large slabs should have been needed to keep the living out; they must surely have been intended principally to keep the dead within. At Porti there were even two door slabs, one on each face of the door. As it happens, Porti also provides a good example of the way in which the defleshed bones of the dead were eventually disposed of (Figure 7.1). Next to the antechamber and an outer room was a walled trench (labelled C) more than 1.5m deep. This proved to be 'filled to the brim with bones' and Xanthoudides was in no doubt that they had been transferred here from their original burial place in the tholos (Xanthoudides 1924, 56).

Two similar walled trenches were found at Platanos (Xanthoudides 1924, 93), and at Skotoumeno Kharakas we found a natural rock cleft

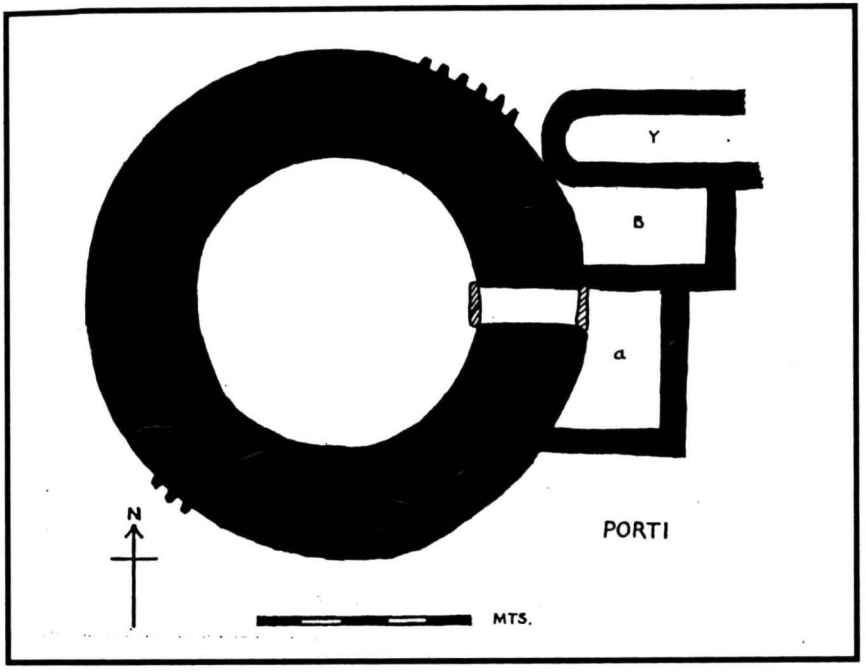

Figure 7.1 The tomb at Porti, with door slabs both inside and out, and a deep-walled trench (C) for the disposal of mixed bones from the tomb chamber.

which seemed to have been used in the same way (Blackman and Branigan 1977, 51). Other tombs provide evidence of clearing-out operations, with bones swept into mixed heaps against the wall of the tomb (Figure 7.2) or else cleared out altogether, often accompanied by the looting of grave-goods. But mass clearances of bones as indicated by these examples could only take place long after the initial burial ceremonies, when the bodies were completely defleshed. By then, attitudes to the dead individuals which these bones represented may have changed dramatically, for they would have passed through the period of transition and now be ready for incorporation into their new state as ancestors. The clearance of bones is almost certainly related to the third and final stage of the funerary process, and indicates that we are looking at the results of secondary burial activities (Branigan 1987).

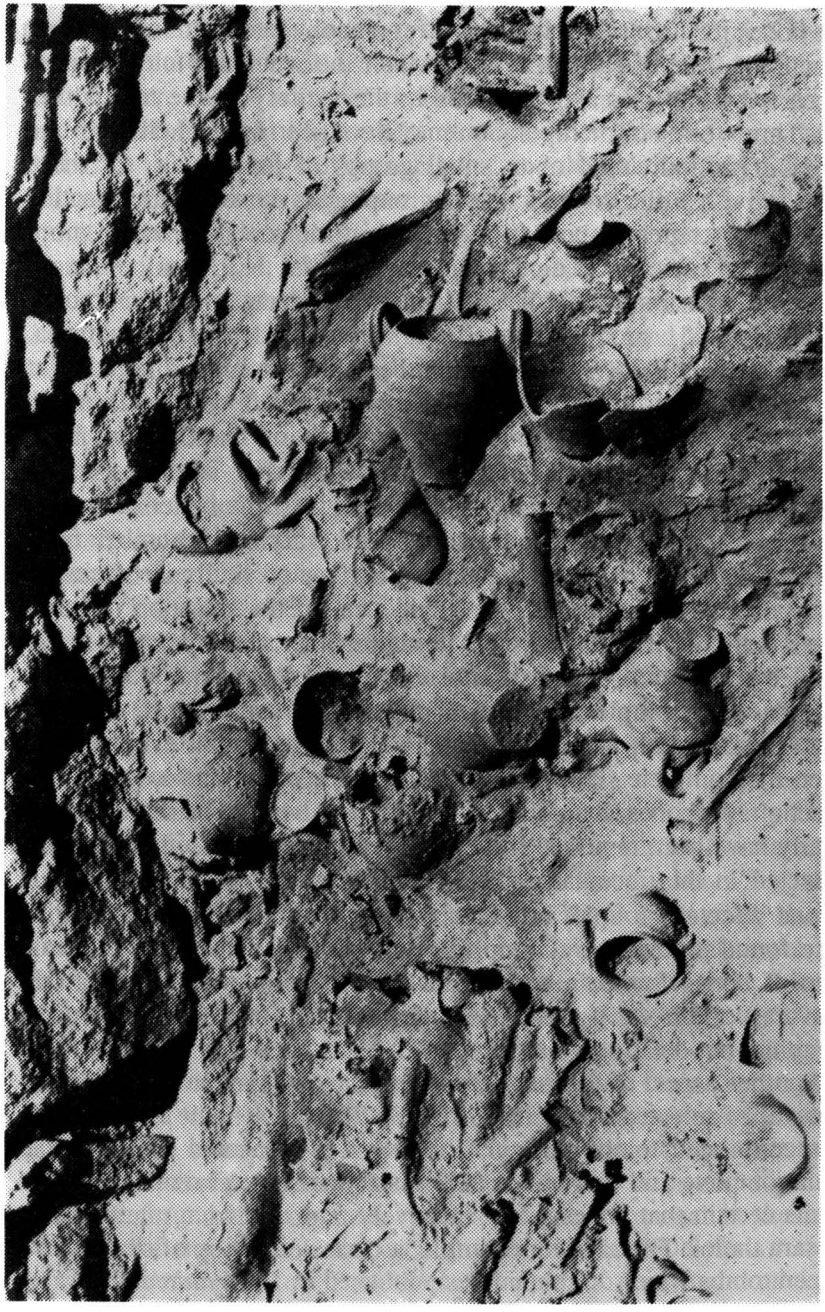

Figure 7.2 Bones in tholos A at Kamilari swept up against the tomb wall (courtesy D.Levi).

MANIPULATION AND INCORPORATION

The bones inside the Mesara tholoi were manipulated and transformed in at least five different ways, of which the wholesale clearance of bones to walled pits and ossuaries in the vicinity of the tombs was one. Three forms of manipulation may have been applied either to the bones of an individual or to small groups of individuals. Of these three activities, the collection and grouping of bones is the practice most widely repeated both in other prehistoric societies and in more recent tribal societies studied by anthropologists.

In the Mesara tholoi the skeletal components most commonly collected and grouped together were skulls. At Koumasa, Xanthoudides (1924, 7) noted 'a number of skulls heaped together at one spot', and in tholos B at Platanos he recorded (1924, 92) 'many skulls were noted in the southern part, suggesting that they had been heaped there intentionally'. In tholos A at Ayia Triadha, Stefani (1931, fig. 5) recorded the disposition of at least the better preserved skulls and eight groups can be recognised, varying in number from three to six. The manipulation and grouping of skulls is of course easily noticed by excavators, but evidence for the selection of other bones is more difficult to find. Marinatos hints at the practice in his detailed description of the skeletal remains in tomb A at Vorou, and two specific examples may be identified (Marinatos 1931, 151). A small cooking pot, which Marinatos believes too small ever to have taken the complete skeleton even of a child, was found to contain a selection of bones including a childs jaw bone. The bones must clearly have been removed from one or more decomposed bodies and collected in this receptacle. In the south-east corner of the tomb, a second selected group of bones originating from more than one burial were found protected by an upright slab. It seems likely that a small heap of bones found in one of the outer chambers at Apesokari B (Davaras 1965, 441) was another example of bone selection and grouping, but details are lacking.

Another aspect of this same funerary activity may be the complete removal of selected bones from a tomb. This is difficult to document in a communal tomb, particularly when the excavated record is far from complete and there is no analysis of the skeletal remains. Yet it seems certain that bones were selectively removed from many of the Mesara tholoi. There is, for example, a clear deficiency of skulls. The fifteen tombs which Xanthoudides published in *The Vaulted Tombs of*

Mesara must have contained well in excess of a thousand bodies in total, yet Xanthoudides (1924, 126) was only able to give details of eight skulls. It seems certain that in addition to the accidental destruction of many skulls, others must have been removed from the tombs. There can be no other explanation of the situation in the upper stratum of tomb A at Platanos for example, in which the bones were said to be in a 'fair state of preservation' and the quantity of goldwork and other grave-goods suggested no subsequent disturbance, but from which Xanthoudides recovered only three large portions of skulls (Xanthoudides 1924, 126). Marinatos' detailed record of tomb A at Vorou again provides valuable evidence. In one place he found a skeleton from which the skull had been removed, and by contrast in room 2 outside the tomb he found a pithos which contained one skeleton but two skulls. The contents of some of the larnakes and pithoi were also of interest. Some were completely empty, but seem unlikely to have been so when placed in the tomb, and others held incomplete skeletons, suggestive of the selective removal of bones. Here again there was a notable dearth of skulls, only six semi-complete examples being recovered to match the remains of 55–65 burials (Marinatos 1931, 165). A very similar situation occurs in tholos C at Arkhanes, where several larnakes stand empty and others contain incomplete skeletons. But, crucially, at Arkhanes we learn where at least some of these skulls were taken, for in the nearby rectangular buildings (numbered 9, 18, 19) large numbers of skulls and other bones were stored (Catling 1978, 61–63).

A third form of manipulation of skeletal material has only been noted in relatively recent years. During the survey of the Ayiofarango in 1971–72 it was noticed at nine tholos sites that the surviving bone material was in very small fragments. When the Ayia Kyriaki tholos was excavated in 1972 the opportunity was taken to closely examine the few surviving bone fragments. From amongst these ninety fragments, the longest of which was only 6cms in length, we recovered five which appeared to have been chopped or cut cleanly at each end. Confirmation that the human bones had been broken into small pieces whilst the tomb was in use, and that these pieces were being used in some sort of ritual, was found in room 1 where a small area of undisturbed deposit contained broken clay cups and some of the small fragments of bone, deposited on the floor against the rear wall. Fragments of bone scattered around the Moni Odiyitria tombs reveal similar evidence of cutting or chopping to that found at Ayia

Kyriaki, whilst at Kaminospelio some of the small fragments of bone were found firmly adhering to a stone saddle quern, giving the impression that bone had actually been broken into small pieces and then ground into powder on the quern (Blackman and Branigan 1973, 206).

Whilst chopping and grinding could have been applied to the selected bones of individuals, fumigation and charring was applied either to large groups of bones or the entire contents of the tomb. More than a dozen tombs have provided evidence for charring of bones, the clearest evidence being in tholos A at Platanos where both the tomb structure and the bones were heavily charred. The burial stratum had been emptied of almost its entire content of grave-goods before the fire, and after the fire a new floor was laid and burials continued to be made in the tomb for several centuries (Xanthoudides 1924, 89). In the adjacent tholos C, on the other hand, some bones were blackened and others were not, and the floor was charred in several discrete areas rather than everywhere, suggesting various episodes of localised charring. Similar evidence was found in the smaller of the two tombs at Drakones, and in the majority of tombs which produce evidence for charring, the evidence is found on some bone fragments but not others. There are also at least four tombs – Christos, Kalathiana, Marathokephalon B and Platanos B – where the excavators explicitly state that there was no evidence of charring. This suggests that neither fumigation nor any lesser degree of charring was a mandatory part of the funerary practices in the Mesara tholoi. The charring of small selected groups of skeletal material suggests that the practice was intended to cleanse, symbolically or otherwise, the bones of a handful of individuals. The events at Platanos A were clearly of a different order, representing a major episode of fumigation of an entire tomb and its population. A very similar event was identified in Lebena tomb Y2a.

These two fumigations were followed by the laying of a new floor of clean sand in each case, and must be regarded as major ritualised and symbolic purifications of the tomb. Something similar, but without the fumigation may have taken place in tomb E at Koumasa, for here almost all the grave-goods were removed from the burial stratum, the bones were swept into a heap at one side, and a layer of white earth was spread across the entire floor of the tomb (Xanthoudides 1924, 34). But unlike Platanos A and Lebena Y2a, no further burials were made in Koumasa E; its door slab was placed

back across the entrance and the tomb was abandoned. All three of these episodes must be regarded as key points in the history of the tombs in which they occurred, although we can only speculate as to the reasons why such wholesale purifications were deemed necessary. We can be sure, however, that such major events will have been of great importance to the local community and must surely have been accompanied by extensive communal ritual and ceremony.

DANCING WITH DEATH

In fact, there are good reasons to think that, quite apart from rare but major episodes of purification, the cemeteries were places which played a prominent part in the ongoing life of the Early Minoan farmers and shepherds of the Mesara and the surrounding mountains. One persistent pointer in this direction has been the close physical relationship between the cemeteries and the settlements they served. This was a point noted by Xanthoudides in relation to all nine of the tholos cemeteries he excavated (1918, 17; 1924, 132), and it has been noted many times since.

In fact at least two thirds of the cemetery sites are known to have contemporary settlement areas nearby. In the Ayiofarango, tombs were never more than 200m from the nearest contemporary settlement, and often very much closer. Similarly the village excavated at Trypiti is little over 200m from the nearest of its two tholoi. At Lasaia and Kamilari settlement areas are found much closer than this to the tombs, whilst Xanthoudides records that at Salame settlement and tomb were separated by only ten metres! Such close and persistent juxtaposition would seem to point to a prominent role for the cemeteries in the life of the settlements.

The same conclusion may be drawn from the increasing evidence that many cemeteries had bounded courtyard areas, often with a specially laid pavement or surfacing. Xanthoudides illustrated boundary walls and areas of paving at both Platanos (Figure 5.2) and Koumasa (Figure 7.13), and enclosures have since been identified by more extensive excavations beyond the tholos chambers at Kamilari (Figure 7.3), Ayia Kyriaki (Figure 2.5) and most recently Moni Odiyitria. At both Koumasa and Platanos the walls were traced in a straight line for eight metres, but seem likely to have run for at least twenty. The paving at Platanos was found south of the boundary wall and immediately in front of the rectangular complex of rooms which

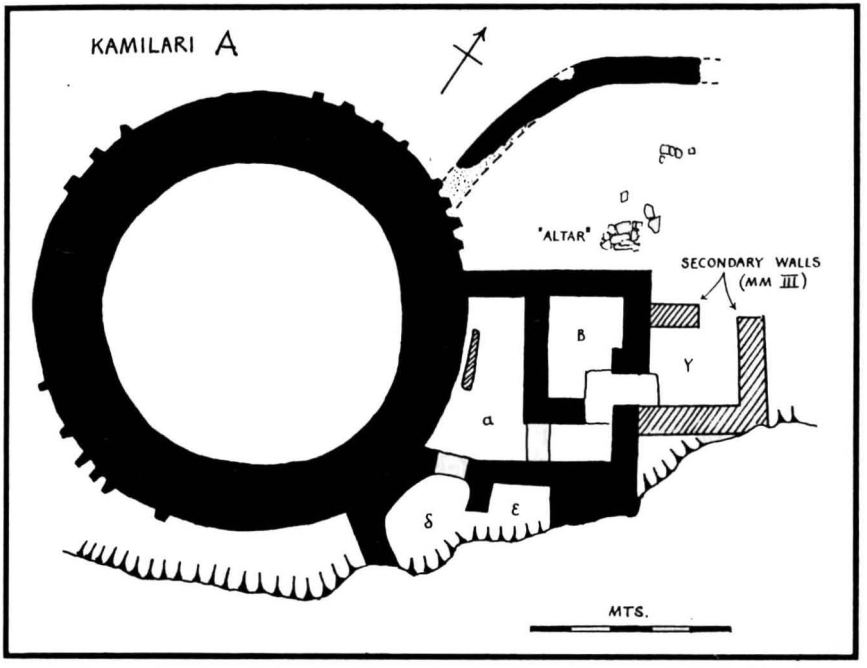

Figure 7.3 Tomb A at Kamilari showing the location of the altar and the enclosure wall.

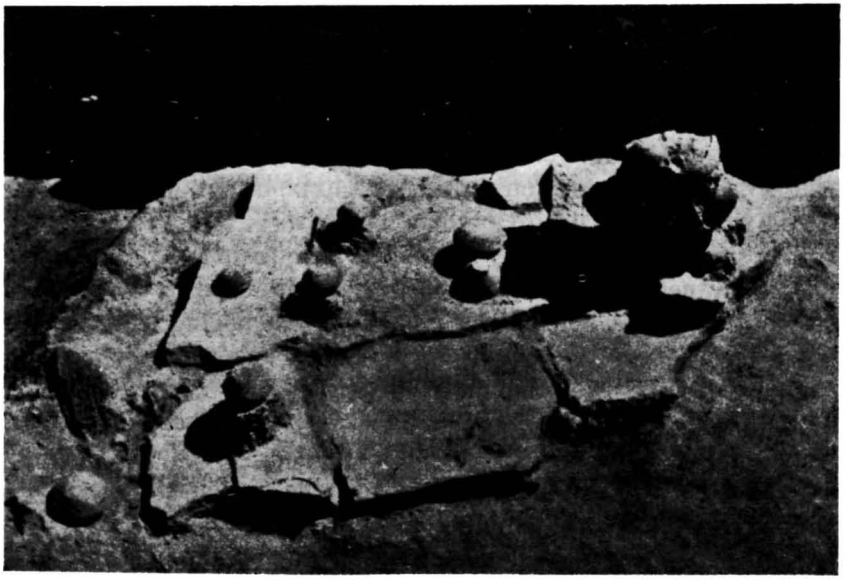

Figure 7.4 The Kamilari altar as found (courtesy D. Levi).

fronted tholos B. Other areas of paving have been found in front of the similar rectangular suites of chambers which front the tombs of Apesokari A and B and Ayios Kyrillos, so that at least four of the six known tombs of this type have pavements before them. The earliest of these tombs is Platanos B, erected sometime in EM.II, and the paving clearly post-dates the building of the tomb, but by how much we cannot say. The other three tombs are all MM.I constructions, however, so that the evidence of this group suggests that the building of a rather formalised suite of ritual rooms and the laying of an area of open pavement is a relatively late development in the history of the Early Minoan tholos cemeteries. In the case of Koumasa, we have no indication as to whether the paved area was a primary feature of the cemetery from EM.I or whether it was added at some point. The enclosed areas at Kamilari, Ayia Kyriaki and Moni Odiyitria were not apparently paved, but at Ayia Kyriaki it will be recalled that a layer of soil was introduced, levelled and trampled into a flat surface inside the enclosed area, and at Moni Odiyitria a pebble surfacing was placed before the tombs and inside the enclosing wall (Vasilakis 1990, 64–5). At Ayia Kyriaki the enclosure wall and surfacing were added to the original tomb complex at some point in EM.II; the chronology of the enclosure and surfacing at Moni Odiyitria is not yet clear. The general impression, however, is that the public or communal aspect of the tombs as represented by surfaced enclosures was a developing feature rather than a primary one, and one is tempted to suggest that as the population grew and larger communities developed so the role of the cemetery in maintaining the stability and integrity of the kin-group became more important.

Exactly how these enclosed and surfaced areas were used is not certain but two suggestions may be made. First, we may suggest that offerings and perhaps libations were made in the open air at these sites, for we have altar-like structures at Apesokari, Ayia Kyriaki, Moni Odiyitria and Kamilari (Figure 7.4). At Kamilari a number of cups were found on or immediately alongside the 'altar', and cups and small stone bowls were also found grouped around the altar at Apesokari. There was no such grouping at Ayia Kyriaki, but here we recovered the remains of about forty tall 'fruit-stands' and a similar number of large bowls from one corner of the enclosure (Figure 7.5). They appear to have been used, presumably in pairs, in some sort of offering ceremony held in the open air. Fragments of similar 'fruit-stands' were found at Megaloi Skinoi by myself and Dr Vasilakis

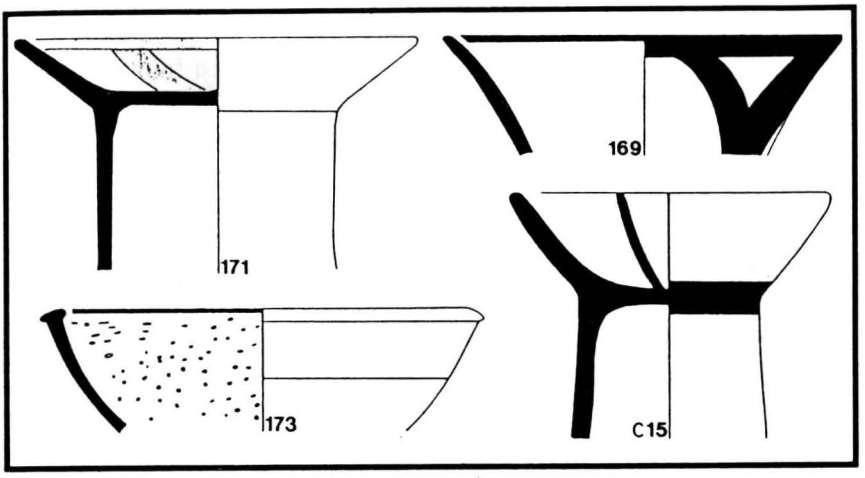

Figure 7.5 Pedestalled 'fruit-stands' and large bowls found in the enclosure at Ayia Kyriaki.

(1990, fig.14). A third group of vessels found in the open air enclosures at Platanos and Koumasa were various zoomorphic and anthropomorphic jugs. We shall return to these shortly, but for the moment we may note that they form a third group of pottery vessels associated, apparently, with ritual and ceremony performed in public view rather than in the tomb or its outer chambers.

None of these groups, and the sort of activities that we associate with them – the making of offerings and the pouring of libations – would require a paved or otherwise specially prepared surface. Indeed. it is noticeable that at Koumasa, none of the eighteen zoomorphic and anthropomorphic vessels found outside the tombs were found on the paved area. Yet this pavement, of bluish slate, was at least 50m long and 6m wide; what was its purpose ?

I suggest that one purpose for the pavements and surfaced areas was for dancing. We have only one direct link between the tholoi and dancing and that is the remarkable model found in the large tholos at Kamilari (Figure 7.6). This model shows four males in a circle, arms linked shoulder to shoulder, surrounded by a low wall on which stand four models of the horns of consecration so familiar from palatial contexts. The dancers appear to be naked. Somewhat similar groups of model dancers are known from Late Minoan Palaikastro, from the Geometric period at Olympia and from Hellenistic Corinth (Levi 1962, 122f), attesting perhaps to the longevity of the dance and of the

deity for whom it was performed. These models also suggest, not surprisingly, that the dance was accompanied by music for the Palaikastro group includes a lyre player and that from Corinth a player of pipes.

Ever since Homer described both the dancing-ground which Daedalus made for Ariadne at Knossos and the dances which were performed there (Iliad 18, 567–580), the name of Ariadne has been particularly associated with dancing in ancient Crete. Nilsson (1972, 176) has persuasively argued that Ariadne the daughter of Minos, and Ariadne the wife of Dionysus were one and the same, and that she was originally a Minoan vegetation goddess, a goddess of Spring. He further suggests that the festival of mourning for Ariadne the princess and the joyous festival held for Ariadne the goddess, in fact honoured the death and resurrection which this single vegetation goddess characterised. This line of thought opens up intriguing possibilities.

Figure 7.6 A model of four men dancing from the cemetery at Kamilari (courtesy D. Levi).

Figure 7.7 A cup with prominent breasts from Kalathiana (courtesy C. Zervos).

Figure 7.8 A vase in the form of a bull, with three human figures clinging to the horns, from the cemetery area at Koumasa.(courtesy C. Zervos).

To begin with we can see why the cemetery area might be deemed a suitable location for her rituals in a period when there were no palace courtyard or theatral areas to present them. If both her death and resurrection were celebrated we might envisage two ceremonies each year, one in spring and the other in the autumn after the harvest. We know that in the mid second millennium BC the people of the Mesara celebrated the harvest itself with singing and dancing, for we have a vivid picture of the activity recorded on the 'Harvester Vase' found at Ayia Triadha.

Ariadne's personification of the vegetational cycle and her association with the fertility of the soil and crops might also explain the appearance of fertility symbols in the cemetery. The most overt and remarkable are the clay phalli. Xanthoudides found six complete examples and 'many more' fragmentary ones at Koumasa, between tholoi B and E, and three further examples were found at Platanos (Xanthoudides 1924, 41,97, pl. XXIX). The curious handled cups with provocative breasts found at Koumasa and Kalathiana (Figure 7.7) must also be seen in terms of fertility rites. The role of the jugs in the form of a bull (Figure 7.8) is less clear, but here too there are grounds for thinking that the bull was seen as a source of fertility both as a living animal and as a sacrificial victim. It is its latter role which is presumably so frequently represented on vases and sealstones of the palace period by the bulls head juxtaposed with the double-axe.

Its most graphic representation is of course in a funerary context, on the painted sarcophagus from Ayia Triadha which show a trussed up bull, its blood draining into a bucket, lying before an altar on which stands a double-axe (Figure 7.9). Two further double-axes take a prominent position in the scene on the other side of the sarcophagus. That the bull played a part in Early Minoan rituals in the Mesara cemeteries a thousand years before the Ayia Triadha sarcophagus was created seems certain from the bull vessels found at Platanos, Ayios Kyrillos, Porti and Koumasa. In view of the human figures who cling tenaciously to the horns of the Porti and Koumasa bulls (Figure 7.8) one is tempted to suggest that the cemeteries' paved enclosures were the first location of the 'bull-games', but given their relatively restricted size this seems unlikely.

The suggestion that the bull, and possibly bull sacrifice, played some part in one or more of the ceremonies and rituals performed in the Mesara cemeteries is perhaps strengthened by the occasional appearance of ceremonial or symbolic double-axes in the cemeteries.

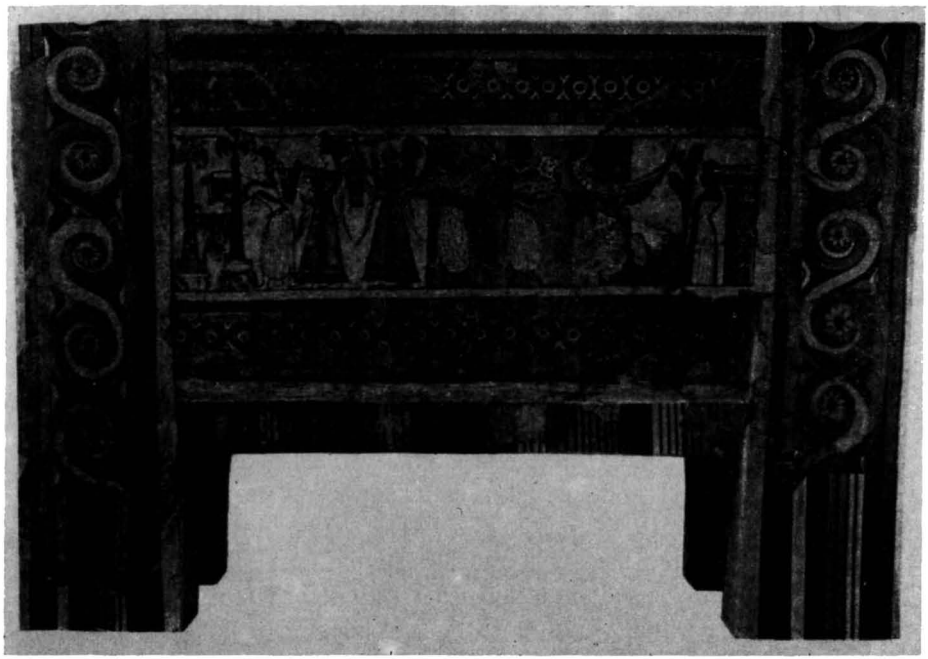

Figure 7.9 One side of the Late Bronze Age Ayia Triadha sarcophagus showing a funerary ritual in progress,with two double-axes raised on stands at the left (courtesy G. Kelsey).

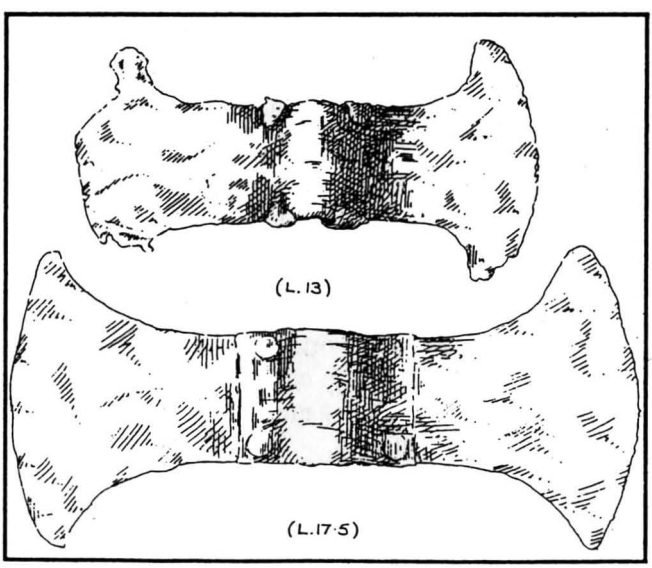

Figure 7.10 Two sheet-bronze double-axes found outside tholos A at Platanos.

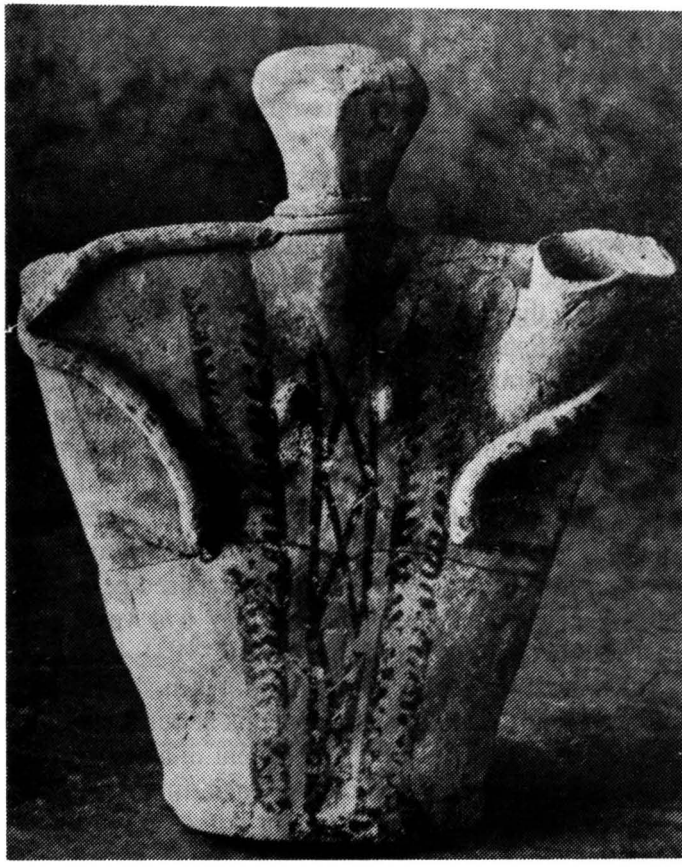

Figure 7.11 A jug in the form of the Snake Goddess from the cemetery area at Koumasa (courtesy C. Zervos).

The close relationship between bull and double-axe in later Minoan religion has been noted above. The two sheet-bronze double axes found outside tholos A at Platanos (Figure 7.10) immediately recall the symbolic double-axes seen on both sides of the Ayia Triadha sarcophagus. Further double-axes ranging from full size examples to miniatures and pendants have been found in the tombs at Kamilari, Apesokari B, Platanos A and Sopata Kouse.

Drawing these various strands together, I suggest that a plausible case exists for recognising the cemetery areas of the Mesara tholoi as the location of rituals and ceremonies which were concerned with the vegetational cycle and fertility. Such ceremonies would inevitably be

linked also with the cycle of life and death and therefore be entirely appropriate to their location. The rituals performed would have honoured Ariadne (whatever her name at this time) and would have included, as later, a measure of music and dancing.

But dances to Ariadne may not have been the only choreography seen on the cemetery pavements. Between tholos A and the rectangular ossuary C at Koumasa, Xanthoudides found an anthropomorphic juglet, which he recognised as representing the figure of a woman. Three further similar vessels were found in the cemetery, but these were less well preserved and decorated. There can be no real doubt that the first of these vessels represents an early appearance of the Snake Goddess (Figure 7.11). Wrapped around the shoulders and forearms is a sinuous, striped snake. The figure has small but clearly formed breasts, and her apron is decorated with the lattice pattern seen on the apron of the Snake Goddess from Knossos. The other three plainer vessels seem likely to represent the same deity, albeit in simpler form. Her appearance in the cemetery at Koumasa is of great interest, and raises the question as to what rites or ceremonies in her honour might have been practised here. Part of the answer to that question may be provided by two vessels found at nearby Phaistos and dating to around 1900 BC.

One of these vessels is only fragmentary, but it shows a lady with curled hair apparently dancing with her arms at her hips. The second vessel suggests that this is just one movement in a more complicated dance, for this plate shows two further women, in identical dress and with the same hair style, in very different poses (Figure 7.12). They appear to be dancing around a third female figure who is static, and possibly enveloped in a cloak. The only clue to her identity are the loops that snake down either side of her body. These immediately recall the loops seen on the so-called Snake Tubes found in many household shrines of the Snake Goddess, the latest of which date to the end of the Minoan era but the earliest of which may include those found in a shrine near the tholos cemetery at Koumasa (Xanthoudides 1924, 50, pl. XXXIII). There can be little doubt that the Phaistos dancers are performing in honour of the Snake Goddess, and that these two plates from Phaistos therefore preserve remarkable near-contemporary 'snap-shots' of the sort of dances which the people of Koumasa may have performed on the pavement outside their tholos tombs in the centuries around 2000 BC.

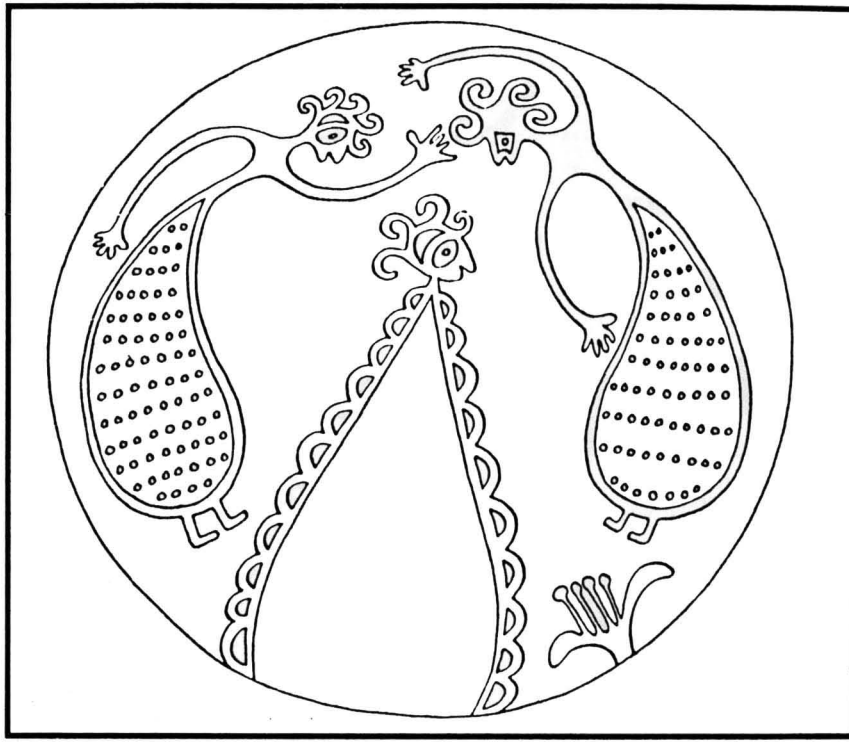

Figure 7.12 A Middle Minoan plate from Phaistos, showing two women dancing around a third figure, probably to be identified as the Snake Goddess by the running loops down either side.

THE CEMETERIES AND SOCIETY

The suggestion made here is that tholos cemeteries were the focus not only of funerary ritual but also of at least two other sets of cult practices. Both of these may have been linked in the villagers' minds to their funerary beliefs – one through a goddess associated with fertility and the vegetational cycle of death and rebirth, the other through a cthonic deity. But the ceremonies which honoured them were above all part of the annual cycle of religious activities which provided a focus for kin-group and village expressions of communality and stability. The essentially non-funerary nature of

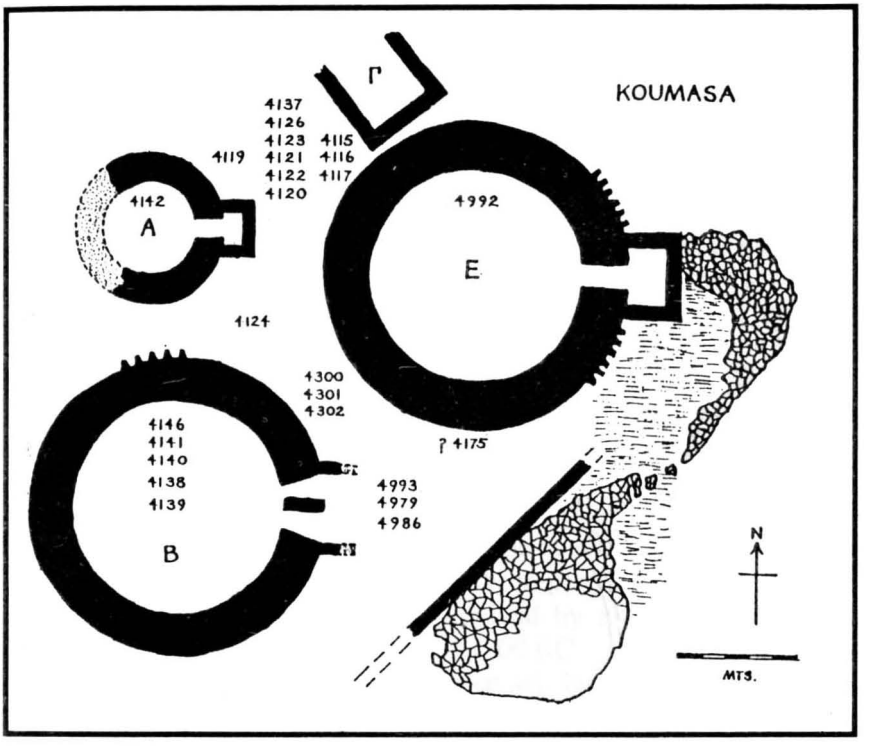

Figure 7.13 The distribution of ritual vessels in the cemetery at Koumasa.

Tholos B:
4138 (Snake-Goddess?) vessel
4146 Tortoise-shaped vessel
4141 Harnessed ox or bull vessel
4140 Ox or bull vessel
4139 (Snake-Goddess?) vessel
Tholos A:
4142 Vessel in the form of a bird
Tholos E:
4492 Jug with two horns
Area A/B:
4124 Vessel in the form of a ram?
Outside tholos E:
4175 Egg-shaped vessel
Outside door of tholos B:
4993 Snake-Goddess vessel
4986 Bull-vessel
4979 Vessel in the form of a woman
Area A/Gamma:
4137 Snake Goddess vessel
4126 Bull-vessel with acrobats
4123 Bird-vessel
4121 Jug in the form of a bird
4122 Vessel in the form of a bird
4120 Ring-vase inform of a bird?
4119 Vessel in the form of a duck
4115 Jug with human figure on neck
4116 Jug with human figure on neck
4117 Jug with human figure on neck
Area B/E:
4300 Clay phallus
4301 Clay phallus
4302 Clay phallus
– Many fragments of phalli
Uncertain find spot:
4295 Pair of trousers in clay.

these activities is perhaps under-lined by the distribution of the cult furniture in the cemeteries. Due to the remarkable care with which Xanthoudides excavated his first tholos cemetery at Koumasa in 1904–06 we can identify where most of the significant items were discovered (Figure 7.13). It will be seen that the majority of items were found not in the tombs at all, but outside them. Amongst these finds from the open area were all the phalli, the bull vase with 'acrobats', and the Snake Goddess. Five of the vessels in the form of a bird were also found outside the tombs. It will be recalled that at Platanos, all the phalli were again found outside the tombs, and that the two sheet-bronze double-axes were found outside rather than inside tomb A.

Later, in the palace period, ceremonial dancing, bull sports and sacrifice, the symbolism of the double-axe, and the cult of the Snake Goddess were all to be found as cult elements elevated into a palatial setting. The Minoan state had appropriated the religion and the religious symbolism of the rural population and had turned them into mainstays of the state religion. The transformation must have occurred during the early palace period after 2000 BC, as the tholos cemeteries were going out of use. With a few exceptions, most of the cemeteries appear to have seen very few burials after MM.I, say about 1850 BC, and there was almost certainly a marked and steady decline in burials in the century or so before that.

The abandonment of the cemeteries seems to be associated with two, possibly related, developments. One was the partial abandonment of some of the more marginal areas of occupation in the Asterousia Mountains. In the Ayiofarango both the tombs and the settlement sites revealed very little pottery later than MM.I; it seems quite clear that the lower valley at least was almost completely abandoned for most of the palace period. The rural shrines were still visited, and occasional burials were made in tombs like Megaloi Skoinoi A and Moni Odiyitria, and these testify to the strength of the links between this valley and the kin-groups and villagers whose families had lived here since soon after 3000 BC. But those communities had moved away and their cemeteries were effectively abandoned. In the absence of any evidence for significant environmental change, we must assume that the population movement was related to socio-economic developments, of which the obvious one at this time was the emergence of the state and the building of the palaces. Some indication of a movement of peoples out of the

Figure 7.14 An individual burial,in a clay coffin (larnax) in the communal tholos at Gypsades, Knossos (courtesy M.S.F. Hood).

Asterousia into other parts of the island may be given by the appearance of short-lived tholos tombs in the north and east of the island. The tholoi of Gypsades, Siderokamino, Myrsini and Viannos all appear to be late constructions, as is the tholos-like structure at Ayia Photia near Siteia; the MM.I tholoi at Vorou are on the northern-most fringes of the Mesara region too. Other groups from the southern mountains may have moved into the plain of Mesara itself, closer to the new centre of power at Phaistos. The cemeteries at Kamilari and Apesokari, for example, are comprised of late, MM.I/II, tholoi, and the two tholoi at Drakones were founded only a little earlier.

Even if migration and depopulation had not led to the abandonment of some tholos cemeteries, social change may still have led to their demise. We noted both in chapter four and in our description of the excavations at Ayia Kyriaki the appearance of clay coffins and pithoi in some of the tholoi (Figure 7.14). In fact at least fifteen tombs have yielded remains of pithos and/or larnax burials. The idea of utilising a burial container to emphasise one's individuality, whilst being buried within a commual tomb to emphasise one's communality, is an interesting development in EM.III–MM.I and to some extent it must represent a weakening of the kin-group traditions, and a period when stress was emerging between the demands of kin-groups on the one hand and ever-larger nucleated communities on the other. In the Middle Minoan period we find cemeteries of pithos graves, in some cases, as at Porti, alongside the earlier tholos tombs, as if to emphasise that individual burial had triumphed over the demands of kin-group tradition.

In any event, all the indications are that in the years around 2000 BC major social transformations were taking place which saw the creation of the first Minoan states, the building of the palaces, and the development of the first genuinely urban Minoan settlements. These transformations had their effects across the length and breadth of the island. Not least, they played their part in bringing to an end the closely-knit kin-group centred life of the farmers of the Mesara region and the tholos cemeteries in which for centuries they and their ancestors had danced with life and death.

APPENDIX A

A Gazetteer Of Tholos Tombs Of Mesara-type In Crete

This is a numbered catalogue of tholos tombs of Mesara-type found in Crete, and it replaces that published in The Tombs of Mesara published in 1970. Some sites erroneously included then are removed, but twenty-three tombs have been added.

The tombs are numbered in a single sequence which includes both certain examples and probable/possible tombs. The latter category are indicated here by an asterisk following the gazetteer number, and in each case an indication of the available evidence for a tomb is given.

The summary information given for each tomb in the gazetteer is (where available) as follows:

Name: (with any alternative name) e.g. Kepahli (Stou Skaniari to Lakko)

Designation: e.g. Kephali A, Kephali B. Note that the designations of the tombs have been standardised to letters; previously some tombs were identified by letters, others by numbers. It has been decided to standardise on letters rather than numbers so that all Xanthoudides original designations can be retained. The Lebena tombs, at three different localities but usually known as Lebena I–III, have been incorporated into the new system by giving a prefix letter based on locality, followd by the usual number–e.g. Lebena (Yerokamos II) becomes Lebena Y2.

Excavation status: e.g. Excavated, Unexcavated.

Principal publication reference: e.g. Levi 1962. The full references are all to be found in the bibliography.

Size: expressed as internal diameter in metres e.g. 7.3

Period of usage: expressed as in Minoan relative chronology, e.g. EM.I–MM.I. A question mark before a date indicates significant doubt exists about the date. Isolated later re-use is indicated separately, e.g. EM.II–MM.I (LM.I re-use).

1. AYIA TRIADHA A. Excavated, Banti 1931. D. 9.0 EM.I–MM.II.
2. AYIA TRIADHA B. Excavated, Paribeni 1905. D. 5.6 EM.I–MM.
3. KAMILARI A. Excavated, Levi 1962. D. 7.65 MM.I–III(Re-use in LM).
4. KAMILARI B. Excavated, Levi 1962, 107–8. D. 5.0 MM.II–III.
5. KAMILARI C. Unexcavated, Branigan 1976. D 3.7 MM.I–?.
6. SIVA N. Excavated, Paribeni 1913. D. 4.6 EM.I–MM.I.
7. SIVA S. Excavated, Paribeni 1913. D. 5.9 EM.I–?MM.I.
8. ARKHAIOKORAPHO. Excavated, Marinatos 1925. D. 4.5 ?EM(Re-use in LM).
9. SKOTOUMENO KHARAKAS A. Unexcavated, Blackman and Branigan 1977,50–1. D. 8.8 EM.I–MM.I.
10. SKOTOUMENO KHARAKAS B. Unexcavated, Blackman and Branigan 1977,50–1. D. 6.6 EM–MM.I ?
11* SKOTOUMENO KHARAKAS C. Unexcavated, Blackman and Branigan 1977,50–1. D. 4.2 EM?–MM.I. Third tholos reported by local informant; incomplete circle seen by author.
12. KAMINOSPELIO. Unexcavated, Blackman and Branigan 1973. D 8.2 EM.I/IIa–MM.I. Unusual tomb with wall dividing into two hemispherical chambers.
13. MONI ODIYITRIA A. (Tis Hatzinas to Liofyto) Excavated, Vasilakis 1990. D. 6.0 EM.II–MM.Ib (Re-use in LM.I).
14. MONI ODIYITRIA B. (Tis Hatzinas to Liofyto) Excavated, Vasilakis 1990. D. 3.5 EM.II–MM.I.
15* YIALOMONOKHORO. (Gavaliana; Ayiofarango E17) Unexcavated, Blackman and Branigan 1977,44. D. 3.5 Unknown date. A circular structure, wall at least 0.7m wide,entrance probably to east;probably a robbed-out tholos.
16* TSILASTRA. Unexcavated, Alexiou 1967, 483. A tholos tomb reported by a local informant.
17. MEGALOI SKINOI A. Excavated, Alexiou 1967,482;Blackman and Branigan 1977,38–40; Vasilakis 1990, 38–9. D. 6.0 EM.I–MM.I/II (Re-use in LM).
18. MEGALOI SKINOI B. Excavated, Alexiou 1967,482; Blackman and Branigan 1977, 40; Vasilakis 1990, 39–45. D. 6.5 EM.I–MM.I/II (Re-use in LM).
19. MEGALOI SKINOI C. Unexcavated, Alexiou 1967,482;Blackman and Branigan 1977, 37–8. D. 4.1 EM.I–MM.I
20. AYIA KYRIAKI A. (Ayiofarango W6) Excavated, Blackman and

Branigan 1982. D. 4.6 EM.I–MM.I.

21. AYIA KYRIAKI B. (Ayiofarango W6A) Unexcavated, Blackman and Branigan 1977, 37–8. D. 7.0 EM.I/II?

22. AYIA KYRIAKI C. (Ayiofarango W6B) Unexcavated, Blackman and Branigan 1977, 37–8. D. 3.2 EMI/II?. Ayia Kyriaki B and C form a conjoined pair (like Lebena Y2 and 2A), but were probably never completed.

23. KEPHALI A. (Kephali Odiyitria;Skou Skaniari to Lako) Excavated, Alexiou 1963, 312;Vasilakis 1990, 50–6. D.3.9 EM.I–MM.Ia.

24. KEPHALI B. Unexcavated, Vasilakis 1990, 51. D. ? EM.

25. AYIOS GEORGIOS. Unexcavated, Alexiou 1967, 483; Vasilakis 1990,50. D. 3.5 EM.

26. AYIOS ANDONI. (Ayiofarango E22) Unexcavated, Blackman and Branigan 1977, 48; Vasilakis 1990, 26–8. D. 7.8 EM.I/II–MM.I/II.

27. KALOI LIMENES A. (Kaloi Limenes I) Excavated .Davaras 1968, 405; Blackman and Branigan 1975, SC.2,17–20; Vasilakis 1990, 18–21. D. 4.9 EM.I–II, ?.

28. KALOI LIMENES B. Unexcavated, Blackman and Branigan 1968, SC.3,20–1; Vasilakis 1990, 21–23. D. 4.5 Sub-Neo/EM.I–EM.III.

29. CHRYSOSTOMOS A. (Kaloi Limenes II) Excavated, Davaras 1968, 405–6. D. 5.5 EM.I–MM.I?

30. CHRYSOSTOMOS B. (Kaloi Limenes III) Excavated, Davaras 1968, 405–6. D. 4.0 EM.I–MM.I? Part of the circumference is formed by a rock face.

31. LASAIA A. Unexcavated, Blackman and Branigan 1975, SC.11A, 32–34. D. 5.2 EM.I–MM.

32. LASAIA B. Unexcavated, Blackman and Branigan 1975, SC.11B, 32–34. D. 5.2 EM.I–II, ?.

33. LEBENA Y2. (Lebena Yerokambos 2) Excavated, Alexiou 1969. D. 5.0 EM.I–MM.I.

34. LEBENA Y2a. (Lebena Yerokambos 2a) Excavated, Alexiou 1960. D. 3.0 EM.II–MM.I. Tombs Y2 and 2a form a conjoined pair.

35. LEBENA P1. (Lebena Papoura 1) Excavated, Alexiou 1960. D. 5.1 EM.II–MM.I.

36. LEBENA P1b. (Lebena Papoura 1b) Excavated, Alexiou 1960. D. 4.5 EM.II–MM.I.

37. LEBENA Z3. (Lebena Zervou 3) Excavated, Daux 1961, 886–9. D. 5.4 EM.II–MM.I.

38. PHYLAKAS. Unexcavated, Alexiou 1967, 484. D. 5.5 EM?

39. TRYPITI A. Unexcavated, Alexiou 1967, 484. D. 4.5 EM.I–?

40. TRYPITI B. Excavated, Catling 1989, 101. D. 5.6 EM–?

41. AYIOS KYRILLOS. Excavated, Sakellarakis 1968. D.4.6 MM.I.

42. KORAKIES A. Excavated or robbed ? Faure 1969, 181. D.? EM–MM.Ia.

43. KORAKIES B. Excavated or robbed ? Faure 1969, 181. D.? EM–MM.Ia.

44. KROTOS. Excavated, Vasilakis 1983, 355. D. 4.0 EM.II–III.

45. CHRISTOS X. Excavated, Xanthoudides 1924,70–2. D. 6.5 EM.III?–MM.I

46* CHRISTOS B. Unexcavated, Xanthoudides 1924, 70. D.? Xanthoudides records 'a section of circular wall, the last remnant of another tholos, possibly never finished'.

47. KOUMASA A. Excavated, Xanthoudides 1924, 32–50. D. 4.1 ?EM.I–MM.I.

48. KOUMASA B. Excavated, Xanthoudides 1924, 4–32. D. 9.5 EM.I–MM.I.

49. KOUMASA E. Excavated, Xanthoudides 1924, 32–50. D. 9.3 EM.I–?MM.II.

50* MERTHIES. Unexcavated, Pendlebury 1934, 87. 'Circular stone building with EM sherds, and an interior dividing wall(cf 12 above)

51* PLAKOURA. Unexcavated, Pendlebury 1934, 87. 'Circular stone building with traces of other walls; some EM sherds'. Pendlebury also notes traces of an interior dividing wall(cf 12,50).

52* LOUKIA. Unexcavated, Evans 1928, map fp 71. Evans marks an EM tholos here but provides no details.

53. KOUTSOKERA. Excavated, Xanthoudides 1924, 74–5. D. 5.5 EM.I–?

54. SALAME. Excavated, Xanthoudides 1924, 73–4. D. 5.0 EM.I–?

55. DRAKONES D. Excavated, Xanthoudides 1924, 76–80. D. 5.8 EM.III–MM.I.

56. DRAKONES Z. Excavated, Xanthoudides 1924, 76–80. D. 7.2 EM.III–?MM.I.

57. AYIA EIRENE E. Excavated, Xanthoudides 1924, 51–53. D. 8.0 EM.I/II–? (Re-use in LM).

58. AYIA EIRENE e. Excavated, Xanthoudides 1924, 51–53. D. 5.4 EM.I–MM.I.

59. PORTI. Excavated, Xanthoudides 1924, 54–69. D. 6.6 EM.I/II–MM.II.

60. KOKKINIANO. Unexcavated, Pendlebury 1934, 87. 'We found a similar tomb (to Porti).No sherds were found in it however'.

61. APESOKARI A. Excavated, Matz 1951, 13–22. D. 4.8 MM.I.

62. APESOKARI B. Excavated, Davaras 1965, 441. D. 5.7 MM.I.

63* ASPRIPETRA. Excavated deposit, Marinatos 1918, 15. EM.I–MM.I. A burial deposit with a typical tholos assemblage but no surviving recognisable structure.

64. PLATANOS A. Excavated, Xanthoudides 1924,88–125. D 13.1 ?EM.II–MM.II

65. PLATANOS B. Excavated, Xanthoudides 1924,88–125. D 10.2 EM.II–MM.II

66. PLATANOS C. Excavated, Xanthoudides 1924,88–125. D 7.3 EM.II–?MM.I

67* AYIOS ONOUPHRIOS. Robbed deposit, Evans 1895. EM.I–LM? A typical tholos-type assemblage but with no surviving evidence of a burial association or tomb. Evans (1924,v) believed it 'unquestionably belonged to a primitive beehive vault'.

68* RIZIKAS. Unexcavated, Platon 1955, 566. D. c.5.0. A circular wall, built of large stones. No dating evidence recorded.

69. MARATHOKEPHALON A. Excavated, Xanthoudides 1918. D. 5.5 EM.I–MM.I.

70. MARATHOKEPHALON B. Excavated, Xanthoudides 1918. D. 5.6 EM.I–MM.I.

71. KALATHIANA K. Excavated, Xanthoudides 1924, 81–87. D 9.4 EM.I/II–MM.II.

72. KALATHIANA B. Unexcavated, Evans 1928, 79,n2. Evans noted 'part of a second tholos near the cliff'.

73. VOROU A. Excavated, Marinatos 1931. D. 5.5 MM.I.

74. VOROU B. Excavated, Marinatos 1931. D. 4.0 ?MM.I.

75* MEGALOI VRYSI A. Unexcavated, Daux 1960, 833. 'Great circular works; probably chamber tombs'. These could be LBA tholoi.

76* MEGALOI VRYSI B. Unexcavated, Duax 1960, 833. as last.

77. SOPATA KOUSE. Excavated, Hatzi-Valianou 1979, 384. D.? EM–MM.I.

78. GORGOLAINI. Unexcavated, Platon 1955, 566. A circular wall associated with bones and EM pottery.

79. ARKHANES C. Excavated, Sakellarakis 1973. D. 3.5 EM.III–MM.I.

80. ARKHANES E. Excavated, Sakellarakis 1976, D. 4.3 EM.II–EM.III/MM.I

81. GYPSADES. Excavated, Hood 1958. D. 4.0 MM.II.

82* KATO VATHEIA. Unexcavated, Hood personal comm. Traces of a large circular tomb and settlement nearby.

83* KALERGI. Unexcavated, Pendlebury 1934, 81. 'traces of what seems to be a circular tomb'. The date is uncertain, but Pendlebury thought it to be of Mesara type.

84* POTAMIES. Unexcavated, Hood personal comm. A small circular tomb, built against an outcrop of rock, with remains of a pithos burial outside it.

85. KRASI A. Excavated, Marinatos 1929. D. 3.0 EM.I–EM.III.

86. KRASI B. Unexcavated, Platon 1959, 386–7. No details.

87. SIDEROKAMINO. Unexcavated, Faure 1969, 180. D. 3.3 MM.I?

88. VIANNOS. Excavated, Hood 1956, 22. D. ? EM.III–MM.I.

89. MYRSINI. Excavated, Platon 1959, 373–4. EM.III–MM.I.

90* PEDHINO A. Unexcavated, Pendlebury 1934, 96. 'traces of two circular tombs' with handmade pottery.

91* PEDHINO B. Unexcavated, Pendlebury 1934, 96. as last.

92* AYIA PHOTIA A. Excavated, Tsipopoulou 1990. D. 7.5 MM.II? A circular thick-walled sructure with entrance facing east, built over one end of a substantial rectangular building. There were no traces of bones or grave-offerings, and although the structure looks very much like a Mesara-type tholos it is difficult to explain its absence of funerary associations unless it was never used, or even unfinished. A second, much smaller, thicker-walled circular structure is close by.

93* ITANOS A. Unexcavated. Recorded by author August 1992. D. 4.0 Date uncertain.

94* ITANOS B. Unexcavated. Recorded by author August 1992. D. 2.0. Date uncertain.

APPENDIX B

Structural Summary Of Forty-two Tholoi.

	Int Diam	*Wall Thk*	*Door Loc*	*Door Ht*	*Door Wdth*	*Door Type*	*Ante*	*Other Rms*	*Encl/ Pave*
1. Ayia Triadha A	9.0	1.5	E	1.0	0.9	T	Y	7	E
3. Kamilari A	7.7	2.1	ENE	1.0	0.8	B	Y	4	E/P?
5. Kamilari C	3.7	1.1	E-	- -	Y	? -			
6. Siva N	4.6	0.9	E	-	0.9	-	Y	-	-
7. Siva S	5.9	1.0	E	-	0.7	-	Y	Y	-
13.Moni Odiyitria A	6.5	1.5	E	-	-	B?	Y	4	E/P
14.Moni Odiyitria B	3.5	0.8	E	-	-	T?	N	1	E/P
17.Megali Skinoi A	6.0	3.4	E	1.5	1.3	T	Y	Y	-
18.Megali Skinoi B	6.5	2.0	E	1.0	0.8	T	Y	Y	-
19.Megali Skinoi C	4.1	1.1	E	0.8	0.7	T	-	-	-
20.Ayia Kyriaki A	4.6	2.0	E	0.8	0.7	T	Y	3	E/P
23.Kephali A	3.9	1.5	S	0.8	0.6	T	-	-	-
26.Ayios Andoni*	7.8	0.3	E/S	0.6	0.6	T	Y	N	-
27.Kaloi Limenes A	4.9	2.2	E	0.8	0.6	T	N	N	-
29.Chrysostomos A	5.5	2.3	S	0.4+	1.0	T?	N	N	-
30.Chrysostomos B	4.0	0.8	E	-	0.7	B?	N	N	-
32.Lasaia B	5.3	1.0	E	0.7	0.7	T	-	Y?	-
33.Lebena Y,2	5.0	1.5	E	0.7	0.9	T	Y	3	-
35.Lebena P,1	5.1	1.3	E	1.1	0.9	T	-	-	-
36.Lebena P,1b	4.5	1.4	SE	1.4	-	-	-	-	-
37.Lebena Z,3	5.4	1.0	E	0.5	0.9	T	-	-	-
39.Trypiti A	4.6	1.4	SE	1.2	0.8	T	-	-	-
41.Ayios Kyrillos	4.6	2.0	E	1.8	1.0	B	Y	3	P
45.Christos X	6.5	1.7	E	1.0	0.9	T	Y	-	-
47.Koumasa A	4.1	1.2	E	0.9	0.9	T	Y	N	E/P
48.Koumasa B**	9.5	1.6	E	0.9	1+1	T	Y	N	E/P
49.Koumasa E	9.3	1.5	E	0.7	1.0	T	Y	N	E/P
53.Koutsokera	5.6	1.3	E	1.0	0.7	T	-	-	-
54.Salame	5.1	0.7	E	-	-	T	-	-	-
55.Drakones D	5.9	0.8	SE	-	0.8	-	-	-	-
56.Drakones Z	7.2	2.2	E	2.0	1.0	B	Y	-	-
57.Ayia Eirene E	8.0	1.5	E	-	1.0	Y	Y	-	-
58.Ayia Eirene e	5.5	0.4	E	1.0	0.8	Y	-	-	-
59.Porti	6.7	1.2	E	-	0.7	T	Y	2	-
61.Apesokari A	4.9	-	ENE	-	0.5	B		4	P
62.Apesokari B	5.7	2.0	E	-	-	B	Y	3	P
64.Platanos A	3.1	0.8	E	-	-	-	Y	8?	E/P
65.Platanos B	10.3	1.1	E	-	1.8	T	Y	2?	E/P
66.Platanos C	7.3	0.4	E	-	-	T	Y	Y	E/P
70.Marathokephalon B	5.6	1.2	S	-	-	-	-	-	-
71.Vorou A	5.5	1.8	-	-	-	-	-	5	-
72.Vorou B	4.0	-	SE	-	1.3	T?	N	-	-

Abbreviations used:

Door location : normal compass point abbreviations
Door build: T = trilithon, B = built doorway.
Antechamber/Chambers: Y = Yes, N = No.
Where a dash occurs, it indicates that the information is unavailable to the author or is unknown.
* Ayios Andoni has two doors, one on the east and one on the south.
Dimensions are given for the east door.
** Koumasa B has a double-door - that is a wide door divided into two by a central upright.

APPENDIX C

Finds Summary Of Thirty-four Tholoi.

	1	2	3	4	5	6	7	8	9
1. Ayia Triadha A	Y	Y	Y	Y	Y	Y	Y	N	N
2. Ayia Triadha B	Y	Y	N	N	N	N	Y	N	N
3. Kamilari A	Y	Y	Y	Y	Y	Y	N	Y	N
6. Siva N	Y	N	N	Y	N	Y	N	N	N
7. Siva S	Y	N	Y	Y	N	Y	N	Y	Y
13/14. Moni Odiyitria	Y	N	N	Y	Y	Y	N	Y	Y
20. Ayia Kyriaki A	Y	N	Y	Y	N	N	N	Y	Y
33. Lebena Y,2	Y	Y	Y	Y	Y	Y	Y	N	N
34. Lebena Y,2A	Y	N	N	Y	N	Y	Y	N	N
35. Lebena P,1	Y	Y	N	Y	Y	Y	Y	N	N
36. Lebena P,1B	Y	N	Y	Y	N	Y	N	N	N
37. Lebena Z,3	Y	N	Y	N	N	Y	N	N	N
41. Ayios Kyrillos	Y	Y	Y	N	N	Y	N	N	N
47. Koumasa A	Y	Y	Y	Y	Y	Y	N	N	N
48. Koumasa B	Y	Y	Y	Y	Y	Y	N	N	N
49. Koumasa E	Y	Y	N	Y	N	N	N	N	N
55. Drakones D	Y	N	N	Y	N	Y	N	Y	Y
57. Ayia Eirene E	Y	N	N	Y	N	N	N	Y	Y
59. Porti	Y	Y	Y	Y	Y	Y	N	Y	Y
62. Apesokari II	Y	N	N	Y	N	Y	N	Y	N
63. Aspripetra	Y	N	N	Y	N	N	Y	N	N
64. Platanos A	Y	N	Y	Y	Y	Y	Y	N	N
65. Platanos B	Y	Y	Y	Y	Y	Y	Y	N	N
66. Platanos C	Y	Y	N	Y	N	Y	N	N	N
67. Ayios Onouphrios	Y	N	Y	Y	Y	Y	Y	N	N
69. Marathokephalon B	Y	Y	Y	Y	N	Y	Y	N	N
71. Kalathiana	N	N	Y	Y	Y	Y	N	N	N
73/74. Vorou	Y	N	N	Y	N	Y	N	Y	Y
77. Sopata Kouse	Y	N	N	Y	Y	S	N	N	N
79. Arkhanes C	Y	N	Y	Y	Y	Y	Y	Y	Y
85. Krasi A	Y	N	Y	Y	Y	Y	N	N	N
89. Myrsini	Y	N	N	Y	N	N	N	Y	Y

1 = Stone vases; **2** = Zoomorphic jars; **3** = Figurines; **4** = Bronzes; **5** =Gold/silver; **6** = Sealstones; **7** = Exotica; **8** = Larnax; **9** = Pithos

Apart from zoomorphic/anthropomorphic jugs, pottery vessels have been excluded, since almost all sites produce evidence of a variety of these. Other categories of finds have been identified as simply present (Y) or absent (N) according to published records. No attempt has been made to quantify any category since the variations in the amount of information published, as well as the variations in the degree of looting, would make raw comparisons in a table such as this inadvisable. Most categories are self-explanatory. The'exotica' column includes all manufactured items thought to be of non-Cretan origin;it does not include artifacts made ofimported materials but probably manufactured in Crete. The artifacts included are mainly

scarabs, imported Cycladic or Egyptian vases, imported Syrian daggers, and cylinder seals.

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Abbreviations used:

AAA	Athens Annals of Archaeology
Annuario	Annuario della Scuola Archeologica Italiana di Atene
Arch Rep	Archaeological Reports
BCH	Bulletin de le Correspondance Hellenique
BSA	Annual of the British School at Athens
Deltion	Arkhaiologikon Deltion
ILN	Illustrated London News
KrC	Kretika Chronika
SMEA	Studi ed Egeo-Anatolici

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INDEX

* *indicates a tholos tomb*

Dancing With Death is more than a revised edition of Keith Branigan's highly acclaimed *Tombs of Mesara* published in 1970 and now out of print. This is a new book incorporating much new evidence and with a new emphasis and new interpretations. Many new tombs have been been discovered since 1970, several of them by Professor Branigan himself. His excavations of the tholos tomb at Ayia Kyriaki have thrown new light on both the history and the usage of these Early Bronze Age cemeteries. Equally important has been the discovery of the human landscape of which the cemeteries were a part, pioneered by Keith Branigan's survey of the Holy Gorge in the Asterousia Mountains. In this book Professor Branigan offers new ideas on the origins of the tombs, their original form, and the rites and ceremonies performed in them. But he also places new emphasis on their role in the everyday life of the communities which built and used them. *Dancing With Death* offers us new insights into the world of Crete before Minos.

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