

THE ISLANDS OF KARPATOS, SAROS AND
KASOS IN THE NEOLITHIC AND BRONZE AGES

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ABSTRACT

The theoretical objective of this thesis is of a synthetic nature, for it makes an effort to build up a picture of human activity on the islands concerned, that is their social, economic and cultural evolution in Pre-historic times. However, the method followed is largely analytical, since archaeological data are combined with results from other disciplines in order to reconstruct the Prehistory of these islands, no matter how incomplete and unambitious this may be.

A total of 71 Prehistoric sites have been identified so far. Most of them are on elevated locations near the coast and date from Middle Minoan III to Late Minoan I. Late and Final Neolithic occupation is also represented by numerous sites, whereas the scantiness of Early Bronze Age sites may be attributed to the deficiency of surface investigation and lack of stratigraphy. During Late Minoan/Late Helladic III the number of sites decreases and this implies new factors then operating.

In the Neolithic and Early Bronze periods the primitive inhabitants, who probably came from Anatolia, were pursuing a peaceful life based on a self-sufficient economy, which involved both food-appropriation and food-production (mixed farming). External relations are documented by Melian and Yali obsidian, and by parallel pottery forms. During the following Middle Minoan and Late Minoan I periods the Minoan colonization brought about different settlement patterns, social changes and wealth. After the Thera eruption, c. 1500, which probably had a disastrous effect, there is a radical change in the occupation patterns and new developments are reflected in the archaeological record: choice of defensible sites, decrease in the number of settlements, signs of emerging urbanization and settlement hierarchy. The arrival of Mycenaeans seems likely and is corroborated by Mycenaean imports. Yet the culture of the islands remains essentially Minoan to the end of the Bronze Age.

Chapter One discusses the natural environment of the islands. In Chapters Two and Three the Prehistoric sites and associated finds are described. There follows an analysis and relative chronology of the objects (Chapter Four). In the concluding Chapter Five, a historical reconstruction is attempted with an emphasis on Prehistoric economy, religion and foreign contacts, as well as in the historical significance of the successive transformations of settlement patterns.

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101. EBA-LM I pottery from Moutsouna (1094-1140); stone axe from Ria (1174); LN-LB 3 pottery from Pelekito (1172-3), Ria (1175-8), Rizes (1189-90), Aouroi (1191), Mandraki (1193-1201) and Skamnos (1210-24).
102. MM-LM/LH III pottery from Skamnos (1225-63); LM III vases from Diafani (1266-7).
103. LM/LH III vases from Diafani.
104. LH III sword from Diafani (1273); copper implements from Saros (1274-6); LN-LM I pottery from Argos (1277-99) and Kato-yi (1304-13) on Saros.
105. MM-LM I pottery from Trapeza (1314-66) and Kefala (1367-86).
106. MM-LM I pottery, (?) EBA potsherd, flint flake and MM I-II stone vase from Tou Stamati Ta Lakia.
107. MM-LM I pottery and (?) EBA sherds from Amoudiarides (1443-88); LN-LB 3 pottery from Argos (1489-90), Ellinokamara (1492-4), Amoua etc. (1496-1504) Tou Fridiou Tanefama (1519-23), Emborios (1526-7) and Poli (1553-81).
108. Obsidian and flint from Ayia Kara (9), Lai (310), Vathipotamo (313-9), Ayioi Apostoloi (320), Sakeli Kremos (321-3), Vouno (343-58), Stous Fournous (462), Tripes (637-49), Ais Minas (682-3), Kastelos (684), Baela (759), Mastikharria (760-2), Poliatses (784), Aperi (1045), Moutsouna (1141-70), Frangolimninas (1176), Arolimna (1179-88), Aouroi (1192), Mandraki (1202-6), Vounos (1209), Skamnos (1254, stone axe fragment), Argos (1300-3), Ellinokamara (1495), Amoua etc. (1505-18), Tou Fridiou Tanefama (1524-5), Emborios (1528-31), Kato and Pano Vounara (1539-52).
109. LM/LH III vases from the Anemomiloi-Makeli cemetery.
110. LM/LH III vases from the Anemomiloi-Makeli cemetery.
111. LM III piriform jars from the Anemomiloi-Makeli cemetery.
112. LM III piriform jar from the Anemomiloi-Makeli cemetery.
113. LM III vases from the Anemomiloi-Makeli cemetery.
114. LM III vases from the Anemomiloi-Makeli cemetery.
115. LM III stirrup jar from the Anemomiloi-Makeli cemetery.
116. LM III stirrup jars from the Anemomiloi-Makeli cemetery.
117. LM/LH III vases from the Anemomiloi-Makeli cemetery.
118. LM/LH III kylikes from the Anemomiloi-Makeli cemetery.
119. LM III goblets from the Anemomiloi-Makeli cemetery.
120. LM III cups from the Anemomiloi-Makeli cemetery.
121. LM III cups from the Anemomiloi-Makeli cemetery.
122. LM/LH III pottery from the Anemomiloi-Makeli cemetery.
123. LM III vases and bronzes from the Anemomiloi-Makeli cemetery.

124. Plan of chamber tomb at Anemomiloi-Makeli; Decorative motifs on pottery; and bronzes from the tomb (after Charitonidis 1961-2).

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All drawings were made by the author, unless otherwise stated.

INTRODUCTION

The subject of this study is the Prehistory of the islands Karpathos, Saros and Kasos. Its intention is to document and discuss the evolution of human settlement in connection with the social, economic and cultural development during the Neolithic and Bronze Ages, that is from the earliest times down to the end of the second millennium B.C.; and to describe the material remains, assessing the islands' collective achievement as far as the evidence and analogy to similar Aegean cultures permit. In effect, the work aims to coordinate and interpret the relevant archaeological and literary evidence, in an attempt to explore and isolate peculiar local elements demonstrating affinities with other regions, in the light of the new conclusions we are able to draw about the significance and dating of their Prehistoric remains as well as their foreign relations. For a better understanding of the archaeological record of the islands we have drawn upon evidence obtained from other disciplines, such as environmental, linguistic and ethnographic.

An effort will be made to define the political and cultural position of these islands, as determined by geographic location and physical features; in other words to fit their culture into the general context of East Mediterranean civilisation and to estimate the islands' contribution to its development.

This area of study was chosen for two main reasons: first, it is geographically well-defined and constitutes a logical regional unit for study; Renfrew and Wagstaff write about Melos: "Uppermost in our mind was the clear advantage of choosing a small area or unit of study, neatly self-defining, isolated to some extent. 'In the science of biogeography the island is the first unit that the mind can pick out and begin to comprehend' (MacArthur and Wilson 1967, 3). The opportunity of studying a localised unit which actually behaves as a region is important: all too often regional analysis starts from a definition of the region formulated by observers, yet with little empirical basis on the ground ... Happily, human cultures on relatively small islands may be regarded as self-bounding systems, and thus as particularly appropriate archaeological 'laboratories for the study of culture change' (Evans 1973; 1977; Vayda and Rappaport 1963; Davis and Cherry 1979). The degree to which island populations act as units circumscribed by barriers impermeable to interaction is obviously variable, dependent on factors such as absolute size, relative isolation, population density, environmental variability, and impact of supra-regional power systems: the sea may promote as well as prevent participation in wider communication networks" (Melos 1-2 and 13). These comments about the Melos island group could apply equally well to the Karpathos group. The latter has been selected for study for the other reason: it is archaeologically important and has been very little explored. It is in addition very well known that the emphasis always given to the major Dodecanesian

islands of Rhodes and Kos tends to neglect the contribution of the minor islands to the cultural process of the region. Rhodes in particular has been équated with the whole of the Dodecanese. There is therefore comparatively little research done and very little written about the Prehistory of the Karpathos island group. These islands were important as stepping stones between East and West. Near Eastern influences filtered through them to Crete and Mainland Greece and vice versa. Thus, it is apparent that they merit particular investigation and study, since they seem to have played a very essential role in the eastern Mediterranean during Prehistoric times, especially within the scheme of the Minoan and Mycenaean civilisations.

It is clear that whatever work has hitherto been done on these islands is based on insufficient data and although these contributions have been vital for our understanding of the Prehistory of the three islands, their usefulness has inevitably been diminished by more recent discoveries.

The accounts of the early travellers and archaeologists have been very valuable, particularly those of Ludwig Ross who spent much time travelling in the Aegean, operating small-scale excavations and describing the ancient remains. He also recorded, as did most of the early travellers, local customs and much historical information. He visited the southern part of Karpathos and the island of Kasos in 1843. His Reisen auf den Griechischen Inseln des Aegäischen Meeres (Stuttgart-Tubingen 1845, 32 f.) gives the first reliable references to Prehistoric remains on the islands. He made mention of some ruins, describing the appearance they presented in the first half of the 19th century, which is of great interest.

Some 40 years later Karpathos was visited by M. Beauduin, who in his article L'île de Karpathos (BCH 4 (1880) 261-284) is more concerned with Historical times and particularly with the city of Brykous. A few years later, Th. Bent came to Karpathos and gives little, but valuable, information concerning the Prehistory of the island. He fails to locate the cemetery of the Prehistoric inhabitants at Pigadia, although he is right in identifying the acropolis of the region with the fortified fortress of the Mycenaean. He concentrated his main interest in Brykous, the rock-cut tombs of which - belonging to Historical periods - he excavated and published in the article The islands of Telos and Karpathos (JHS 6 (1885) 233-242).

Soon after W. R. Paton visited Karpathos, from the northern part of which he acquired a group of Mycenaean vases and some metal implements, presented by him to the British Museum in 1889. Two years before he announced the discovery by the article Vases from Kalymnos and Karpathos (JHS 8 (1887) 446-460). The bronze objects were published by H. B. Walters in his account On some antiquities of the Mycenaean Age recently acquired by the British Museum (JHS 17 (1897) 63-77).

At the beginning of this century R. M. Dawkins paid a visit to Karpathos and wrote the important account Notes from Karpathos (BSA 9 (1902-3) 176-210; 10 (1903-4) 83-102), giving descriptions of some of the chief visible Prehistoric remains of the island as well as valuable references to some Prehistoric objects.

During the Italian occupation of the islands (1912-1945) much useful work was done by Italian archaeologists especially in Rhodes and Cos. In Karpathos and Kasos they were mostly concerned with Historical and particularly Medieval antiquities, although A. Della Seta, in his Relatione sulla R. Scuola Archeologica Italiana di Atene (Boll. d'Arte 4 (1924-5) 77-93), mentions Prehistoric ruins in Saros, and A. Maiuri in his article Esplorazione di grotte con avanzi Preistorici nell' isola di Kalymno (Clara Rhodos I (1928) 104-117) refers to stone axes from Karpathos brought to the Museum of Rhodes.

Of particular interest and value is the article of S. Charitonidis Thalamoeidis taphos Karpathou (AD 17A (1961-62) 32-76). It is the first attempt to give a picture of the island and its external relations in the Mycenaean times. G. Susini in his Supplemento epigrafico di Caso, Scarpanto, Saro, Calchi, Alinnia e Tilo (Annuario, nuova serie 25-6 (1963-4) 203-292), although mostly concerned with inscriptions, incorporates useful bibliographical notes and a reference to Prehistoric evidence from Kasos.

The Prehistory of Karpathos and Kasos owes most to R. Hope Simpson and J. F. Lazenby who carried out a thorough survey of the Bronze Age in the Dodecanese and published it under the title Notes from the Dodecanese I, II, III (BSA 57 (1962) 154-175; 65 (1970) 47-77; 68 (1973) 127-179). They organized and synthesised both their observations and the previous knowledge in conjunction with literary evidence, matters of geography and the setting of the islands in relation to adjacent regions. They have for the first time made intelligible the role of the islands in the Prehistoric development of the Eastern Mediterranean.

More recently our knowledge of the Bronze Age of Karpathos and Kasos has been enhanced by the comprehensive Ph.D. thesis of Chr. Mee entitled The Dodecanese in the Bronze Age, London 1975. Part of this work was published in 1982 by Aris and Philips Ltd. (Rhodes in the Bronze Age).

We have also gained much from the two following general books: Tr. Evangelidis and M. Michailidis-Nouaros, Istoria tis nisou Kasou (Athens 1935), and M. Michailidis-Nouaros, Istoria tis nisou Karpathou (Athens 1940-49).

Our knowledge of Karpathos', Saros' and Kasos' Prehistory grew slowly. Its chief deficiency remains the comparative scarcity of evidence, since no systematic excavation of Prehistoric sites on these islands has ever been made and we have therefore to rely on the evidence given by the visible Prehistoric remains and accidental or surface discoveries. This evidence, however, should

be accepted and interpreted with great caution. It seems obvious that excavation research is of paramount importance.

It has recently been possible to increase the body of evidence through the author's work on a survey during the past few years. By means of a careful study and interpretation of the available material, it is hoped that the major problems of the Prehistory of these islands will be clarified and at last it will be possible to recognize and establish on an objective basis their development in Prehistoric times.

After a short reference to the physical background of the islands in connection with the sequential distribution of human settlement (Chapter One), there follows a topographic survey of sites, including their stationary remains (Chapter Two) and movable finds arranged typologically (Chapter Three). For the purpose of organizing the material, Karpathos is divided into three regions: south, central and north, Saros and Kasos constituting separate geographical units.

In Chapter Four the whole material is analysed, and systematically arranged, dated and placed within a cultural context. An effort is made to establish relative chronology and foreign contacts.

In conclusion we sketch an overall summary picture of the Prehistory of the islands as it emerges from the preceding analysis and interpretation of the material (Chapter Five); this historical synthesis includes a reconstruction of the socio-economic organization, as well as of the political geography and external relations, so far as the data and the critical study of the material admit, assisted by sporadic historical traditions and other evidence available, such as linguistic and topographical.

Particular attention is paid to the problem of the origin and character of the Neolithic inhabitants of the islands, to Prehistoric navigation in the Aegean and the obsidian trade. Reference will be made to the relations with the Cyclades and Anatolia during the fourth and third millennia. The bulk of the study is devoted to the Minoan presence on the islands in question, simply because we know most about it. It will thus be possible to estimate the extent of Minoan cultural penetration to these islands. The Minoan colonization of the islands will be broadly discussed, as well as the implications of the Thera eruption and the arrival of the Mycenaeans.

It will be seen in effect that Karpathos with Saros and Kasos possessed a significant position within the Minoan Thalassocracy and the circle of the Aegean Civilisation as a whole.

CHAPTER ONE: THE PHYSICAL BACKGROUND

I. GEOGRAPHICAL SETTING

Kasos and Karpathos with Saros lie in the sea between Crete and Rhodes, which was named the Karpathian sea after Karpathos ("Karpathion pelagos", Strab. X.488. Hom. Carm. I. 35.8). Their history has always been influenced by their position in relation to the civilisations to the east and west. Their distinctive culture was shaped by their geographical location on the Aegean frontier and their individual physical features (Smith 1872, 524. cf. Cary 1949, 100-102 and Myres 1953, 280-281). They form small, naturally defined regions, essentially marginal to Anatolia, yet physically belonging to Crete as much as to Rhodes (Myres 1941, 145; 1953, 280). Their geographical and strategic importance is determined by their character as stepping stones, as a natural sea-bridge extending from east Crete to the south-western coast of the Karian peninsula (cf. Bursian 1862-72, 352 and our fig.3).

With the fragmentation of the south margin of the Aegean basin only a few narrow ridges have been left above sea-level; the three islands concerned are peaks of submerged mountains. As with the rest of the Aegean islands, from very ancient times they have attracted people from the adjacent shores of Anatolia, Africa and the Greek mainland. Their ideal location may have created acute competition between them.

During the so-called Mesozoic era Greece and her islands were submerged in the sea, which covered the whole Aegean area. It is reckoned that some thirty million years ago Greece emerged from the sea; Aegaeis, as named by Philippson, was at the beginning an unformed and undivided land-mass extending from the Ionian Sea to Asia Minor and to the south coast of Crete. The area including Kasos, Karpathos and Rhodes formed the south-eastern part of this continent. After the emergence of Aegaeis, about twenty million years later, new geological changes took place; subsidences and elevations occurred in this part of the world, allowing the Mediterranean to slip in through the openings. As a result, internal lakes were formed. Accordingly followed the formation of the bays and sea straits, of the promontories and the islands, whereas elsewhere the land rose and the mountains and the uplands were formed (History of the Hellenic World I, 10-13).

At the beginning of the Middle Pleistocene, c. 400,000 years B.P., the sea-level in the Aegean was some two hundred metres below the present level. Many islands were still connected to each other, and a great part of the present sea-bed was nothing but dry land. In the northern and southern Aegean there were two major basins formed. Between the submerged mountain-chains, their rocky peaks protruding above the sea formed the numerous Aegean islands. It was a very long geological process which accounts for the formation of the Alpine folds, part of which are Greece with the Aegean

islands, and Asia Minor (Berckhemer 1978, 21 f.).

The islands belong to the second geological and biological Near Eastern zone, which is called the "mountain belt" and consists of: (1) the central zone in the Balkans; (2) Asia Minor; (3) the Caucasus; and (4) Iran. This formation reflects the complex folding associated with the Alpine phase of mountain building. The type of terrain is one of high and low mountain-chains (Butzer 1970, 36).

Kasos, Karpathos and Saros constitute three of the minor rings of the southern arm of the eastern fold system, the "Dinarotauric bow", which branches off south-eastward from the Carnic Alps, traverses the Adriatic side of the Balkan peninsula as "Dinaric Alps", descends from western Greece and the Ionian islands with a south-southeast direction, breaks at the sharp cross fracture of the Corinthian gulf, recovers again in the Peloponnesian mountains and runs out southward in four finger-peninsulas into the Mediterranean (Churchill Semple 1932, 21. Boreadis 1940-9, 104 f.).

The half-submerged ranges, their parallelism still evident, can be traced in the long island-crescent formed by Kythera, Antikythera, Crete, Kasos, Karpathos, Saros, Rhodes, etc.

On the south-western coast of Asia Minor these folds rise again in rocky promontories and merge into the high Taurus and Antitaurus system, which runs eastward along the Levantine littoral of the Anatolian peninsula, bends to the north in the corrugated highland of Armenia and culminates in the Anticaucasus.

The whole region from eastern Crete to Samos, inclusive of Karpathos and Kasos, continues the structure and configuration of south-western Anatolia, but it has been partly submerged, since its main features were shaped as a rugged and complicated highland; hence the great heights and depths. Karpathos has the highest peak in the Dodecanese and to the north-west there is a depth of 8,216. (NID 1941,6).

II. THE GEOLOGY

The geology of the three islands has been studied and described by the following: Bukowski 1889; De Stefani et al. 1895; Chalikiopoulos 1901; Nelli 1910; Martelli 1916; Desio 1931 and 1931A; Boreadis 1940-9; NID 1941, 6-9 and 86-96; Philippson 1959, 314-27; Christodoulou 1959; 1960; 1961; 1963; Anapliotis 1961; 1961A; 1963; 1968; Angelier 1973; Davidson Monnett 1974; Aubouin et al. 1975; Aubouin-Dercourt 1970; Kuss 1969; Thorbecke 1976; Barrier 1979; Barrier et al. 1979.

Karpathos with Saros (fig. 1) and Kasos both consist of a single rugged ridge of hard limestone, running from east to west and from south to north-west turning to north-east. All three islands comprise three principal types of rocks, the geological age of which is as different as their mineral com-

ponents. They are namely the old crystalline core, the deep folded limestone and the Tertiary overload.

The oldest layers belong to the Pre-Cretaceous age and include continental, light-coloured crystalline rocks, schists and marbles, exposed only in the core of the greatest folded structures. They are converted by exposure into light sandy soils of small fertility, except where they are well watered. Because of their strongly ferruginous weathering and water capacity their vegetation is dense, usually evergreen scrub, even after centuries of mismanagement, and offer some pasture, for the most part being sparsely cultivated or even sparsely inhabited. Apart from farming, the principal occupations have always been wood-cutting, goat-keeping and occasionally bee-keeping. The hill-wash in their valleys is more fertile. They contain most of the mineral resources, in Karpathos for instance, emery, chrome-iron and hematite.

Over these old deposits lie upper Mesozoic-Cretaceous and Eocene strata, which are bulky rocks of massive limestone; they are of great thickness and much folded and have been dislocated in the subsequent mountain-building, during which the great mountain movements caused the upheaval of the Alpine, Dinaric and Tauric mountain systems, and they were then exposed to continuous weathering.

These rocks cover almost the whole extent of all three islands, from the northernmost tip of Saros down to the southern coast of Karpathos, between the inlets Ammoopi and Makris Yalos, and from Cape Strongili Akti on Kasos down to the bay of Khelatros. These compact beds are almost of pure limestone, varying in tone from light yellow to pink, but there are a few strata of flagstone with a lithographic character, presenting horn-shaped knobs and containing old fauna of unknown date. Some deposits of serpentine are associated with these rocks.

As the stratigraphic core of the islands, these beds determine their morphological character. They exhibit characteristic "karst" scenery and yield little soil, apart from a tenacious red clay concentrating in surface hollows and being fertile. Their surface is usually honey-combed and mostly bare and arid, since surface water dissolves the rock and opens shallow holes and caves through which the whole rainfall is engulfed to supply perennial springs at lower levels, often under the sea. Usually the limestone districts are barren and desolate, as they are waterless; there is in these districts little vegetation, poor pasture - especially in Kasos and Saros - and hardly any population. There were forests in the past in all three islands, but only in Karpathos have they been sufficiently preserved.

The later deposits are not of considerable importance for the geological structure of the islands, but are essential for their ecological efficiency. They comprise Tertiary marls and soft thin-bedded limestone, superimposed on

the old massive limestone. These deposits were formed during the first mountain-building movements of the Miocene and Pleistocene ages throughout the mountain-zone; among the folded mountain-ridges troughs were formed, and the gulfs of the Mediterranean extended far into the mountain zone; in others fresh water lakes were formed from inland drainage, and occasionally these evaporated leaving deposits of gypsum and fresh water marls. Additionally, the shore deposits contributed to the filling of the troughs alternating with later, comparatively pure limestone, formed in periods of deeper subsidence.

The principal varieties of these deposits are: the Eocene flysch beds capping the massive Upper Mesozoic limestone; they are composed of conglomerates and argil-shales which mark the first subsidence in the area. In Karpathos the flysch layers, varying in colour from grey-green to brown, develop around the old limestone, from the northern part of the island and mainly on the east coast from Diafani to Spoa and along the southern slopes of Mount Lastos down to the south in the district of Pigadia. According to De Stefani, these belong to the Lower Eocene, while Desio dates them to the Middle Eocene. They contain roosts of lignite and iron-ore spars, as well as magnetite and limonite.

This geological condition still continues: the gulfs of the Aegean are accumulating marine limestone and marls; clays and sands are being spread off the estuaries; the modern depositions are confined to the maritime zones alone. Easily discernible are those on the eastern coast of Saros and on Karpathos along the coast of Diafani, and on the seashore between Ayios Theodoros and the cape Kastelos. All these Tertiary and later deposits are mostly horizontal.

Apart from the above mentioned sedimental bedrocks, there are in Karpathos a few igneous intrusions scattered in some parts of the island. Serpentine is usually found in small quantities embedded within the lithographic limestone in the ceratolithic levels of the Upper Mesozoic, as well as in the Eocene flysch at the points of its conjunction with the underlying limestone-beds. The age of this stone is probably Pre-Eocene, its eruption having no doubt occurred before the depositions of the flysch deposits.

III. TOPOGRAPHY AND ENVIRONMENT

It is well known that different natural factors set different patterns of life, especially in primitive communities; topography and terrain are of fundamental importance in biological distribution, while the physical geography of an area is very relevant to the possibilities of early settlement.

The islands in question present no marked difference in their natural structure; yet Karpathos is much more green and fertile, and has well sheltered natural harbours, all facts which account for its major significance

in this particularly critical Aegean district, and which proved to be one of the best areas for Prehistoric settlement.

The strongly contrasted texture and composition of the three main groups of rocks described above naturally find expression in the landforms of all three islands, wherever they respectively predominate; and furthermore in the types of vegetation they sustain, which have already been referred to in the geological description.

As in many other parts of the Mediterranean, the three islands, being the peaks of submerged mountains now above sea level, are very mountainous; their large lowlands and valleys and much of their foot-hill country are covered by the sea (fig. 4, inset).

In the course of millennia natural and human factors must have modified the original landscape of the islands, the latter impressing upon them the features of cultural lands (Butzer 1972, 547 f.). More strikingly, major changes have occurred in the coastal plains of the Aegean, in the sea level of which perceptible changes have been noticed from the Pleistocene onwards and even within Historical times (Butzer 1970, 35 f., 39; 1972, 215 f.; Flemming 1972 and 1974; Bintliff 1977, 10 f., 35 f.; Rapp-Kraft 1978; NID 1941, 7).

However, it is true to say that from Pre-Neolithic times onward, topography and landforms in the Aegean have not changed perceptibly except for the vegetation, which has suffered severely at the hand of man.

All three islands mostly consist of lofty light-coloured ridges extending over their whole length. At a lower level there are hill-ranges of dark flysch. The mountain chains slope down to the coast, forming wild or gentle ravines, hollows or spurs; they stand out in bold relief with their rugged contours, and rise in sharp cliffs rather than gentle ramps. Their clearly chiselled shapes seen through a limpid atmosphere lend a peculiar charm to the scenery. In their higher regions they are almost bare and inaccessible, and human settlement on any scale has always been impossible.

III (A). Karpathos (fig. 4)

Karpathos is forty-eight kilometres in length and twelve kilometres wide, yet just one kilometre at the narrowest point. It is two hundred and eighty-eight square kilometres in area, second in the Dodecanese only to Rhodes. The very lofty and narrow mountain-chain starts from the northern-most tip and is detached by a narrow channel from the mountains of Saros, which form links of the same chain. It then descends in a south-southwest direction; in Lastos and in the Apela bay it widens and takes a south-southeasterly direction; finally it swerves south-westwards (Philipsson 1959, 315).

The principal mountain of the island lies in its centre; it is named Lastos and its peak Kalilimni reaches a height of 1215 metres, the highest in the Dodecanese; it is about 21.3 kilometres from the southern end of the

island. In the northern part, along the west coast runs another parallel chain rising to a height of 718 metres. The Mounts of Stioi, Orkili and Malo to the north-east or the village of Olymbos are over 600 metres in height, while Khomali in the south of the island is 650 metres high. At the south end a peak ends the range abruptly, overlooking Plati Akrotiri in the Afiartis plain.

The coast-line of Karpathos, as of the other islands, has experienced an excess of subsidence over elevation, which, assisted by active erosion, must have changed its littoral relief. The main sea-spurs are Sokastro on the west coast, and on the east coast the Patela headland and Cape Vrontis, which encloses Pigadia bay.

The coasts are generally little deviated, yet quite indented, and mostly steep and inaccessible. There are, however, mainly on the south, some low coasts with good anchorages, well protected by rugged mountains, while elsewhere there are open coves but little access to the interior. The principal natural ports are as follows (Medit. Pilot 1908, 193-4; 1955, 325-8. NID 1941, 90-3. Philippson 1959, 315):

- (1) Pigadia bay on the south-eastern coast lies on the south side of an open gulf, sheltered from the north-west by Cape Vrontis and also from the south by the promontory of Patela, but exposed to the north-east and east. To the north and north-east of the anchorage extends a long sandy beach, very appropriate for the landing of ancient ships.
- (2) Ammoopi in the bay of Ardani provides anchorage when Pigadia is unsafe. It is protected by the southern end of Patela headland.
- (3) Makris Yalos is a large inlet in the district of Afiartis, and is sheltered from the south-east by Cape Liki, but is quite open to the north-east. It also has stretches of good sandy beach.
- (4) Elaaris on the west of Cape Kastelos lies on a bay open to the north-west. Very near, to the north, are Midi and Akrotiri coves with good beaches, but open to the west and south-west respectively.
- (5) Arkasa is an open bay on the west coast, south of Paliokastro. It is open to the west and mostly inappropriate for landing, especially in the sailing season, but a short distance to the north, on the same bay, Finiki port provides better anchorage and has a sandy beach.
- (6) Lefkos, in the middle of the west coast, is only open to the south, and although small affords excellent shelter and a sandy beach for small craft.
- (7) Diafani is a cove on the north-eastern coast and its pebble beach is good as a landing place.
- (8) Tristomo, the best natural harbour in the island, is a deep water bay, very long and narrow, and running towards the east for about 1400 metres. It lies on the western side near the northern end, and is steep-sided. Its narrow entrance which faces to the west is obstructed by islets. From June to September

it is closed by the prevalent north-westerly wind (maistrali or meltemi).

(9) Vroukounda bay is a small port west-southwest of Tristomo, east of Cape Vroukounda, open to the north.

Most of the above-mentioned natural ports, as well as several other shallow banks with sandy beaches all round the island among the rocky coasts, might be regarded as inadequate anchorages by modern standards; yet they were very helpful in ancient times for hauling boats ashore as Odysseus and his crew did each night in Homer. In effect they must have facilitated a great deal the risky undertakings of primitive navigators in the area.

Given the geological structure of Karpathos and its supply of sufficient ground water throughout the year, it is natural that it supported woodland vegetation and dense forests, remains of which can still be observed, especially in the northern part; the forest cover has been partly preserved because of the quite consistent rainfall and man's skill in terracing the hillsides.

The island must have been more thickly covered with woods than it is now. Ancient forests have given way to fields or have been reduced to barren scrub by natural or human activity (Bintliff 1977, 103 f.). On the other hand they should have received a heavier rainfall; erosion leads to deforestation, and vice versa; deforestation means lesser rainfall and accordingly a decrease of vegetation (cf. Bintliff 1977, 72-4, for the Cyclades and Crete). After that, secondary scrub or brush vegetation (strawberry, myrtle, pistachio, etc.) must have succeeded the hitherto predominant evergreen forests of oaks, pines, wild olive trees, etc. On the other hand there were the browsing goats, who favoured the young trees, and the fuel gatherers from early Pre-historic times. The interaction of man proved more destructive; overgrazing by the herds of pastoral people has denuded the greater part of the land, and intensive cultivation has removed most of the soil (Bintliff 1977, 89 f.).

The denudation of all Mediterranean forests progressed rapidly in antiquity, especially in the eastern basin (Churchill Semple 1932, 289), proceeding faster from Late Roman times and even worse during the Turkish occupation of the islands. This was mainly due to crude and uncontrolled agricultural methods as well as the periodical burning by villagers for the sake of pasture. Areas once devastated after centuries of mismanagement are not easily restored.

The principal tree is the subtropical pine which mainly covers the steep slopes of the old crystalline rocks, while the surface of the old limestone is almost naked and arid; the tertiary and later stone and the soft limestone carry a dense evergreen thicket of schinos, myrtle, bay, almond and olive trees - wild at the beginning - wild strawberry, carob and other shrubs. Apart from pine, there are remnants of oak on the high slopes, plane and cypress in the humid valleys, and cedar in the district of Afiartis.

This forestry provided a good supply for fuel, for building - especially the cypress and cedar in architectural and sculptural uses (cf. Neuman-Partsch 1885, 368-9) - and most importantly for ship-construction, so much valued by ancient navigators. Shipyards may have been established from very ancient times. Karpathos was famous in late Antiquity for its "Karpasiae naves magnaе et spatiosae" (Isidorus XIV. 6.24 and XIX. 1.11. Craik 1980, 118). In Roman, Byzantine and later times it was known for its naval dockyard and ship-building as well as for ship repairing, which was carried out owing to its favourable situation and good timber (Ahweiler 1966, 111, 225, 425 n.2. Piacenza 1688, 146. Volonakis 1922, 24. Melas 1972, 33-6).

Cypress may have been the most significant tree in ancient Karpathos as it was in Crete (Neumann-Partsch 1885, 368-9). In 394 B.C. Athens paid honour to the island because the Karpathians donated a big cypress for the restoration of the Parthenon (IG XII. 1.977. Hammond 1959, 461).

Rhodes and Karpathos were the two main timber-producing islands in the Dodecanese in modern times. In 1938, 490,000 hectares of their forests furnished 21,000 cubic metres of timber (NID 1941, 59).

The Lastos plateau separates the northern part of the island from the south, which is more fertile and more densely occupied. Due to the nature of the land, the population has always concentrated in the small plains and fertile valleys, which exist here and there, principally in the southern part of the island. They are normally bounded on one side by the sea and on the other by high and barren cliffs, small pockets studded with hills and set in a predominately mountainous country. They are situated on the low coastal regions and are mainly of alluvial origin, formed by deposition of quaternary and later deposits, comprising young conglomerates, the result of erosion of the rougher terrain of the hill slopes from which soils have been washed down into the alluvial lowlands. These soils form rubble cones at various levels with terraced edges, which were successive coastlines and frontages of sandy beaches. They may have been more thickly covered with woods and scrub than they are now. Such coastal plains are those in Pigadia (Posei(dion)) which is the most fertile, Afiartis, Arkasa extending to the district of Sikelaos, west of the village Piles, and also in Lefkos south-west of the village Mesokhori.

In the interior most of the limestone regions are sheer and desolate, yet here and there on the mountain slopes and hill-sides there are small valleys formed during the last glaciation by erosion, assisted by deforestation and the destruction of the vegetation by man, which little by little deposited in the valley bottoms the sticky clay which is their sole insoluble residue. This land has been intensively cultivated and its remnants are concentrated behind terrace walls. The valleys are usually well watered by springs or wells sunk into the underground sources, and are fertile. Good

examples are found all round the foot-hills of Mount Lastos, such as the valleys including the villages of Aperi, Volada, Othos and Piles, or their farms (metokhia), such as Mertonas, Katodio, Vatses, etc.; or around the foot of Mount Khomali, where the villages of Menetes and Arkasa with their dependent farmlands of Kato Yiroi, Stavri, Lai, etc., are situated.

At a higher level the beds of later limestone, which form wild ravines or smoother mountain slopes, bear dense evergreen bush.

III (B). Saros (fig. 4)

The northern-most island in the group is Saros (NID 1941, 92-3. Philippson 1959, 315). The southern extremity, situated at the end of a narrow tongue of land, is only separated from Karpathos by a shallow and narrow channel, ninety-five metres in length. The island is about forty-eight kilometres from Rhodes. It is eight kilometres long in a north to south direction, and four kilometres in breadth; it is seventeen and a half square kilometres in area.

The east side consists of very steep cliffs culminating in Pakhi Vouno to the south at a height of 630 metres. On the east coast there is a small sandy bay called Palatia. Classical and Medieval ruins can be seen on this site, possibly belonging to the ancient city of Nisyros. There is a water spring nearby. To the north of Palatia lies the sandy bay of Alimounda, the best port on the island. At the south-eastern extremity there is a bay, at the northern end of which lies a small port with a sandy beach named Almiros, open to westerly winds.

The west coast is less precipitous and provides more, yet very small and inconvenient inlets. On this western side lies the only arable district of the island, a small upland named Argos, where some scattered houses are found inhabited only in the Summer.

Agricultural activity on the island seems to have been very limited even in Antiquity, although the remains of numerous terrace wallings imply a more exhaustive agricultural exploitation in the past. Saros is more suitable for stock-breeding, and that is the present situation with flocks of sheep and goats herded here during the Summer and shifted by little boats in the Winter to the major pastures of Karpathos. This pastoral activity may partly account for the denudation of the island; the existence of ancient forests is attested by meagre scrub and shrub remains.

III (C). Kasos (fig. 2.)

The island of Kasos is the souther-most in the Dodecanese and is situated six kilometres west-southwest of Karpathos and forty-five kilometres east-northeast of the eastern-most promontory of Crete, Cavo Sidero. It is twenty kilometres long in an almost east-west direction, and eight kilometres wide; it covers an area of sixty-five square kilometres, or sixty-nine square

kilometres should the small islands north of Kasos be included.

Kasos is very mountainous and bare, especially in the south-east and south-western parts, sloping towards the north-west where all the modern habitation is concentrated. In the centre rises Mount Kapsalo with an elevation of about 956 metres, and on the east side Mount Priona, 518 metres high. Armathia island is a half submerged ridge which lies parallel to the north coast of Kasos.

The shores of the island principally consist of high and rocky cliffs with deep waters close in. The north-east end is deeply scored with torrent beds descending into small sheer coves, The south coast is precipitous, whereas the western half is less rugged, yet has high cliffs to the south.

The less rocky and more cultivable section lies on the north-west side of the island; it traverses obliquely the good valley of Argos, which consists of softer and fertile soil and faces north-east, but is accessible also from the north-west. In this lowland is almost all the arable land on the island.

In the western part there is poor pasture and little scrub, good indication of forests which would have covered parts of the island in ancient times. We know that at least from the time of the Turkish occupation and during the War of Greek Independence, ships were being built in Kasos, the timber imported from Karpathos and from elsewhere (Myres 1941, 145; 1953, 281. Melas 1972, 36; 1975, 8 f., 22 f.). Most probably the island was sufficiently furnished with timber in ancient times.

There are no perennial streams or springs in Kasos, but sufficient water, almost always brackish, is furnished by wells, and additional supply is assured by rain-cisterns.

The only natural port on the north coast is that of Fri, at the head of a small open bay, protected to north-westward by a rocky promontory. It is difficult to land there with northerly winds, Eastwards from Fri, Yalos bay has an open beach as far as Emborio, where there is anchorage and a landing place. Other anchorages may also be found off Amoua, east of Cape Ayios Georgios and in Khelatros bay, which is the best harbour in Kasos. Good shelter can also be found at sandy beaches under the islets north of Kasos which are protected from north-westerly winds, the best being off the middle of the long flat islet Makra, at the north-eastern end of the group (Medit. Pilot 1908, 295; 1955, 323-4. NID 1941, 95-6). All these, today considered as inconvenient landing-places, must have afforded ancient vessels good shelter as they were drawn up the shore, especially in the Wintertime.

IV. CLIMATIC CONDITIONS

With these physical features and geographical position, which have already been described, it is easy to see that the islands under discussion have been well favoured in the matter of climate. To the modern inhabitant

of northern Europe the climate of this Aegean area may seem too warm for a really energetic life; but in this respect it is necessary to remember that climate changes in the course of three to six millennia, although perhaps not significantly (Harding 1982. McCoy 1980, 96-7). It is possible that physical and climatic conditions in general have considerably changed from Prehistoric times onwards (see e.g., Wright 1968). This by reason of its effect on the composition and character of natural vegetation may well have modified the conditions of human habitation, although some eminent scholars consider any significant climatic change within the later Prehistoric period improbable (Philipsson 1948, 57 f. Bintliff 1977, 51; 1982). They assume that the prevailing conditions existing in the Neolithic Age were not very different from what they are now; probably modern climatic conditions approach a level comparable with those existing from the beginning of the Holocene, as far as both moisture and temperature are concerned. There is evidence, however, that considerable environmental and climatic changes occurred in the Mediterranean region during the Late Pleistocene (Butzer 1972, 294 f., 392 f., 547 f. McCoy 1980, 79 f.). Nevertheless there is no clear evidence that the average ecological conditions prevailing during the last three millennia differed greatly from those of today; it seems most likely that from c. 18,000 B.P. onwards these conditions have been "modern", characterized by marked stability. In short, the Mediterranean and Near Eastern climate has not fluctuated significantly during postglacial times (Churchill Semple 1932, 99-100. Butzer 1970, 46, 51, 56-7).

Kasos and Karpathos with Saros lie on the margin of two distinct regions of weather, characteristic of the Aegean sea and of the eastern Mediterranean (Volonakis 1922, 56-9. NID 1941, 11-17. Philipsson 1948. Mariolopoulos 1948; 1956; 1961. Cary 1949, 2-6, 37-8. Monkhouse 1960, 408-10. Butzer 1970, 39 f. and maps 3-5. AWO 22, 25, 28-9). They belong climatologically to the southern zone of the temperate Mediterranean area with an average temperature of 18-20 celsius. This is exemplified by the classical Mediterranean woodland with its subtropical evergreen and drought-resistant elements. These islands have always enjoyed a full Mediterranean climate, which is very mild and immune from the winter cold of Europe and from the summer heat of Africa, and is alleviated by winds blowing from the west. Its temperate character is due to the influence of the sea, which in the Winter attracts the mild rain-bearing westerly winds from the Atlantic, and in the Summer the dry cooling north-westerly winds; the "etesians" of Antiquity (Mariolopoulos 1956, 11, 35-41).

The sea is usually warmer near the coast and it has a moderating effect on the maritime climate both in Summer and in Winter, in contrary directions.

The "etesians" (meltemi), characteristic of both the Aegean and the eastern Mediterranean, originate in the high pressure area of eastern Europe,

which disturbs both the eastern Mediterranean and the Aegean, especially in Winter, by cyclonic depressions originating in the central and western Mediterranean and moving south-eastwards along the west coast of peninsular Greece (cf. Watts 1975, 544-5, map EM4. See also map in Kemp-Merrillees 1980, fig. 78). Within the Aegean, local and seasonal conditions modify still further the direction and force of these winds, mainly due to the highland barriers of the Greek and Anatolian mainlands, the numerous islands and the daily land and sea breezes. During the Winter these winds are liable to interruption by south and south-westerly winds due to the depressions from the Adriatic, which usually enter the Aegean north-west of Crete.

In Spring north and north-east winds increase in strength, but in April they are light and variable. In the south Aegean west winds are common until June, when the depressions cease to interfere and the "etesian" north wind attains its full force. In September they begin to fail and they are once more interrupted by winds from the south-west and also from the east, more and more frequently until November.

At all seasons, however, local winds off adjacent Mainlands may be strong. Karpathos in particular was known in ancient times as "the windy island" (enemoesa. Hom. Hymn to Apollo, 42-4).

The peculiarity in the climate in the Dodecanese and particularly in the islands in question is due (1) to the proximity of the high continental mass of Anatolia and (2) to the rise of the mean temperature of the surface water due to the inflow into the south-east Aegean through the Karpathos and Kasos straits, of warm currents from the sea between Rhodes and Cyprus (Myres 1949, 197 and map in Kemp-Merrillees 1980, fig. 78). Karpathos and Kasos share with Rhodes the situation of lying on the structural limit between the island-strewn water westward and the main expanse of the east Mediterranean eastward. Yet the islands concerned lie far out into the open water on both sides and are on the track of eastward-moving depressions. The highest lands in Karpathos, as in Rhodes, lie across the course of the prevalent and rain-bearing winds; hence the better preservation of their forests. But the depressions are inconstant and in 1936 Karpathos had no rain from May to December inclusive (NID 1941, 15).

In accordance with the above described meteorological conditions the annual cycle of weather begins after a rainless Summer, which is conspicuously hot and dry, yet tempered by the welcome north-easterly winds relieving the stagnant drought. The daily alteration of land and sea breezes (batis) becomes regular in May or June and lasts until Autumn. The sea breeze gets up at about 10.00 hours and drops at sunset; the land breeze gets up from about 23.00 and lasts until early in the morning, followed by calm until the sea breeze gets up again.

The temperature is similar to that of eastern Crete and ranges from 18 to

38 celsius. The average summer temperature is above 21, often rising to 30 to 35 celsius (Philippon 1948, 196). It rises rapidly from March to May or June, but March and April are irregular, with relapses to winter cold. The hottest and driest months are July and August, and September is usually warmer than June.

The strong "etesian" wind which prevails all through the sailing season fails in September, and is succeeded by calms, high temperature and very clear skies. Autumn includes September and October and is, like Spring, a transitional season. Summer as well as Winter are retarded. In October haze and light clouds announce the Autumn showers and the first cyclonic storms of the winter season sometimes arrive suddenly. They arrive at intervals of about a week and prevail all through the Winter (November to March), often continuing until April or May, with lengthening intervals and diminished force. A north-east breeze which brings clouds is followed by a warm breeze from the south-east, which turns to the south-west and brings heavy rain, then passes to the west with more rain and dies down in the north; a few bright days follow with cloud masses over the high lands. Generally the cloudiness is relatively high (over 4.5) decreasing from Winter to Summer, during which for days the sky may be almost cloudless. Thunderstorms are also relatively frequent; they are cold-front storms and occur in Autumn and Winter (NID 1941, 15. Philippon 1948, 196).

The Winters are very mild owing to the effect of the surrounding sea. The average Winter temperature is above 6 celsius. From October the temperature becomes variable and falls rapidly until January, which is usually the coldest month, while February is colder than December. Rainfall is more closely confined to the Winter months; its onset and cessation is accompanied by marked changes of temperature. Rains begin in October - very seldom earlier - and increase during November and December (Mariolopoulos 1956, 28 f.). Although wet days are usually numerous, the annual average rainfall is relatively little, reaching c. 463 millimetres, not unlike eastern Crete, where it reaches 200 to 300 millimetres. In the islands under discussion it never exceeds 500 millimetres as against 1,000 to 1,100 in north-western Greece. Frost is almost unknown except on high ground, and snow only falls in hard Winters, particularly in January and February, on a north wind following a depression. Even on Mount Lastos it never lies for more than a few days, except in very exceptional cases.

Spring is relatively short and includes mainly April and part of the months March and May. The sun gains power by that time and there is usually a period of calm, although there are intervals with north summer wind and cool brilliant days and cold nights.

V. HYDROGRAPHY

Along with topographical and climatic conditions, water supply was a compelling factor for the distribution of ancient rural population, and for the size of agricultural villages. The long summer drought made the presence of water indispensable for the Aegean islanders, and has always been of paramount importance in determining their sites. The position of most villages is decided by the water-supply, and was the dominant consideration determining both the size and location of the agricultural community. The fountain of living water was the great desideratum in ancient times. The inhabitants of the islands, from their very first settlement there, displayed a great concern and high regard for water springs, as the modern islanders do. It is thus not surprising that we can reconstruct the pattern of ancient habitation from the modern distribution of water-sources in connection with the modern settlement pattern (Churchill Semple 1932, 539).

In the islands in question water was more plentiful in ancient times than it is now, when many ancient springs are dry and the forests that retained the ground water and encouraged rainfall have largely disappeared owing to erosion and to the activities of generations of men and goats. The land in these islands is very dry and rocky, and the rainfall is seasonal and limited. There are no rivers, and unfailing streams must have been scarce even in Antiquity; yet there are many steep torrent-beds, violently flooded by winter rains and usually dry in Summer, although there is often water beneath the gravel. These streams bring down much debris and form wide boulderstrewn flood-beds on low ground which are liable to become choked and to change their course, while most of the finer silt is lost in the deep water inshore; consequently there are few shoals, except the sand spits (NID 1941, 16-17, 93, 96).

Perennial springs and wells are essential for these islands, since they provide the principal water supply. The springs are fed by surface water which dissolves the rock and opens shallow holes and caves, through which the whole rainfall is engulfed at lower levels, mainly where the flysch alternates with limestone (Philippson 1959, 315), and is available throughout the year. On the other hand the strata of the Tertiary marls and the soft thin-bedded limestone are impermeable enough to retain moisture and pass it laterally over their surface to springs and spring-heads along their outcrop in eroded valley-sides or escarpments. The wells were sunk to the ground water, which was lifted by hand or mechanical means.

Where springs and wells were numerous, as in Karpathos, the villages could also be numerous and small, scattered all over the island. Where these were scanty, as in Kasos and Saros, the population had to concentrate about them in comparatively fewer and larger groups, no matter how far it might be from the home village to the outlying fields. Generally, in view of the modern situation, we can assess a sparser habitation in some periods of Antiquity on these

two rocky islands, simply due to the limited water sources, which must have known complete dryness in the case of extensive summer drought.

On the contrary, in Karpathos there are alluvial coastal plains with plenty of ground water close to the beach and a few feet from the surface, accessible through wells in Pigadia and Afiartis. There are also several deep-seated perennial springs usually on piedmont slopes at the base of massive limestones, as in the area of Arkasa and at the villages and hamlets all round the foot-hills of Mounts Lastos and Khomali. The existence of fertile and moist soil in connection with sufficient quantities of life-giving water made conditions more favourable for the farming communities of Karpathos.

In the modern villages of the islands in the discussion, each house used to have a cistern to store rain-water from its own roofs. There is no doubt that in ancient times the people practised this system of collecting water, especially in Kasos and Saros where there are no springs, and water is supplied by wells cut in the softer rock or by rain-cisterns.

VI. ECONOMIC GEOGRAPHY

The islands of Karpathos, Saros and Kasos must have been far more prosperous in ancient times than today. Beyond any doubt the Prehistoric economy of these islands was determined by two factors: first, their remoteness; and second, their relatively assured self-sufficiency as a result of their natural resources. Within the islands a certain kind of limited barter exchange economy would have been practised, based entirely on mutual trust, particularly before the arrival of the Minoans.

VI (A). Minerals

The mineral resources of the islands are very limited, and very little or by no means exploited as yet. There is no information as regards the existence of metalliferous deposits in a financially exploitable quantity. Karpathos has ores of zinc and lignite, as well as chrome-iron, hematite and emery, which are contained within its old crystalline rocks, and perhaps silver; but these minerals have not been worked hitherto because of their small quantities and poor quality (Volonakis 1922, 67. NID 1941, 7. Myres 1941, 145; 1953, 281). There are, however, good deposits of gypsum in the coastal areas of the island, mainly near Pigadia and at Gypsoi on the south-eastern coast, as well as in Kasos and its adjacent islets, chiefly Armathia, from where gypsum was exported (NID 1941, 51).

In all three islands there is excellent building stone, forming the chief material of their mineral wealth: ordinary limestone and sandstone or poros limestone, both suitable for construction material and wall building. Substantial ancient quarries of soft limestone can be seen on Paleokastro in Pigadia and on the coast of Ardani in south-eastern Karpathos.

The sedimentary deposits in old river-beds, especially in the regions of Pigadia, Arkasa and Afiartis, furnish the islands with another industrial material precious for the ancient economy, fine potter's clay (cf. Cary 1949, 42 f.)

Good salt is obtained from lagoons on the coasts of the islands.

VI (B). Agriculture

In Prehistoric times the soil of the islands in discussion must have been more plentiful and fertile. In the course of time a considerable extent of grasslands have been ploughed up or impoverished by overgrazing, while the decrease of the average rainfall, the gradual erosion and neglect of the terracing walls have laid the islands almost bare and to a great extent uncultivable.

As already stated, the Old Cretaceous rocks are very sparsely cultivated, whereas the low valley-terraces of the great limestone areas are well cultivated, the soil being retained behind terracing walls built on the slopes. But the chief cultivable lands are formed by the beds of the Tertiary rocks and later limestone areas which break up into more or less deep and fertile soils; they are porous and absorb surface moisture, but are soon re-cemented by evaporation during the dry season, compelling the peasantry of the islands from the very beginning of ploughing activities to adopt a primitive sort of "dry-farming". These clay beds form small rolling plateaux with undeveloped water courses steeply eroded into their edges, or deep terraces carved on the bolder slopes by long continued ploughing. It is indeed to remnants of these tertiary beds, clinging in brownish patches to ancient hill-sides of the massive limestone, usually in maritime lowlands intersected by steep-sided ravines, that the karst-districts of the islands in discussion owe what little agriculture they have.

The limited amount of fertile arable land necessitated careful exploitation of the small, mostly alluvial coastal plains, like those of Pigadia, Arkasa and Afiartis, or of mountain plateaux, like Lastos in Karpathos and Argos in Saros and Kasos. Even more significant was the banked-up earth of the many hill-side terraces, which have been utilised both by ancient and modern husbandmen to the utmost limit of cultivation. The peasants have laboured to clear the soil of its perennial crop of stones, but the extent of these minute and precarious plots, often more suitable to hoe-tillage than to ploughing, seems to diminish steadily with the gradual exhaustion of the soil; abandoned ranges of such terraces and the ruins of the settlements (metokhia) which they served are common sights in all the limestone regions of Karpathos, Kasos and Saros. The cultivated lands must often have been situated, in ancient times, far from the village, as they are today (cf. Lasithi 1982, 14).

Denudation of the hill-sides and deforestation with the failure of

springs are causing an inevitable agricultural decline, while there is little doubt that ancient agriculture was remarkably significant, since the settlers of the three islands had to gain their subsistence principally by farming. From Prehistoric times a specialised scrub-culture would have been practised, consisting in selecting and improving indigenous shrubs or low trees like almond, fig and carob, which being deep-rooted are exceedingly drought-proof. But olive and vine in particular have always been the favourites of the islanders, and they may have grown wild in early times. Originating in the Near East they had been passed on to the Greek mainland in Prehistoric times through Crete and the Aegean islands. They are normally cultivated in the coastal plains, where most of the vine-yards and olive-groves of the islands are still found today; but isolated clumps of olives and vines are seen everywhere, the former often combined with the raising of cereal crops between their rows. The latter are often cultivated up to high uplands, like the Lastos plateau.

Fruit trees and vegetable gardens must have existed in Antiquity as they do today in all the well watered spots of Karpathos, especially in the soft basins of the deep limestone valleys inland.

It is worth noting that Karpathos and Kasos were exporting oil of good quality and high-grade wine until quite recently, as well as various fruits, fresh or dried, such as raisins, figs and almonds, and various vegetables (NID 1941, 93, 96. cf. Hammond 1959, 10). On the contrary cereals were and are still imported. But in ancient and particularly in Prehistoric times the grain-crops must have been much more abundant to meet the local needs, or in case of periodical drought, they may have been obtained by exchange for various crops from deep-rooted trees, a practice very common in the Aegean during Classical times (NID 1941, 56). Until recent times, however, the plain of Afiartis was known for its productiveness and large yield of cereals.

The stony nature of the soil compels the cultivation of barley in preference to wheat, whose long roots cannot find accommodation in it.

Apart from cereals, various kinds of legumes must have been cultivated in Antiquity as in modern times, when several kinds of beans, peas and lentils formed the basis of the diet in all three islands.

VI (C). Stock-breeding

It has already been stressed that from very ancient times continuing and extensive erosion in connection with human intervention have rendered barren the mountainous regions of the islands under discussion. In most cases only small pockets of soil have remained between unevenly scattered rocks. This fact has considerably increased the ratio of uncultivable to cultivable land, and accordingly that of pastoral activities to agricultural. Particularly in the case of Kasos and Saros and to a lesser extent in Karpathos, the modern almost exclusive pastoral exploitation of the land came as a compensa-

for the agricultural decline. The fields were turned into pasture which is no longer subject to agriculture.

On the other hand all three islands from their nature are very appropriate to support animal breeding because of the flysch and the sufficient vegetation on the mountain slopes or even in the more rocky districts, where a short-lived flora grows from the Winter to the early Spring.

Sheep and goats form the principal breeds in these islands. They must have been the first to be domesticated or to be brought from elsewhere by their Neolithic inhabitants. Today they are transported in small boats to the island of Saros, and from there back to Karpathos according to the season. On southern Karpathos there is a seasonal migration of flocks from the mountains to the lowland districts as the need for food arises; this seasonal transhumance has persisted from Stone Age times to the present day (cf. Bintliff 1977, 116-7. Watrous 1977. Lasithi 1982, 10).

The main product has always been cheese in several varieties, as well as butter, mizithra, etc. Sheep and goat skins and hair were of no less value in Prehistoric times, and we have evidence of weaving from this period in the form of loom-weights found in Karpathos, where woollen, linen and cotton textiles are still being woven on some primitive domestic looms which carry on a very ancient tradition. In Olympos, a village in northern Karpathos, the women still wear home-made clothes, while bedclothes and shoes are also locally made and of local material, as has always been the fine coloured basketry, which flourished in the village of Menetes and seems to have had a very ancient ancestry.

Apart from goats and sheep, pigs are few and must have been so in Antiquity. Asses, mules, horses and oxen are raised, but in very limited numbers, and are generally used for agriculture and transport.

To sum up, stock-breeding has always played a significant, if not the most essential part, in the economy of the three islands. It is noteworthy that Kasos exported, until recently, butter and wool (Volonakis 1922, 64. NID 1941, 96).

As regards bee-keeping, we may assume that it was of greater importance to the ancient inhabitants of these islands than it is today, when considerable quantities of honey and wax are still produced.

VI (D). Hunting and Fishing

It is reasonable to suppose that the very primitive settlers of the islands may have made their living exclusively by hunting and fishing, before they learned pastoral and agricultural processes. But even after that, hunting and fishing still formed an essential part in their subsistence, as is usually the rule in all agricultural communities. Even today in the islands in question these two occupations are not a mere sport, but contribute considerably to the diet of the islanders.

We know that in ancient times the islands had richer resources in animal and bird life. Hares are very common even today, but in Antiquity they existed in Karpathos in abundance (Aristotle, *Ars Rhetorica* III. 11, 18-21). Wild goats may have existed in early times, while polecats are found today in Karpathos. Partridges and wild pigeons are still abundant in all three islands, while passing birds like quails and turtledoves would have landed on the islands in much greater numbers than today.

The sea around the islands is still rich in seafood and we have evidence, in the form of small obsidian arrow-heads or leister-tips from coastal sites, that even the Neolithic settlers of Karpathos were engaged in fishing. One of the local fish named scaros was very famous in Antiquity, and Roman emperors used to send fishing boats to the Karpathian sea exclusively for this delicious fish (Plinius, *Nat.Hist.* IX. 17.29. Volonakis 1922, 66).

Octopus and cuttlefish were also very favoured, the former eatable both fresh and dry and the latter acquired often very easily, thrown up on the sandy beach in the luminous nights of September.

Along the coasts of the islands murex shells were also caught, from which the fishermen extracted the valuable purple dye, used especially in the silk industry. In addition, "the coral which clusters round the sunken reefs of Karpathos was very much sought after" (Volonakis 1922, 66-7).

VI (E). Trade

The exceptionally strategic location of the islands Kasos, Karpathos and Saros on the route-lanes further east has already been stressed. They lie at the busiest crossroads of the eastern Mediterranean, and enjoyed the immense advantage of a favourite situation at a point where the main sea-route to the north and the Euxine branched off from the great line between north-east Africa and the Atlantic; Kasos in particular has always been an important naval station for boats sailing to and from Egypt to the Aegean (Philipson 1959, 314). On the other hand these islands stand in the middle of a natural channel between Rhodes and Crete, forming as stepping stones a natural bridge from eastern Crete to south-western Anatolia, and affording choice bases for commercial enterprises on the great oriental track which skirted along the south coast of Anatolia and then passed into the Aegean; it runs thence westward past Rhodes, Crete and Kythera. Along this trade-route there were small ports at short intervals, from the mouth of Orontis to Adalia and then to Rhodes, Karpathos, Kasos and Crete (Myres 1949, 203).

It is obvious that the importance of these small and mountainous islands, both in Prehistoric and Historical times, mainly rested on their function as commercial, and to a certain extent cultural, entrepôts on the main natural gateway between East and West. Their ports control the entrance into the Aegean Sea. On the other hand they form the meeting point of the sea-routes converging from the Greek Mainland, Crete and the other islands, and from the

Levantine coast (Volonakis 1922, 23).

From as early as Neolithic times, all three islands must have served as intermediary stations for people who were moving across the Aegean, from Phoenicia and Western Anatolia to Crete and vice versa. Later, during the Minoan-Mycenaean times, we know on the basis of literary and mainly archaeological evidence that they formed regular stations for the Aegean traders on the Levantine route (fig. 23).

In Historical times the Dorians occupied these islands and ensured their command of the very significant sea-straits. They centred their power in Rhodes and fully exploited the advantage of the position of the whole island group.

The Romans later, in the course of their supremacy in the eastern Mediterranean, chose Karpathos to establish their third naval station in the Levant, the other two being in Alexandria and Seleukia. From Karpathos they were able to guard the middle passage to Italy and the approach to the Aegean; it was perhaps from here that their fleet policed the eastern Mediterranean basin and put down piracy (Gibbon 1906, I, 450-451. Holland Rose 1933, 145).

In Byzantine times Karpathos continued to serve as an essential naval station in the Aegean; this is referred to by historians of the time, and is confirmed by the remains of dock-yards and extensive supply-stores still seen in Karpathos, especially on the small islet of Socastro off the western coast of the island (Ahrweiler 1966, 111, 225, etc.).

From 1212 to 1538 the three islands were occupied by the Venetian princes Cornari. By that time the Venetians were animated by truly Minoan ambitions for commercial domination in the Aegean. For that purpose they also took possession of Crete and Kythera, as well as of various important castles in the Peloponese. For one and a half centuries (c. 1340-1500), with the co-operation of the knights of Rhodes, they managed to retain their command of the eastern passage-way and the trade-route from Greece to Cyprus and Alexandria (Churchill Semple 1932, 74). Again literary and archaeological evidence shows that Karpathos and Kasos played an important part in the naval and commercial sway of Venice.

The well known saying of Herodotus that "Te Elladi penie aei kote syntrophos esti" (VII 102.1) is more true of the islands under discussion. Therefore overseas trade would have offered them a valid solution to the problem of the deficiency of arable soil. Easy relevant conditions in association with their advantageous location facilitated their movements and afforded them ample means of living and enrichment.

The open sea offered to the islands concerned, from Neolithic times, good and constant communication with the other islands and even more distant places, as it did in modern times, when in Karpathos and Kasos there

were indispensable classes of traders and merchants, who usually were at the same time shop-owners and possessors of small sailing vessels, which were named kaiki (cargo-boat) and usually had two masts and a capacious deck. From Pigadia, Finiki and from Kasos various agricultural products were exported in these small boats. The men of Kasos in particular are well known as sailors and traders at least from the period of the Turkish occupation and onwards, and they may have been so in ancient times. Today there are many Kasians among the most distinctive Greek merchant-ship owners (cf. NID 1941, 55, 68, 93, 96).

The commercial as well as the cultural activities of the islands in question in Prehistoric times would always have had an orientation towards Crete, Rhodes and south-western Anatolia, since in addition to other factors the sea-routes within the Aegean presented fewer terrors than the trip across the less well-known open sea, especially to the west.

VII. NATURAL ENVIRONMENT AND HUMAN SETTLEMENT

The significance of geomorphology and natural conditions for the pattern and distribution of early settlement has already been stressed. Environment and physical factors always have a direct bearing upon human life (Butzer 1972, 401 f.).

As regards the three islands in question it is easy to assess that their geographical situation in connection with their peculiar features have set for their inhabitants distinctive patterns of life, which were moulded and influenced by this particular environment (cf. Bintliff 1977, 111). It is true that modes of human livelihood and the types of society they could support are very limited, especially if seen from a modern point of view. But in Prehistoric times the general conditions were more favourable, and the primitive settlers must have been less demanding than the modern. The land was fertile enough, although mostly confined to small arable pockets, the pasture was more plentiful, and the forests and the sea richer in game and fish.

It would therefore have been easy for the first small communities to make their living by a combination of agriculture with herding, hunting and fishing. Evidently they were able to maintain themselves by exploiting the natural resources of the islands. Trade seems to have played an important role later, from the middle of the second millennium.

Later, in Historical times, Karpathos in particular appears to have been well peopled and quite prosperous, since it was capable of supporting four independent city states. It continued to flourish up to Late Roman times with an astonishingly unchanged habitation pattern from Prehistoric to early Byzantine times, when Arab piratical raids set a different pattern in all three islands. But even thereafter, most of the ancient centres kept their importance, as in Kos and Nisyros (Philipson 1959, 327), the maritime sites

gradually recovering in modern times their Prehistoric and Classical significance. This last is very helpful in the reconstruction of the Prehistoric settlement pattern, since the present distribution of villages and hamlets, especially in Karpathos where the latter are as numerous as in Rhodes and Kos, unlike the rest of the Dodecanese, does not differ considerably from the very early rural habitation.

Under peaceful conditions there has always been a predilection for elevated coastal sites, steep promontories or low hills, especially those offering a solid foundation for settlement, in association with a safe anchorage or beach for small boats, sufficient cultivable territory and accessibility to natural water sources. Neolithic people often dwelt in caves or rock-shelters, usually close to the sea or at the edge of small alluvial plains or uplands. Prehistoric sites are also found inland among the well watered slopes of the enclosing hills or mountains, almost invariably situated on elevated areas, rocky knolls or outlying spurs of the mountain rim, which offered an acropolis for defence in time of hostile attack.

CHAPTER TWO: PREHISTORIC HABITATION (FIGS. 3-6)

I. SOUTHERN KARPATOS

I(A). PIGADIA DISTRICT (fig. 7)

This is the area where the modern capital of the island lies. By local standards, it possesses a fairly extensive and fertile plain, well protected from the north, west and south by low ridges and higher mountains. Its natural harbour with its long sandy beaches is probably the best in the island. One would consequently expect a major prehistoric habitation here, as was the case in the historical times, when the city of Poseidion was founded and flourished in this region.

In fact, surface investigation in the area, as well as various and valuable chance finds, have fully satisfied our expectations. A total of eleven sites and a possible Mycenaean acropolis have been identified so far, spanning the period from the Late Neolithic and Early Bronze Ages to the end of the Bronze Age. They include settlement as well as cemetery sites. Three of them appear to be Neolithic or Early Bronze Age and are located on elevated areas close to the sandy beaches of Afoti and Vrontis (A 1-3). The other eight are Minoan and Mycenaean. Of these four are settlement sites concentrated on the coastal strip around Xenona and on the gentle hill-slopes to the south (A 7-10). The other four are cemetery sites situated on the hill-sides of Skopi and Sisamos (A 4-6, A 11).

Th. Bent (1885, 235) reports a large female idol as found at Pigadia, but the exact location is not stated (our fig. 58). After a short reference to the setting of the sites, a general description of the Prehistoric remains and associated finds will be made. We follow a roughly north to south direction.

A1. Tsoulakis' Cave

This is situated at the foot of a steep and rocky crag, on the northern side of a ravine, at the bottom of which a torrent flows south-eastwards into the little bay of Vrontis. It is just about a hundred metres to the left and below the road to Aperi, where it curves at a right angle northwards and runs along the rim of a deep and narrow gorge separating the crag from the mountain-range to the east. The cave is about fifteen hundred metres away from the sea.

The entrance faces south and is reached not without difficulty, because of the treacherous scree in front of it. There is a piece of walling made of rubble and cement, evidently part of a longer one, which shut the entrance during its use in later times. The wall stands to a height of one and a half metres and has an average thickness of eighty centimetres. The chamber is irregular in shape and fairly high. It covers an area of approximately seven metres by twenty metres. The floor is covered with

boulders fallen from above and it seems that the underlying deposit is quite thick.

Several sherds were collected from the surface and from the rock clefts. Few of them are of handmade coarse and gritty fabric and could be Neolithic or, more likely, Early Bronze Age. A couple of sherds may belong to the Middle and Late Bronze Ages. A good piece of Melian obsidian blade as well as stone pestles and grinders were also found.

A2. Ayia Kara-Kefali

The site is a little spur pointing eastwards and ending just upon the beach, which begins in the town of Pigadia and continues up to the bay of Vrontis. It links up with the hills to the west by a narrow saddle, now crossed by the road to Aperi. The little chapel of Ayia Kara lies some hundred metres south-west.

The place is very attractive to those looking for Prehistoric settlement. The soil is very soft and eroded, especially on the eastern hill-side, where we found a blade fragment and a chip of Melian obsidian. There are also many later sherds, mostly Roman, associated with architectural remains of a Christian basilica etc.

A3. Lothiko

This is a low hillock further south from Ayia Kara, beyond the road to Aperi and at a distance of less than two hundred metres from the petrol station of Yannis Pakhountis. The low terraces on the top of the hill are strewn with obsidian flakes of the Melian type, especially on the eastern side. There were, however, hardly any blades and Prehistoric sherds were absent. One is tempted to assume that an obsidian chipping industry was established here and this is not unlikely given the favourable position of the site, which lies very close to the best landing place of all three islands.

A4-6. Skopi (fig. 8)

This is a low and flat-topped spur commanding the south and western part of the town. Several chamber tombs have been discovered on the south, east and north hill-sides. On the other hand sporadic traces of Bronze Age occupation were found on the hill-top and on the terraces below.

A4. Embasi-Diakonis' hotel

At the north-western foot-hills and immediately to the left of the farm track leading further south-west a chamber tomb has recently come to light during the digging for the foundation of a new hotel. No traces of the tomb were preserved at the time we visited the site, so nothing is known as to its architecture. We were just shown the finds collected mostly in pieces and now possessed by three persons: the hotel owner, the

owner of the mechanical digger Manolis Khouvardas and the truck driver Mikhalis Khatzantonis. The tomb was cut in the soft clay at the north side of the hotel, about a metre below surface level. The grave offerings include fifteen vases, mostly fragmentary, one spear-head fragment and a fine whetstone. We were told that some similar vases were found in the same place some thirty years ago, while building a house.

A5. Anemomiloi and Plateau

Two Minoan vases were found while digging trenches for water supply in the street immediately in front of the house of Sofia Dargaki-Pakaki, at the east edge of the plateau where it starts sloping down in terraces. They probably came from a chamber tomb and are now in the museum of the village Othos. In the terraces immediately below and north of this site, as well as on the north-western side of the plateau itself, some Minoan-Mycenaean sherds, a piece of obsidian blade and several flakes were found on the surface.

A6. The Anemomiloi and Makeli cemetery

At the south-eastern slope of the hill, on either side of the road leading up to the plateau, a number of chamber tombs came accidentally to light a few metres to the south-west of the house of N. Pouzoukakis and around the spot where the new red house of M. Kakomanolis was built. The site lies just on the border between the localities Anemomyloi and Makeli.

One or two tombs were discovered in 1949 while planting a vineyard (BCH 74(1950)312-13). Their architectural details are unknown but they were particularly rich in grave offerings, since they contained ninety-seven complete and fragmentary pots as well as bronze weapons and small implements of bronze and lead. They have been published by S. Charitonidis (1961-2, 32-76). Apparently the tombs were in continuous use from IIIA1 to IIIB1. The majority of the vases, according to Charitonidis, belong to the LM IIIA1 period and present clear Minoan characteristics, but in the group which is transitional from IIIA1 to IIIA2 there are some Mycenaean imports and strong Mycenaean influence is observable in a number of vases with Minoan shape, which may have been locally made and inspired by the two different artistic trends. In the pottery which falls within IIIA2 and the transitional stage between IIIA2 and IIIB the number of Mycenaean imports increases as well as the influence in the decoration, although Minoan imports continue and the locally made pottery seems more Minoan than Mycenaean in character.

A group of ten objects including vases and bronze weapons and belonging to Nikolaidis' collection at Pigadia are said to have come from the same cemetery (Melas 1979, 146-148), as well as fourteen clay and stone vases formerly stored in the elementary school of Pigadia (Melas 1979, 142-144,

figs. 6, 12a; 1981, 103-104, figs. 1-3). The majority of these vases are now in Rhodes Museum.

Another group of ten fine vases, a tripod pot and two pot fragments stored in the same Museum and reportedly found in Karpathos, most probably came from the same place.

Some fifty metres to the north-east of the site where the chamber tombs were found and immediately below the N. Pouzoukakis' house, on the west side of the road, we picked up a few Minoan or Mycenaean sherds from the foundation trenches of the house of G. Saltas. One of the sherds appears to have come from a LM/LH III bowl or goblet.

A7. Xenona, Avla and Makeli (fig. 8)

Hope Simpson and Lazenby report abundant Mycenaean sherds from the low bluff about a hundred metres west-southwest from the Eparkhion building. The site covers an area of about eighty-five by sixty metres. On its northern edge the hotel Xenona was built later, immediately above the sea. They note fine fragments of painted and plain Mycenaean kylikes, some dated to the IIIA-B period, a patterned deep bowl fragment probably Myc. IIIC and possible Middle Minoan III brown-washed fragments.

Some hundred metres to the south they found the complete profile of a MM III-LM IA cup. Another hundred metres further south they picked up a kylix stem which, as they say, may mark the southern limit of the site.

They also mention four vases which were shown to them in a nearby house. The vases were subsequently taken to Rhodes Museum, where we were able to identify them among the vases from the elementary school (our nos. 44, 47, 51, 53). They were said to have been discovered in a field about five hundred metres south of the Xenona site.

Drawings of little stone cups of Middle Minoan type are also mentioned as having been shown to Professor Jameson. They were said "to have come from a fertile district about half a kilometre to the north-west of Xenona (Hope Simpson-Lazenby 1962, 159-60).

In a second visit to the island Hope Simpson and Lazenby gathered some more sherds from the site at Xenona, including a stemmed bowl rim with an overall red-brown paint, probably Myc. IIIA, sherds from Myc. IIIA-B stemmed bowls and kylikes, coarse handles with well levigated gritty clay and a chip of obsidian (Hope Simpson-Lazenby 1970, 68-69).

Our investigation in the area has yielded some new finds. Just twenty metres south of the road, which roughly marks the southern limit of the Xenona site, a few Minoan-Mycenaean sherds were collected from trenches around the house of Martha Nikitiadou (marked in fig. 12 of Hope Simpson-Lazenby 1970, 68).

Some two hundred metres further south, on the terraces which lie between the Anemomyloi-Makeli cemetery and the modern football field and are planted

with olive trees, some sherds of coarse Minoan fabric were collected. The locality is called Makeli.

Two bronze daggers of Minoan type were found during the digging for the foundations of the house of S. Tavernari, about a hundred metres west of Xenona, on the south side of the road. Two or three vases, which we have not seen, were said to have been found in association with them (Melas 1979, 141-43, drawings 4, 5, fig. 5).

A8-10. Vroulidia (fig. 8)

Accidental discoveries during the years 1980-81 led to the identification of the focal point of the Minoan settlement in the region of Pigadia. Some hundred and fifty metres east of the Xenona site and very close to the coast which is now called Vroulidia, three sites have presented abundant and valuable relevant evidence.

A8. Manolakakis' Land

In the summer of 1980, while digging the foundations of a hotel, a thick Minoan deposit made its appearance after a large rock had been detached from the north-west side of the adjacent orchard, which belongs to M. Manolakakis. We learned of the discovery after a retaining wall was built and the space in between partly refilled. However, we made a preliminary presentation and interpretation of the find, relying exclusively on the unstratified material we were able to collect (Melas 1981, 103-107, map 2, drawing 1, figs. 4-13).

In the Summer of the following year we went back to the site and made a section in an attempt to study the stratigraphy. On account of the narrowness of the room available we did not reach virgin soil which seems to consist of fine green clay (fig. 44:a and Melas 1981, drawing 1).

The top level, sixty centimetres thick, was formed by later fill and consists of soft black earth. Layer III is composed of very hard light-coloured soil mixed with small pebbles solidly packed together. It contains an abundance of broken pottery, mainly conical cups. There were also plenty of animal bones, including a calf's horn and carbonised material. A piece of red plaster, seven to eight millimetres thick, runs horizontally for a distance of more than fifty centimetres, at seventy-five centimetres below surface level. It borders onto a thinner layer of white lime, five millimetres thick (cf. Gournia 21). Layer III is about eighty-five centimetres deep.

Then follows layer II, another forty-two centimetres thick and light brown to buff in colour. It is even harder and contains sand and small pebbles. The sherds here are very scarce, the middle part of the layer completely lacking these.

With layer I we reached a depth of ninety centimetres below the termina-

tion of layer II. It also consists of clay silt and in its composition and colour looks similar to layer II, yet it contains far less pottery, bones, etc.

The bottom of layer I is composed of wet and sandy earth containing pebbles as well as many little stones. This level, of which only fifteen centimetres was exposed by us, appears not to be differentiated from the rest of layer I. It is clear that it continues further down before it reaches virgin soil.

The stratigraphical evidence appears to suggest that all layers were deposited at about the same period, which was probably not very long, falling within the range of MM IIIB-LM I. The deposit probably represents a tip of household debris, which was from time to time disturbed, rather than the kind of deposit associated with a destruction. The bulk of the pottery is plain or painted, handleless or one-handled conical cups. Bowl and basin fragments as well as sherds from jugs, amphorae and hole-mouthed jars were also collected. Among the coarse pottery were parts of tripod vessels and pithoi. Half of a stone-quern and a grinder were also found, as well as a pebble with strong traces of red plaster on its flat sides. Apparently it was used for the preparation of the material or for polishing after it had been applied to the walls. Traces of the latter were not revealed, but the stratification indicated that houses had stood nearby.

It is quite premature to speak with certainty of the character of this deposit before a systematic excavation is carried out. At the moment all we can say is that we are dealing with a rubbish dump of the usual domestic type. A great proportion of the "rubbish" would have come from a kitchen, judging from the presence of cooking vessels, grinding stone implements, animal bones and charcoal.

A9. Sfayia

Some forty metres north of the Manolakakis' site, on a cliff lying immediately below the road and behind the old "butcher's houses" built during the Turkish occupation, just a few metres from the beach, another Minoan deposit is easily seen underlying bulky rocks, which appear to have fallen during an earthquake. There is abundant Minoan pottery especially in the area beside the mouth of a spring, which was used until modern times, as well as in the cliff further west towards Xenona (fig. 44:b). We picked up several sherds and an almost complete conical bowl. It seems that this deposit is nothing but a northern extension of the Manolakakis' one, a fact which shows that the Minoan settlement expanded as far as the sea-shore. Yet we must note that conical cups are hardly found in this deposit, while the hemispherical and rounded type is well represented.

A10. Sevdalis' land

This is situated immediately south-east and east from Manolakakis' land and is separated from it by a narrow passage. On its north-eastern part, at a distance of about thirty metres from the Manolakakis' deposit, a few sherds were collected from foundation trenches about one metre below surface level. The complete profile of a rounded cup has been restored. These finds testify to the extension of the Minoan settlement further south-eastwards.

A11. Sisamos (fig. 8)

The name is suggestive of very ancient human presence here, especially as we probably have a Homeric town with identical name in Paphlagonia in Asia Minor (Hom. B853, but cf. Allen 1921, 156f.) The area consists of steep terraces on the lower slopes of the overlying mountain-ranges. It is situated opposite the Acropolis and overlooks the modern harbour, which is about four hundred metres north of it. It seems that another Minoan-Mycenaean cemetery was established here, as witnessed by chance finds. Hope Simpson and Lazenby refer to two chamber tombs discovered whilst digging the foundations of the house of Elias Tsausopoulos, which lies on the south side of the road immediately across the top of the long and steep staircase. Among the grave offerings were few vases of MM IIIB or LM IA style, but the majority were of the Myc. IIIA-IIIB period (1962, 160).

From the same district, and perhaps from the same cemetery, comes the Minoan stone vase of the blossom type now possessed by Manolis Vozos at Pigadia (Melas 1979, 152, fig.13, drawing 7).

A12. Acropolis (fig. 8)

This is a rocky spur jutting out from the higher ridges, to which it is connected by a saddle now crossed by the road (fig. 44c). It overlooks the harbour and the eastern part of the town and dominates the sea approaches. Certainly it was the citadel of the classical town Poseidion, as suggested by archaeological evidence. The site has been described by Ross (1945, 57), Dawkins (1902-3, 203) and by Hope Simpson and Lazenby (1962, 159-160). The latter have suggested that it may also have formed the fortified citadel of the Mycenaeans, who would have taken advantage of its natural steepness on the north and north-eastern side and reinforced the other gentler slopes by circuit walls.

The top of the hill is almost level and covers an area of about two hundred metres east to west by one hundred metres north to south. It was evidently enclosed by a fortification wall, at least at its less defensible sides. Stretches of these are still preserved under modern terrace walls, mainly on the eastern side (fig. 44:d). Their "cyclopean" appearance does not necessarily imply a Mycenaean date, given their not genuinely Mycenaean

masonry, as well as the absence of any conclusive evidence of Mycenaean habitation, which however might be due to the abundance of later debris. The surface pottery is mostly classical and Hellenistic. The only Pre-historic find on the Acropolis was a fragment of obsidian blade. One cannot exclude the possibility that the walls were built in the early Iron Age.

I (B). AREA OF LAI

B.13. Karvounolakos

The site is a low hill covered with thick scrub and surrounded by undulating cultivable ground, now almost arid. There are still numerous olive-groves in the vicinity. On the south slope of the hill a chip of Melian obsidian was found in October of 1978.

I (C). REGION OF LAKI

C14. Vathipotamo

The site lies a few metres south-west of a dry stream called Vathipotamo, which flows into the sea some three hundred metres south-east from the spot where a well is cut into the soft rock of the stream-bed, the only water source in the region (fig. 45:a). The south-eastern boundary of the site is formed by a rubble wall running in a south-west to north-east direction across the neck of a promontory-like land falling away in a steep cliff on its south-western side. There are sandy beaches on either side of the promontory and the Vathipotamo bay forms a good natural harbour. One blade fragment and three flakes of Melian obsidian as well as four flint flakes were found on the low terraces supported by retaining walls. The sherds collected are mostly Hellenistic and Roman, but a couple of them may be Middle or Late Bronze Age.

At the foot of the cliffs which flank the plateau to the north-west of the site, there are several rock-shelters which may have been used for residence in Prehistoric times. One of them was properly carved and transformed into a monumental tomb in Hellenistic or Roman times. No sherds earlier than Hellenistic were noted in these shelters.

C15. Ayioi Apostoloi

This is a small rocky promontory about one kilometre south-west of Vathipotamo (fig. 45:b). It possesses an ideal position commanding the approaches to the well-protected bay of Amooopi, with its two sandy beaches and natural harbour facilities. There are remains of fortification walls along the west and southern edges of the promontory, as well as many ancient house walls all over the site. The pottery evidence suggests intensive occupation of the site from Hellenistic times onwards. According to the

tradition a Christian monastery was established here at the early Byzantine period. On the top of the promontory the little chapel of Ayioi Apostoloi has been recently built.

The site looks very attractive for Prehistoric habitation, but the only positive relevant evidence we found on the western landward side of the promontory was a small fragment of obsidian blade and an obsidian chip immediately below and north of it, beside the beach called Peramos. Three or four sherds among those collected, although very scrappy and indeterminate, may date from the Middle or Late Bronze Age.

Cl6. Sakeli Kremos

This is a rugged spur acting as the east termination of the mountain masses, which culminate to the west in the Kefala peak. It lies between two ravines, Kourvoula to the north and Tou Milioti To Riaki to the south. It is separated from the ridges to the west by a saddle, along the western bank of which runs the road to the airport. The north and south-eastern side of the spur, which dominates the whole region, falls away in a steep cliff, but its west and south slopes are gentler and form narrow patches of land supported by terracing walls. One flake of Melian obsidian was found on these terraces. The associated sherds were very few, scrappy and difficult to date, as were those found, together with three more obsidian flakes and blade fragments, at three spots on the low flat terrace, which embraces the foot of the spur on its south and eastern sides. These spots are: one at the western-most edge of the terrace immediately above the ravine, the second at the centre of the terrace and the third some sixty metres to the east, below the north-western edge of the terrace, beside the ruined house of M.Zavolas which lies on the left side of the ascending path.

I(D). AREA OF AFIARTIS (fig. 9)

This is an extensive and more or less flat area occupying the south-east corner of Karpathos. It is reasonably fertile and has been regarded as the most prolific grain and wine producing region in all three islands. The appearance of the plain in ancient times must have been much as it is today; hamlets and single houses fringed the inland edges of the coastal strip and dotted the elevated and arid parts of the plain, which are unsuitable for cultivation.

Dl7. Kremos Tis Kipou

This is a rugged mountain ridge forming a naturally defended citadel, as it rises steeply with its high cliffs dominating the plain to the south. Its south and east sides are very precipitous falling steeply away to the plain and to the narrow ravine, which separates the citadel from the ridge to the east. The other sides are easily accessible.

Ancient occupation seems to have been confined to the eastern part of the ridge, occupying an area of about a hundred metres west to east by sixty metres north to south. On the west and north-eastern sides there are traces of a fortification wall, about one metre thick, built of large undressed stones. Many stones, evidently from ancient buildings, are spread over the whole area and what may be a large monolith jamb is standing on the ground. Apart from the architectural remains, the signs of ancient occupation were very scanty, being confined to a few sherds, two stone rubbers and a fragment of a whetstone. Two scraps of pottery may be Late or Final Neolithic. Minoan presence is witnessed by three small cup fragments apparently of MM III or LM I date. We also picked up several sherds of later date, including a classical black glazed fragment.

D18. Vouno

The site occupies the rocky and uneven summit of a relatively high promontory, which lies some way south-east of Kremos Tis Kipou (fig. 45:c). It enjoys a wide view over the whole region of Afiartis and dominates the sea approaches. Its strategic position is confirmed by the fact that the Italian troops had established gun stations there, which destroyed much of the ancient remains. The site has also suffered from erosion as well as from the building of a concrete survey post in recent times.

The promontory is approached from the west by a low saddle, on either side of which there is a small well-protected bay - Damatia and Tou Christou To Pigadi - with sandy beaches and small water springs nearby. The north-east and south-east sides of the hill are very precipitous as they fall steeply away to the sea coast below. The other sides are gentler. In some parts there are terraces and patches of cultivable land.

The traces of ancient occupation are largely confined to the west and below a small rocky outcrop, on the top of which a survey post has been built. Around the post we noted a stone quern, a couple of scrappy handmade sherds, and a few obsidian chips testifying to the human activities on the peak itself.

The main site seems to have been fortified on its north, west and south sides by a wall, which was built with large rough stones and embraced an area of around thirty five metres north to south by about twenty metres west to east. On the north side two stretches of this wall have survived, six and four metres long, preserved to a height of two and three metres. Another piece of, presumably, retaining wall built in the same manner is seen on the south-east corner of the site (fig. 45:d). It runs obliquely in a south-east to north-west direction. Many stones, apparently from ancient structures, occupy the space surrounded by the walls.

There is a thick scatter of sherds and Melian obsidian over the whole area of the site, whereas a thinner scatter of stones, sherds and obsidian

continues for a short distance down the slopes, apparently washed down from the top above. The bulk of the pottery is of coarse handmade fabric and looks very early, with a possible range from Late to Final Neolithic. Only three sherds, evidently of Middle Minoan date, reflect the Minoan presence on the site.

D19. Damatria

The site is situated some three hundred metres north-northwest and below the Vouno site. It is a kind of coastal bluff falling away to the pebble beach of Damatria and separated from Vouno by a ravine which begins from the saddle where the little chapel of Ayios Symeon is built. At the edge of the flat and cultivated terraces, immediately over the precipitous cliff which faces the sandy bay, few fragments of pottery were found as well as a couple of Melian obsidian flakes.

The pottery is scrappy and much worn. It appears to be identical with that found at Vouno and probably reflects an occupation in the course of the Late or Final Neolithic times.

D20. Tou Stavrou To Kefali

The site is a low hill about a thousand metres south-west of Kremos Tis Kipou and some two hundred and fifty metres west of the road-bridge built at a sharp turning of the road to the airport, where it crosses the stream, which bounds the hill on its northern side (fig. 46:a). On the plateau-like hill-top, from which one gets a panoramic view of the surrounding area, there are remains of the pebble-paved chapel of Stavros. A few minutes walk to the north-west there is a water spring beside the modern church of Ipapanti.

On the much eroded north scarp of the hill, immediately below the summit, a small group of Minoan vases was found on the surface, some years ago, evidently washed out from a chamber tomb, since the site looks very suitable for this kind of burial (Melas 1979, 154-158, figs. 15-18; 1981, 107-108).

In our visit to the site in the summer of 1980 we collected some more complete and fragmentary pots (Melas 1981, 107, figs. 14-15). The evidence available gives the impression of a cemetery used during the LM IIIA period. The settlement of the people buried here has not been identified yet, but it must have lain somewhere in the vicinity. However, a thin scatter of Minoan sherds was noted on the terraces of the south-east slope of the hill under discussion. They seem to fall within a MMIII-LMI range.

D21. Stous Fournous

The site is the first in a series of Minoan settlements identified along the low ridges, which bound an inland plateau-like area and run parallel to the coast at an average distance of about a thousand metres from

it. The sites are found nestling in the shelter of the eastern or south-eastern ridge-slopes, which are well protected from the north-westerly winds. As a rule they are within sight of the sea and nearby sandy beaches, from which they are separated by cultivable coastal plains and low terraces. All appear to share the same features and mainly to be roughly contemporary, covering part of the Old and the whole of the New Palace period. The evidence seems to reflect the presence of isolated farms and scattered houses or hamlets rather than larger settlements.

At the site concerned the Minoan settlement was situated on the low terraces which start immediately below the flat top of a low hill called Tou Mari To Kefali and continue down the gentle hill-side until they meet the coastal plain (fig. 46:b). Two broad and shallow ravines flank the hill from the north and south.

The traces of intensive occupation are largely confined to an area of about one hundred and fifty metres west to east by one hundred metres south to north. The ascending farm track forms roughly the east and south boundaries of the site, but a thinner scatter of sherds continues for a short distance beyond the road around a modern farmhouse, as well as on the flat fields to the north. Another farmhouse is situated where the farm track bends to the west (fig. 10).

The heaviest concentration of sherds and stones from ancient buildings are on the south-west part of the main site, on either side of a terrace wall built on the edge of a low cliff and running from south to north (fig. 46:c). Stumps of house walls associated with plenty of Minoan pottery are exposed on the surface marking the presence of a ruined Minoan house (fig. 46:d). The ruins of two other Minoan houses can be seen on the south and on the north side of the site (fig. 47:a). Two flakes of Melian obsidian were also found, as well as two hammer-stones made of heavy black or white pebbles, and a whetstone of fine grey sandstone.

The pottery seems to reflect an occupation during the flourishing period of the Minoan civilisation between Middle Minoan I-II and Late Minoan I rather than earlier or later.

D22. Laspoma (fig. 10)

The settlement occupies a position similar to the previous one. It is situated on the eastern terraced slope of a ridge, which lies some five hundred metres south of Tou Mari To Kefali and is backed by a low plateau. It is bounded to the south-west by a broad and shallow ravine called Spinomelisa. We first visited the site in the Autumn of 1979 (Melas 1981, 112). An area of about three hundred metres north to south by two hundred metres west to east is thinly littered with Minoan sherds and scattered traces of ancient buildings. The north-west corner of the site is marked by the farm-

house of Vasilis Rousakis, whose construction along with that of the associated farming installations seem to have caused much damage to the ancient remains. The main concentration of Minoan sherds is found a few metres south-west of this house, on the narrow terraces below the low cliff. Immediately above, on the edge of the plateau itself, a few Minoan sherds were collected testifying to the extension of the Minoan occupation beyond the shelter of the well protected hill-side.

Sporadic Minoan sherds are also noted beyond the limits of the main settlement in all directions. Abundant Roman sherds are present as well all over the area.

The evidence indicates a small settlement which appears to have flourished during the Second Palace period.

D23. Palio Mitato

The site was first identified in the Summer of 1980 (Melas 1981, 108-110). It is a low plateau-like ridge overlooking the sea and the airport plain (fig. 47:b). On its south and east side it is bounded by low cliffs which form a very good shelter extending up to the road. The latter starts from the main airport road and runs from east to west, while crossing the plain, but turns to north-west, when ascending the sloping ridge. This road bend forms the north boundary of the site, which presents an abundance of Minoan traces (fig. 11).

There is a thick assemblage of pottery and many stones from ancient structures at the base of the cliffs and on the land between them and the road, which belongs to the priest Gr. Khatziantoniou (figs. 8 and 47:c). Sporadic Minoan sherds are also noted along the edge of the plateau itself, immediately above the cliff. Later sherds, mostly Roman, are also found all over the site, which covers an area of about two hundred and fifty metres up to the road by three hundred and fifty metres north-west to south-east.

On the south-east corner of the site, just below the east tip of the ridge, there was a heavy concentration of Minoan sherds, mill-stones and stumps of ancient walls, apparently the debris of a Minoan house destroyed by fire, traces of which are still visible (fig. 47:d). The house was evidently built into the low cliff. Its ruins were badly destroyed and partly covered by large rocks falling from the cliff, as well as by the building of certain military installations during the Italian occupation.

Hundreds of sherds and two stone querns have been collected from a space surrounded by bulky rocks and large bushes. Many rough stones from ancient structures are strewn over the place and a good piece of fallen wall can be seen on the south-east side, running eastwards for about one and a half metres from the base of the cliff. It is built of small undressed stones and is preserved to a height of thirty-five centimetres. Its

thickness cannot be determined owing to the masses of debris abutting its southeastern side. There is a thick layer of charcoal and ashes underlying the fallen wall for its entire length. This layer seems to continue under the rest of the stone debris, as well as to the south under two fallen rocks, which form a cave-like opening one and a half metres long and half a metre high. The ash layer here is even thicker, in parts reaching a height of eighteen centimetres.

It is apparent that excavation is needed to clarify the character and the exact dating of the building. The evidence available seems to suggest a small Minoan community consisting of a few farmhouses, which was founded some time in the Middle Minoan period, probably in MM II. It was subsequently destroyed by fire possibly following a geological upheaval, during Late Minoan I.

D24. Midi

A Minoan site lying on the flat plain some four hundred metres southwest of the airport and halfway between the sandy beaches of Makris Yalos and Midi. There is a concentration of sherds in a spot, probably marking the presence of a Minoan house, the stones of which apparently have been removed, while building the military airport in the Second World War. There is a thin scatter of Minoan sherds and plenty of Roman pottery is noted around this point in a radius of about a hundred and fifty metres. Sporadic traces of Minoan occupation, including tripod pot feet and cup fragments, continue to the south on the rocky elevated ground up to the height Tou Shia To Kefali.

The evidence of the pottery suggests an occupation mainly within the Middle Minoan III period.

D25. Tripes

The site was located in the Autumn of 1979 (Melas 1981, 110). It is a small rocky outcrop which is called Tou Shia To Kefali and forms the highest point on the slightly undulating ground a few minutes walk south-southwest of the airport (fig. 48:a). It lies some eighty metres west of the airport to Kastellos road and enjoys a nice view over the airport plain and the bay of Makris Yalos (fig. 11).

Scattered traces of Neolithic and Bronze Age settlement are found on the crag itself and on the surrounding flat ground. On the top of the height there are carvings in the soft limestone, which form what may have been a bench and a series of niches of an apparently Neolithic hut (fig. 48:b). Beside this structure some stone implements were found, including a fine chisel, querns of the flat type, grinders, hammers and a whetstone. Sea shells were scattered on the surface testifying that sea-food formed part of the diet for the inhabitants of the site.

The stony but cultivated lands round the crag, up to a distance of about forty metres, are littered with pottery, ranging in date from Neolithic and Minoan down to the Roman. Many obsidian flakes and blade fragments were also noted and we picked up a fine obsidian arrow-head some fifty metres south-west of the height. The evidence for Minoan occupation is confined to a few sherds, mostly from cups of the Middle Minoan III type.

D26. Lakos

The site, visited and identified by us in the Summer of 1980 (Melas 1981, 110-111), is situated just about eighty metres south-east of Tou Shia To Kefali and occupies flat and thin-soiled lands around the cross-road, where the road from Lakos to Ais Minas and to the peninsula of Liki starts. The lands are separated by low walls, now mostly destroyed, and by large bushes.

The evidence of Minoan occupation is again plentiful and is largely confined to an area of about two hundred and fifty metres west to east by two hundred and twenty metres north to south (fig. 11). Scattered traces of occupation continue beyond these limits for some distance in all directions.

Ruins of Minoan houses and the tops of ancient walls are visible on the ground which is cultivated, but has been subjected only to light ploughing (fig. 48:c-d). The walls are built with rough stones of medium size and are probably Minoan, despite the strong presence of Roman sherds, which after all are outnumbered by the Minoan pottery. A couple of stone querns were also found.

The Minoan evidence from the above three sites, which lie very close to each other and appear to share a homogeneous material culture, points again to the presence of scattered farmhouses, which flourished during the acme of the Minoan civilisation, especially in the Neo-palatial period, and was perhaps subsequently destroyed in the course of LM I.

D27. Ais Minas

This is a cave situated in the steep cliff of the rocky south-east coast of the Liki peninsula, some two hundred metres to the right and below the road from Lakos to Liki. We have visited the site several times (Melas 1981, 111-112). The cave faces east and immediately in front of its wide entrance the rocks fall steeply away to a little bay. It is approached by a narrow path climbing diagonally up the cliff from the south.

The cave is fairly lofty, but does not penetrate very far. The area it covers consists of one single room and is not very large. On its west wall there is a platform, one and a half by one metre large, carved in the rock and reached from the south by a carved staircase consisting of seven steps. This may have served as an altar for sacrifices and offerings to a deity, a function which was probably also performed by the small niches carved in the walls on either side of the "altar".

This cave has always been considered as a sacred place and Saint Minas is worshipped there, since according to the tradition he had lived and died here after he had performed many miracles. The marble base of an ancient gravestone still stands in the middle of the cave collecting water, which drops from the ceiling and is thought to be sacred.

Owing to the thick deposit formed by the use of the cave in later times, as well as to clandestine excavations, no ancient pottery or stone implements are noted on the surface.

A few metres south of the entrance to the cave, where the path leading to it starts, there are traces of ancient terrace and house walls associated with plenty of Late Roman and Early Byzantine pottery. A few sherds, Prehistoric in appearance, were also collected, including a fragment of an apparently Middle Minoan or Late Minoan I cooking vessel.

On the rocky south slope of the crag, where the cave is located, there is a rock shelter which may also have been used in Prehistoric times. South and below it, among the scree, there are traces of "cyclopean" terrace walls, near which some Prehistoric sherds and stone implements were noted, including a couple of apparently Minoan sherds, as well as an obsidian and a flint flake.

The evidence from Ais Minas suggests that the cave was used as a residence and probably as a sanctuary from the Middle Bronze Age, if not earlier, and most likely during the time when the nearby Minoan settlements were flourishing.

D28. Kastelos

This is an impressive rugged and precipitous promontory surveying the sea approaches towards the coasts of Afiartis and overlooking the plain from the south. It forms the southern-most tip of the island and its top is naturally defended by steep cliffs, except for its northern side which is bounded by narrow terraces and is more easily accessible. The promontory was used as an observatory and defensive station during the Second World War and is still strewn with ruined military installations. Several chips of Melian obsidian were noted by us in the northern slopes, testifying to the Prehistoric occupation of the site.

D29. Psorari (fig. 12)

There are strong traces of Minoan occupation on the terraces immediately below the low, sloping and flat-topped ridge called Tou Konomou O Aros (fig. 49:a). It lies some four hundred metres right of the airport-Akrotiri road and about seven hundred metres from the sandy beach Tou Mikhaliou I Kipos. The ridge is bounded on its eastern side by a wide, shallow ravine.

The settlement seems to have covered an area of about a hundred and fifty metres from the edge of the plateau, on which scattered Minoan sherds

were also found, to the south-west by eighty metres from the ravine bank to the north-west. Sporadic sherds are found further down the sloping terraces. But the stronger traces, including stones from house walls and abundant pottery, are concentrated in an area of about fifty metres north-east to south-west by thirty metres south-east to north-west. This area is bounded to the north-east by low cliffs, which form natural shallow shelters. On the north corner of the main site there are traces of a wall built of two rows of large rough stones and running parallel to a hollowed cliff at a distance of three and a half metres from it (fig. 49:b). It is sixty centimetres thick and is preserved to a length of two and a half metres. It appears to be Minoan, belonging to a house built in the shelter of the cave-like cliff, which had served as the rear wall of the building.

On the evidence of the pottery, one assumes that a small Minoan community lived here from at least the Middle Minoan III down to the Late Minoan III times. Later occupation is also witnessed by Hellenistic and Roman sherds.

D30. Baela (fig. 12)

The site is situated some fourteen hundred metres north-west of the Psorari site, on the west side of a large hollow, formed at the convergence of four wide ravines, two from the north belonging to the region of Mastikharía, one from the north-east and one to the south called Baela. The latter ends upon the sandy beaches of Mikhaliou I Kipos, about a thousand metres to the south-east. The road to Akrotiri runs along the beach.

Not unlike the site at Palio Mitato, the settlement here was built in the shelter of a sloping ridge backed by a low plateau. As might be expected, it is facing east.

The site was identified in September of 1980 (Melas 1981, 112-113). Minoan pottery and stones from ancient house and terrace walls cover the low terraces immediately below the cliffs. The main settlement is basically confined to an area of about a hundred and twenty metres from the cliffs on the west to the east by a hundred metres south to north. Some eighty metres north-east of the site, at the beginning of a ravine, lies the olive grove Tis Marinas, the only one in the vicinity.

A thinner scatter of sherds continues down the terraces around the main site. The only evidence of Prehistoric occupation at the edge of the upper plateau was a limestone quern of elliptical shape measuring c. thirty-five by twenty-five centimetres. Two obsidian flakes were also found, one on the site itself and the other some way south-east of it.

The evidence of the pottery suggests another small community of the familiar Neo-palatial type (MMIII - LMI).

D31. Mastikharía

Some eight hundred metres north of the Baela site, on the west bank of a broad terraced ravine planted with olive trees, a few obsidian chips of the Melian type were found in the land of the dentist Konstantinos Livadiotis, just a short way southwest-west of his farmhouse (Melas 1981, 113). At the foot of a low cliff immediately to the right of the path leading south to a spring which lies on the steep terraces of the deep ravine, the signs of a tomb cut into the soft rock are visible. Few scrappy and indeterminate sherds were collected, including what could be the rim from a Minoan rounded cup.

The impression given by the evidence is that at least a Middle or Late Minoan farmhouse may have existed in the vicinity.

D32. Kourouklos

This is a high conical hill dominating the whole region of Afiartis. A narrow saddle separates it from the rocky plateau to the north-west, which falls away in steep cliffs to the Tsigounas ravine. At the north-northeast edge of this plateau, by the concrete survey post, a thin concentration of sherds was noted. They are very small and difficult to date hand-made pottery, apparently marking the existence of a Late to Final Neolithic or Early Bronze Age hut in this place.

D33. Tsigounas

The site was first visited in the Autumn of 1980 (Melas 1981, 112). It lies some four hundred and fifty metres east of the Kourouklos site and about two hundred and fifty metres north-west of the sharp bend in the road to Ayios Yannis. It is situated on the steep and terraced north-eastern bank of Tsigounas ravine, at the bottom of which, about forty metres below the site, there is a palm tree. The spring of Tsigounas lies in the ravine bed, some three hundred metres south-west.

The evidence consists of a small group of Minoan sherds concentrated on a spot of the terrace just north-west of a long wall running across the uneven slope in a south-west to north-east direction and forming the north-eastern boundary of the lands belonging to Rigopoula Melisinou. A couple of Minoan sherds was also found below a cliff, a few metres south-east of the site.

The evidence suggests the possibility of a single Minoan house on this site, which existed, in all probability, during the MM and LM I periods.

I(E). ARKASA DISTRICT

E34. Poliatses

The site has been visited by us a couple of times since 1978 (Melas 1979, 158). There are traces of ancient buildings and plenty of pottery is

scattered on the surface in a large area around the chapel of Ayios Georgios. These are mostly Hellenistic and Roman, but a couple of Classical black glazed sherds were also noted.

The Prehistoric habitation was confined to a small area just right of the road to Ayios Yannis and Akrotiri, some four hundred metres east of the farmhouse of G. Chazigeorgakis now occupied by the farmer Vasos Parayios. This spot possesses a fine position, surrounded by fertile lands and with plenty of water nearby. On the slightly sloping and rocky terraces there is a thin scatter of sherds, most of which look Mycenaean rather than Minoan. A couple of obsidian flakes were also found.

The pottery evidence suggests the presence of at least one farmhouse here, which flourished during the LH III period. But it appears very likely that it was founded at an earlier date (MM III - LM I).

E35. Leftoporos

Like Vouno in Afiartis, Leftoporos is a high rocky promontory, projecting north-westwards into the sea and acting as a breakwater which protects the two flanking sandy bays. The latter provide good harbour facilities. The site has been visited by us several times (Melas 1981, 117-118). It occupies an ideal position suitable for Prehistoric habitation. The promontory consists of two rugged humps. The eastern is larger and of roughly conical shape. At the north-western end there is a secondary and lower hump (figs. 13 and 49:c).

The site dominates the sea approaches and controls the arable undulating lands to the east and south, from where it is approached by a flat saddle. The slopes are steep on the seaward sides and are bounded by high cliffs falling sheer to the sea and forming a natural defence to the site. But they fade gently towards the south-east. Erosion has played its part in shaping the form of the crags and it is clear that a considerable depth of soil has been washed away by the rain and the prevailing north-westerly winds, which have been scouring its surface for thousands of years.

Many traces of ancient walls are exposed on both summits and on the narrow saddle between them. Plenty of pottery and obsidian can be seen on the surface. They continue in a thinner scatter down the slopes, apparently washed down from the top.

The most significant architectural remains appear to be those of an apsidal building on the west part of area A (figs. 13-14 and 49:d). The building (A1) was built of rough medium-sized stones arranged two or three across, the interstices being filled with smaller stones. Plenty of coarse handmade pottery, grinding stones and obsidian are associated with this structure, as well as sea shells, including patella vulgata, monodonta turbinata, murex, etc.

A similar apsidal building belonging to the Middle Neolithic period has

been excavated by Theocharis on Ayios Petros in Northern Sporades (Excavation Note-book 1969, 21-26; 1971, 65-67) and A. Sampson reports on an analogous sub-Neolithic building on the small island of Alimnia in the Dodecanese (BCH 105 (1981) 865).

On the east side of area A, some ten metres from A1, traces of curved and straight walls, the latter meeting at right angles, as well as stumps of stones from fallen walls cover an area of about six by eight metres and mark the position of ancient structures (A2). Plenty of movable finds similar to those from area A accompany these ruins.

Between A1 and A2 there was a concentration of a few Minoan sherds, mostly from Middle Minoan III cups (A3). Mention should also be made of an apparently Minoan jar handle found on the land which connects the promontory with the hinterland.

Some fifteen metres north-west of A1 there are the remains of a retaining wall built of large rough stones and preserving two courses of masonry to a length of about fifteen metres (A4). It runs in a north-east to south-west direction embracing the sloping side of the hill.

On the saddle between the two crags, immediately north-west and below the northern cliff of the hill A, there is a stretch of "cyclopean" wall, seventy centimetres thick, running from north-east to south-west (B1). Fragments from large hand-made vessels, a millstone, and much obsidian were noted beside it.

A few metres north-west of B1, immediately south-east and below the crag C the remains of a roughly square building (4X4 ms) are exposed on the surface in association with a fragment of a Minoan cup and with obsidian (B2).

The flat and rocky top of crag C is also covered with ancient walls and stones from ancient structures, mainly on its south-east side, where the scanty remains of what may have been two small apsidal buildings can be seen (C1). They were built very close to each other, the one facing east, the other north. They are about two metres wide. The pottery here is less plentiful than in area A, but the stone material is more abundant, including grinding stones, hammerstones and Melian obsidian, especially waste. The sheer quantity of obsidian suggests the existence of a chipping industry in this place. This is confirmed by the presence of a couple of small obsidian cores on the steep and narrow terraces south-west and below the summit. These terraces are thickly littered with obsidian and other stone implements (C1). Seven white-spotted flakes of the Nisyrian type and several fragments of brown chert were also noted.

There is no question that the site will yield to excavation an interesting picture of what a small, mixed farming and fishing community on a remote island looked like at a time which cannot as yet be determined with certainty

but may be Late or Final Neolithic.

The evidence for Minoan occupation is very limited to allow any interpretation before proper excavation is carried out. Nevertheless it is apparent that a small group of Minoans were using the site some time in the Middle Minoan period.

E36. Paliokastro

This is a high and precipitous promontory jutting north-westwards into the sea (fig. 50:a). Like Vouno and Leftoporos it commands the sea approaches as well as fairly extensive cultivable and well watered lands to the east. It is also flanked by two sandy beaches very convenient for the landing of Prehistoric boats. On its north, north-west, west and south-west sides it is very steep and inaccessible. The other sides are more easily approached, a fact that necessitated the erection of circuit walls along the cliffs to make the citadel impregnable. Owing to its favourable position and from what the archaeological evidence suggests, it appears that it was used as a fortified acropolis from Prehistoric times down to the Venetian and Turkish occupation of the island. The classical town Arkeseia was situated immediately south-east and below the promontory on the low terraces around the chapel of Ayia Sophia, which was built on the ruins of the large Christian basilica of Ayia Anastasia.

Paliokastro was first visited and described by Ross (1843, 52-3). Dawkins followed at the beginning of the present century, giving a more detailed description of the site, which was considered by him as the most important Prehistoric centre on the island owing to its well preserved "cyclopean" walls. He also discovered on the acropolis "a triangular flint chipped to a point" (Dawkins 1902-3, 201-202).

Hope Simpson and Lazenby paid two visits to the site (1962, 162-163, fig. 3; 1970, 69, pl. 24d) and made a thorough investigation of the citadel in their effort to find definite evidence of Mycenaean occupation, confirming the assumption that the remains of the cyclopean-looking circuit walls - which embrace the summit of the hill and were about two metres thick, built of large rough blocks, the interstices being filled by small stones - were actually built by Mycenaeans (fig. 50:b). The walls embracing the steep terraces below appear later than Prehistoric and most of them appear to belong to retaining rather than circuit walls (ib. 1962, 162, fig. 3. Dawkins 1902-3, 202. Melas 1979, 158-162, figs.20-23). The results were disappointing, not unlike those in Mandraki on Nisyros, Kastro at Symi and Erimokastro on Rhodes (ib. 1962, 174; 1973, 154-5) and on the Acropolis at Pigadia. They only found two or three possible Mycenaean sherds (probably LH III, Hope Simpson 1965, 186) and five or six obsidian flakes (1962, 162).

In their second visit they noted "flat handles of large jars with added grits of orange chert", which may date from the Bronze Age (1970, 69).

Our visits to the promontory yielded some more pieces of Melian obsidian, but a few examples of the Nisyrian type were also noted, as well as many fragments of hand-made coarse and friable ware, not unlike those from Leftoporos. Yet they were very scrappy and too worn to permit any sort of reconstruction.

The architectural and pottery evidence for later periods, mainly from Classical times onwards, is abundant and this may account, together with the intensive ploughing of the terraces, for the scarcity of Prehistoric evidence.

From the existing evidence one can only assume that there probably was an occupation of the promontory at the time when the small settlement in Leftoporos was flourishing, during the Late Neolithic or Final Neolithic, or even in the Early Bronze Age. In the second millennium Mycenaeans may have occupied the citadel reinforcing it with circuit walls. The discovery at Vonies, less than fifteen hundred metres east of Paliokastro, of a Minoan settlement and a chamber tomb, from which the Mycenaean element is not lacking, rather favours this theory. It is not unlikely that the Mycenaeans were already at Paliokastro, while the Minoan community at Vonies was still in existence (Melas 1979, 166).

In this connection we should mention the rumours that stone implements, including axes, were found by peasants in the region of Arkasa and that Italian archaeologists discovered similar finds while digging in the cave Stou Petriti ta Krema some thousand metres north of the village. It is likely that some of the stone axes in Rhodes Museum referred to by Maiuri as found in Karpathos (Maiuri 1928, 204) came from these excavations.

E37. Finiki

The site is a low promontory lying about one kilometre north of Paliokastro and facing south-west (fig. 50:c). Next to it, to the south-east, there is a sandy beach and a small rocky valley where the hamlet of Finiki is built. This rocky promontory commands the sandy bay of Finiki and the flat coastal area round it. There is reasonably good farming land in the vicinity and the coastal springs at the foot of the precipitous ridge Tou Petriti ta Krema offer a year-round supply of water.

The sides of the rocky ridge, which crowns the promontory, are abrupt and only from the north is it more accessible. The top is narrow and steep-sided. Some forty metres below it, to the south-east, lies the chapel of Ayios Nikolaos. The bedrock is exposed almost everywhere and sherds and obsidian are seen scattered about the rocky top and on the stony terraces, particularly on the west and north sides. The pottery is not very abundant and is too fragmentary to permit any reconstruction. Their general features, however, seem to be identical with those from the nearby Leftoporos. Both Finiki and Leftoporos appear to share the same culture and were evidently inhabited at the same period, which rather falls within the range of Late

and Final Neolithic.

E38. Sakeli Krema

Minoan settlement identified by us in the Autumn of 1980 (Melas 1981, 117, fig. 31). It lies some eleven hundred metres east-southeast of Palio-kastro, just across the bridge of the road to Menetes, where it bends abruptly to the north and is separated from Tou Sakeli Ta Krema by a deep terraced ravine. The site is a rugged ridge falling away to the west in sheer cliffs and narrow terraces (figs. 15 and 50:d). It possesses a dominating and strategic position overlooking the open sea and the south-western coasts of the island. Gun stations were built by Italian troops on the north edge of the ridge, where military trenches are still preserved.

The main settlement was confined to an area of about two hundred and fifty metres south-west to north-east by two hundred metres north-west to south-east. It mainly covers the rocky north-west side of a small plateau and is bounded by a farm track leading south-westwards and by steep cliffs from the north-west. A lower ground with arable narrow terraces and a couple of farmhouses mark the north-eastern limit of the site.

The arid edge of the plateau and the flat terraces to the south-east are strewn with Minoan pottery and stones from ancient structures. A thin scatter of sherds continues down the slightly sloping ground to the south and east.

E39. Asomatoi

Some five hundred metres north-east of Tou Sakeli Ta Krema there is a long narrow outcrop emerging in the middle of hollowed cultivable ground (figs. 15 and 51:a). The flat top of this low hillock which is called Ton Asomaton To Kefali and stretches to an area of about a hundred by forty metres, is thinly littered with Minoan pottery, apparently marking the position of a Minoan house.

About three hundred and fifty metres further north-eastwards, at the south-western edge of a plateau-like ridge sloping away in the direction of Ton Asomaton To Kefali, a thin scatter of Minoan pottery was also noted covering a small area.

The evidence from both Tou Sakeli Ta Krema and Asomatoi, which belong, along with the locality of Vonies, to a favourable region possessing good arable lands and water sources, appears to reflect small Minoan communities consisting of scattered farmhouses. The time span of their existence may cover part of the period of the First Palaces and the whole of the Second Palaces.

E40. Vonies

The site is a low ridge situated some three hundred metres north-east of Asomatoi, immediately to the right of the Arkasa-Menetes road, which crosses

the lower part of the northern slope of the hill. Some fifty ~~ms~~ east, on the right of the road, lies the farmhouse of M. Khatzakis (fig. 51:b).

In July 1978, while the road was being widened, the bulldozer cut through the middle of a chamber tomb removing its northern half and slicing off part of a clay larnax. The chamber was roughly cut into the clay of the slope and had its roof collapsed. Its floor was around two metres below the modern surface. Because of the damage caused by the bulldozer we could not trace any sign of a blocking wall or dromos, if they ever existed. Nevertheless a few stones of medium size were noted and may have come from the wall, which blocked the entrance to the tomb.

We collected the broken pottery intending to excavate the remaining part of the tomb on another occasion (Melas 1979, '163-167, figs. 23a-c). In the Summer of the following year the writer and the curator Ad. Sampson excavated the tomb in two successive days (Melas 1981, 113-116, figs. 27-29). It proved to be of roughly circular or elliptical plan with in-curving walls. The dimensions of the chamber which was facing north, were roughly two by two and a half metres, with a height of about one and a half metres (fig. 16).

On the east side of the chamber stood a clay larnax with fragmentary traces of a burial consisting of part of the skull and leg fragments. Its top was one metre and seventy centimetres below the surface. The larnax was found in a bad state of preservation, for it had been crushed by the collapsed roof of the chamber as had the majority of the vases, and subsequently suffered further destruction by the bulldozer and the spade (fig. 52:a). The lid was broken and had fallen into the coffin. Beneath the collapsed lid the remains of the disturbed skeleton were found in association with fragments of pottery including nos. 986, 1021 and parts of plain pots.

There should have been at least another three burials in the chamber, which faced north and appear to be somewhat earlier, since the remains of them were found in a comparatively thin deposit immediately below the level on which the larnax lay. Three thin layers, each of which is only about five centimetres thick, can be distinguished in this deposit: layer I is about 1.80-1.85 metres from the surface, II around 1.85-1.90 and III some 1.90-1.95 below surface level. They are not clearly separated and are too thin to suggest burial levels.

In layer I, some fifteen centimetres from the north-west corner of the coffin, the pots 991, 1001, 1003, 1005 and 1017 were found (fig. 52:b). On the same level about eighty centimetres west of the coffin a thin layer of black earth and charcoal was noted, covering an area of about one metre and twenty centimetres in length by less than fifty centimetres wide. Small pieces of half-burnt bones, mainly from a skull, were found in this layer

in association with scrappy fragments of small plain pots.

It is clear that here we are dealing with a partial cremation side by side with simple inhumations and inhumation in a clay coffin. The discovery is of great importance and provides us with another clue as to the origin and spreading of the custom of cremation from Anatolia into the Aegean around 1300 B.C. or shortly before (Melas 1981, 132-139, map 4).

Just five centimetres beneath this level, at the bottom of layer I, lay another disturbed burial containing a damaged skull and a few other bones. The broken vases 999, 1002, 1006 and 1014 were associated with it.

In layer II another group of pottery was found in a better state of preservation, a short distance west of the coffin, including no. 1035. On the same level, immediately east of the larnax, the vases 993, 994, 995, 1012, 1028 and 1033 were recovered (fig. 52:c). Nos 986, 1000, 1033, 1036 and 1039 may belong to the same level. The remains of another disturbed burial were associated with the last two groups of pottery, including a well preserved skull.

In layer III a number of pots were found west of the coffin including some complete (1007, 1008, 1009. fig. 52:d). At a short distance to the west of this group the legs of a skeleton were lying almost in their original position. This burial appears to be the only one in the tomb, which probably had not been much displaced or disturbed, although the rest of the bones are virtually all missing.

A plain ritual bowl was found at the south-east corner of the chamber, associated with a complete skull which apparently belonged to a young man. Instead of handles the bowl bore two bird protomes attached to the rim and facing outwards. Two plain bronze rings were also found west of the larnax.

The evidence from the pottery suggests a continuous use of the tomb for more than a hundred years (LM IIIA1 - IIIB1). Evidently the tomb belonged to a Minoan family, who lived in a nearby settlement, such as Asomatoi or Tou Sakeli ta Krema. However, neither of these two sites produced traces of occupation later than LM I.

Some of the pottery may have been locally made, but the majority was imported from east Crete. There are also a few Mycenaean imports, most of which seem to be of Rhodian provenance.

II. CENTRAL KARPATOS

F41. Piles-Romani

This is a mountainous and thickly forested area some thousand metres north of the village Piles, on the right of the road to Mesokhori. There are deep ravines and rocky galleys running westwards down to the coasts of Proni. The steep slopes and narrow terraces are planted with pine trees and there are numerous caves and rock shelters suitable for Prehistoric

habitation. Some springs and streams provide plenty of fresh water, whereas the scattered areas of cultivable land are reasonably fertile.

A fine example of a stone axe (1042) was allegedly found in this region testifying to the presence of Neolithic man here. It is reasonable to assume that the Prehistoric settlement in this area was probably confined to the caves which need proper exploration. Farming and hunting must have been the chief occupations of the Neolithic people at Romani.

F42. Aperi-Football field

The site is situated some six hundred metres east of the village Aperi, immediately on the left of the farm track leading eastwards to the bay of Akhata and about a hundred metres north-west of the modern cemetery. It consists of low hills and fertile terraces, some planted with olive trees.

During levelling operations on the south side of the football field some Prehistoric objects were found. From these we only saw a Minoan stone vase, now in the possession of Manos Mikhailidis of Aperi (1043). Most probably from the same context comes a base fragment of a Minoan cup, as well as many scrappy and indeterminate sherds. There is no doubt that these finds formed part of the content of a chamber tomb cut into the soft rock of the gently sloping ground. Immediately above and south of this spot a flake of Melian obsidian was found, whereas a few metres to the west a number of, apparently classical, slab-lined cist graves are exposed on the cliffs at the south-western corner of the football field.

Somewhere in this area Italian archaeologists had reportedly excavated Geometric graves during the Italian occupation of the island (AA 1932, 182, Historia 7 (1933) 589, n.16).

The evidence suggests that this area has been used for burials from the Prehistoric to the present times. We were unable to identify the Minoan settlement which must have lain somewhere in the vicinity and may well have been a refuge site.

The discovery of a Late Minoan site at the foot-hills of Mount Lastos, in such a remote place is very significant. It may be explained by the fact that the Minoans from the major settlement at Pigadia took refuge here after the arrival of the Mycenaeans, who most probably had taken over this strategic position. This population movement between Aperi and Pigadia has certainly been taking place from the Prehistoric times up to the present day. Later, at the beginning of the Iron Age, for security reasons, the population may have shifted westwards to the less accessible height of Koraki, which later became the fortified castle of the Venetians (cf. Hope Simpson-Lazenby 1962, 163. Moutsopoulos 1978, 432 f.). It is very reasonable to assume that the Eteokarpathians referred to in IG XII, I, 977 (cf. Melas 1979, 179 with refs.) were related to a small community of probable Minoan origin, which had been preserved in the region of Aperi, in

a locality probably not far away from the major community of the Karpathio-politai who are mentioned in close connection with the Eteokarpathians (cf. Dawkins 1902-3, 201). These were citizens of the city of Karpathos which has not yet been identified, but is very likely to have lain in the major area of Aperi (IG XII. 1:977, 978, 982-3).

Somewhere in the district of Aperi was allegedly found a black stone axe (1046) testifying to the Neolithic or Early Bronze Age activity there.

F43. Apela

This is a beautiful and well protected sandy cove some five and a half kilometres north of Aperi. The only visible ancient remains in the area are the ruins of the subterranean chapel of Osios Lukas. A short distance to the south-east of the chapel, on the rocky hill-side which falls steeply away to the sandy beach, the complete profiles of a few Minoan conical cups were noted by us in the Summer of 1978 (Melas 1981, 118-119). They seem to fall within the range of the MM III - LM I period.

On the evidence so far at our disposal we cannot assess with certainty the nature of the Minoan presence here. But given the favourable position of the site, as well as the good harbour facilities it provided to the Prehistoric navigator sailing eastwards, it is certain that the bay was frequented by Minoan travellers and merchants, who undoubtedly would have taken refuge here in case of bad weather conditions.

II(G-H). DISTRICT OF MESOKHORIA

II(G). LEFKOS REGION (fig. 17)

It is reasonable to expect Prehistoric settlement in this region, which possesses a very important position on the western coast of central Karpathos. There are three sandy beaches at Lefkos providing good harbour facilities to those travelling from Crete and the Greek Mainland towards Anatolia and the Levant. The coastal plains and low terraces are relatively fertile and used to support the two modern communities of Mesokhori and Spoa. There are several springs on the eastern edges of the region, at the foot-hills of Mount Lastos, which are densely forested even today. Water could also be obtained from a small spring by the sea at the cove of Potali, as well as from wells dug into the soft rock of the lower grounds in the west.

A fair number of settlement sites, cemeteries and forts are spread all over the coastal strip from Samaki, south-west of Mesokhori, down to the flat extents of Lefkos and on the small island of Sokastro. Most of them date from early in the Hellenistic down to the Venetian period (Dawkins 1902-3, 209-10. Della Seta 1924-5, 85. Jameson 1958, 122-4. Hope Simpson-Lazenby 1962, 166. Moutsopoulos 1978, 195 f.).

The aim of our visit to the Mesokhoria district in the Summer of 1981

was to locate the pattern and the extent of the Prehistoric, and particularly the Minoan occupation. The existence of Prehistoric settlement in this area was likely due to geographical and geomorphological evidence, added to which there was the alleged finding of a Final Neolithic or Early Bronze Age amphora in the area of Lefkos (no. 1047). In fact our effort was rewarded since we were able to identify several Prehistoric sites, including two Minoan settlements in Lefkos.

G44. Moutsouna (fig. 18)

This is a plateau-like and triangular-shaped ridge overhanging the coastal plain Tou Yalou to Khorafi and the sandy beaches of Lefkos, Pounta and Frangolimnionas (fig. 51:c). It dominates the whole extent to the west and surveys the open sea. The site is almost flat with narrow terraces on the east side. The ground becomes rocky and rises slightly towards the north and south, whereas on the east it rises abruptly in low cliffs. At the base of the steep cliffs bounding the settlement to the west there are small cave-like hollows, which could have been used as tombs. A few metres further west, on the steep slope, there is a series of rock-cut tombs which may either be Hellenistic or Roman rather than Prehistoric.

The Minoan site lies on the lands of N. Vasilaras, some eighty metres above and north-east of the chapel of Panayia, and about forty metres to the left of the path leading north and north-eastwards. The main settlement is largely confined to an area of about eighty metres from Vasilaras' house to the south by fifty metres from the edge of the plateau above the western cliffs to the east. Minoan pottery is abundant on the low terraces, mostly fragments of conical cups. A large quantity of Melian obsidian was also found, including some blade fragments as well as a few coarse and scrappy sherds which may be either Neolithic or Early Bronze and Middle Bronze Age. The site is also strewn with plenty of Hellenistic and Roman pottery.

There are also traces of ancient structures which may be Minoan. The remains of a substantial wall built of large and roughly shaped blocks (80 X 52 X 45 cms.) bounds the main settlement to the south (fig. 51:d). A row of upright standing flat blocks runs along the edge of the plateau above the cliffs and appears to continue northwards beyond the farmhouse of the local priest Yannis Andreadis. A row of similar rough stones is noted some thirty metres south of the main site immediately above and east of a small vineyard.

Fewer traces of Minoan occupation continue for a distance of more than sixty metres in all directions and along the cliffs below the plateau. The most remote signs of Prehistoric occupation with sporadic obsidian flakes and Minoan cup fragments were noted on the rocky ground, some four hundred metres north of Andreadis' house. About five hundred metres south-southwest, on the top of a ridge between the localities Prinari and Diapori, a small chip

of Melian obsidian was found among scraps of indeterminate pottery.

Some six hundred metres to the north-west of the Moutsouna site, a flake of Melian obsidian was found, among a large amount of Roman pottery, on the low cliffs bounding the beach of Frangolimnionas.

The evidence from the pottery and the obsidian point to a Prehistoric occupation on the site perhaps from the Late or Final Neolithic period to at least as late as LM I. The settlement would have been fairly small, perhaps consisting of a cluster of farmhouses.

G45. Pelekito

About four hundred metres east and above the Moutsouna site, at the south-western edge of a rocky plateau there is an abundance of ancient architectural remains associated with much Roman pottery. The rock-cut rooms open to the sky resemble Roman military installations, probably granaries, rather than tombs (cf. Hope Simpson-Lazenby 1962, 166). There are also many traces of ancient stone quarries in the vicinity. A short distance to the south-west, at the foot of a cliff, there is a large cave with modern buildings inside, which until recently was used by local farmers. The cave is called Kamara Tou Moukhla. Ancient blocks and cuttings in the interior suggest an early use of the cave, which may date back to Prehistoric times. Some twenty metres south of the entrance to the cave there is a stretch of wall with two courses showing. This is built of large roughly polygonal stones. The associated sherds are mostly Roman and Hellenistic, but we discovered a cup fragment which may be Minoan (MM III - LM I).

G46. Ria

The site lies on a rocky rise some three hundred metres northeast-east of Pelekito. Walls of ancient buildings are exposed on the surface and ancient ashlar blocks are built into later high rubble walls. The underground chamber referred to by Hope Simpson-Lazenby (1962, 166) is a sort of subterranean tomb rather than granary (Moutsopoulos 1978, 205). The associated pottery is mostly Roman.

A short distance to the southwest-west, on the small terraced olive grove of the teacher Manolis Kharokopos, which lies below a low cliff immediately above a dry stream bed, two identical small stone axes were found during cultivation. The site looks very much like the Neolithic site at Magasa on East Crete, where many stone axes were found on the surface with no associated pottery (Palaik. IV, 261). We were able only to see one of the axes, the second being lost. Our effort to identify relevant conclusive Prehistoric material was not rewarded. We only collected a few chips of Melian obsidian.

G47. Arolimna

This is an extensive and almost totally arid plateau extending between Rizes, Ria, Pelekito and Skamnos. There are very few patches of cultivated soil and on the northern side lies the small fertile plain of Limnes.

Over the whole area of Arolimna scattered fragments of Melian obsidian are noted, including a blade fragment. No Prehistoric sherds were found and the nature of the relevant human activity here is uncertain.

G48. Rizes

The site lies some thirteen hundred metres north of Pelekito at the western edge of the plateau and below it, at the foot of some steep cliffs. These cliffs face west towards Socastro and small cave-like hollows have been formed in them by erosion. These hollows were then turned into stables by the local farmers.

The entire plans of several Roman structures are preserved at the edge of the plateau, including a large rectangular, an apsidal and a circular building. They were built of large ashlar blocks from the nearby sandstone quarries. There are also rooms carved into the soft stone similar to those at Pelekito.

Below the cliffs the narrow terraces belonging to Minas Marietis are strewn with walls and squared blocks from ancient structures as well as with plenty of pottery, mostly Greco-Roman. There is also a large subterranean structure which was probably used as a cistern.

These architectural remains which appear to be the most impressive in the region of Lefkos, look contemporary to those at Pelekito and Ria. Most probably they served the same function, perhaps as a base for a Roman garrison in the eastern Mediterranean.

No definite traces of Prehistoric occupation have been observed on the site, apart from two or three fragments apparently of Minoan cups, which may reflect the presence of an isolated Minoan farmhouse (MM III - LM I).

G49. Aouroi

This is a fertile and fairly extensive plain extending from Rizes to the west up to a terraced ravine, which is called Tis Perdikas O Potamos or Sfaka and is planted with vines belonging to the teacher G. Orfanos (fig. 53:a). Immediately above the top of the ravine, some hundred and fifty metres south-east of the Orfanos' farmhouse, just west of the farm track leading south, a few sherds possibly Minoan were distinguished amongst the abundant Roman and Hellenistic pottery. The evidence may indicate another isolated Minoan farmhouse in this favourable place (MM III?).

About eighty metres north of the house, at the edge of the land which also belongs to Orfanos, a chip of Melian obsidian was found.

G50. Mandraki

The site lies at the top and immediately above the north bank of a fairly broad and shallow ravine, which is about six hundred metres north-northwest of the Aouroi site. It covers an area of about thirty metres west to east, by fifty metres north to south. It is bounded to the west by a low ridge of large rocks. On the flat and thin-soiled terraces there are scattered flakes and blade fragments of Melian obsidian associated with few scrappy sherds which may be Prehistoric. An apparently Neolithic lug fragment was also noted on the other side of the ravine, on the rocky and narrow terraces of the hill-slope.

The evidence from Mandraki is again quite insufficient, but it may well reflect an occupation with a possible range from the Late or Final Neolithic to the Early Bronze Age.

G51. Vounos

This is a high and rugged outcrop overhanging the sea, some thousand metres north-northeast of Mandraki, at the north-western edge of Lefkos district. The west side of this sharp-pointed crag is very precipitous falling sheer into the sea. To the east and south there are low terraces with poor soil.

Scanty traces of Prehistoric activity were to be found on the stony terraces midway between Vounos and Dyo Vouna, which is a pair of larger, but lower rocky outcrops some two hundred and fifty metres to the south-west (fig. 53:c). We picked up a Melian obsidian flake, a sea pebble probably used as a pounder, and several scrappy sherds which may be Early or Middle Bronze Age.

The evidence points perhaps to an isolated Bronze Age house or hut.

G52. Skamnos

The site is a flat-topped ridge emerging in the middle of flat land and terraces, some seven hundred and fifty metres east of the Vounos site, on the right of the road which runs along a shallow terraced ravine leading westwards (fig. 53:b-c). There are a few modern farmhouses and stables on the southern edge of the plateau and immediately below it, where they are built into the low steep cliffs taking advantage of the existing cave-like hollows. It is very likely that the Minoans were using the same method in building their houses here.

Evidence of Minoan and perhaps Mycenaean occupation is again plentiful, although Roman traces are also much in evidence, in contrast to the Hellenistic and Classical ones which appear extremely scanty.

Walls of ancient structures (fig. 53:d) and plenty of Minoan pottery are strewn over the narrow terraces of Minas Litos, which are bordered by a narrow path running parallel to the farm track, forty metres north of it. On the

north they are bounded by larger and more fertile terraces belonging with the nearby stable and farmhouse.

The main settlement is confined to an area of about a hundred and thirty metres east to west by thirty metres south to north. But a thinner spread of pottery continues for some distance in all directions and over the plateau itself. Immediately east of the main settlement, to the right of an ascending stone-paved path, two jambs of large limestone blocks are standing. They recall analogous architectural remains from Moutsouna and are likely to be of Minoan date.

Apart from the Minoan and some possibly Mycenaean finds a small fragment of a finely polished stone axe was noted.

A couple of vases, including a cup, were allegedly found on the south side of the small valley, across the main site, while a villager was digging in the hard clay of the cliffs. We have not seen these finds, but it is most likely that they mark the position of the cemetery, where the Prehistoric inhabitants of Skamnos used to bury their dead.

With the present evidence from Skamnos one can assume that the human activity on the site may have started as early as the Late Neolithic or the Early Bronze Age. During the second millennium a small community of Minoans appears to have settled here. The settlement seems to have flourished from well back into the MM III down to the LM III period, when the Mycenaeans may have joined or replaced the Minoans.

H53. Mesokhori-Kaminakia

The site lies some fifteen hundred metres south-east of Mesokhori, a short distance east of the path leading south from Mesokhori to Lefkos. There are traces of a fort on a small hill (Hope Simpson-Lazenby 1962, 166) and the foundations of a substantial building, apparently public, are exposed on the surface nearby. Various other architectural remains are noted in the vicinity. The associated pottery is mostly Hellenistic and Roman.

The only Prehistoric evidence we found was a stone quern noted on a terrace not very far to the north of the fort, a short distance south of the hill at Samaki. This is very insufficient to allow any interpretation, but it may imply some sort of Prehistoric activity in the area.

III. NORTHERN KARPATOS

I 54. Diafani-Kambi

Seven vases and a bronze sword, presented to the British Museum by Paton, were allegedly found in a tomb at Kambi, some five hundred metres south-east of the village Diafani (BM Cat. A971-7. BM Cat. Br. 46. CVA British Museum V, pl. 10: 8-14. Melas 1979, 168-172, figs. 25-28; 1981, 119-20. Hope Simpson-Lazenby 1962, 161 with refs.). The site lies in a

position not less favourable than Apela and there are small coves with pebble or sandy beaches as well as a good anchorage at Diafani itself. The extensive terraces at Kambi are reasonably fertile and form a broad promontory at the end of a long ridge which runs steeply down from the west and is bounded by ravines and thick pinewoods. Immediately to the north-west, beyond a dry stream bed, the terraced hill of Palaiia is situated, very appropriate for Minoan occupation. We thus are tempted to believe that the objects mentioned above came from this place, where a Late Minoan chamber tomb had probably been cut into the hill-slope. On the other hand the whole vases point indeed to the existence of a cemetery.

The pottery is contemporary with that from Vonies, most of which dates from the LM IIIA2late-IIIIB period. The fact that its provenance and manufacture are disputed is not surprising, since the pottery groups from Pigadia, Vonies and Tou Stavrou To Kefali in Afiartis present similar problems. According to Furumark they are Cretan products manufactured in Crete (Furumark 1950, 201 and n.2; Analysis 55 n.8, 64 n.4, 72 f., 181 n.11. Chronology 67-8, 200). Stubbings and Hope Simpson favour a Mycenaean manufacture and a Rhodian provenance (Stubbings 1951, 21. Hope Simpson-Lazenby 1962, 161).

We follow Furumark's opinion and furthermore we believe that the whole group was probably an import from east Crete, as the distinctive fabric of the vases suggests. Even so, the Mycenaean element is not lacking, especially in the kylikes nos. 1270-1 (our catalogue). These perhaps along with the bronze sword, may have originated from Rhodes. At this late stage the relations between the Minoans of Karpathos and the Mycenaeans of Rhodes, as witnessed at Pigadia and Vonies, became quite apparent, and are perhaps of a nature beyond that of mere commercial exchanges.

Over the whole area of Kambi and Palaiia there are scattered traces of ancient occupation, ranging perhaps from as far back as the Archaic period down to Byzantine times. To the latter period belong the remains of a small chapel immediately above the sea. But nothing which could be Prehistoric was noted (Hope Simpson-Lazenby 1962, 161).

J55. Avlona

This is a fairly extensive plateau-like area with relatively poor grain lands and plenty of terraces which would have supported the modern community of Olymbos. The latter lies some three and a half kilometres to the south. There are numerous farmhouses on the gently sloping east hill-side, which form a small farming village occasionally occupied by the inhabitants of Olymbos.

Several flakes of Melian obsidian were noted by us on the terraces and on the path leading north-northwestwards to Vroukounda, before it starts sloping down to the coast.

A Prehistoric occupation of this site should be expected, for it stands out as agriculturally the most prolific in northern Karpathos. Further investigation is needed to establish the exact settlement pattern and its character.

About six kilometres northwards midway between Avlona and Koilios, which is another cultivable terraced area, a stone axe is reported by the painter Manolis Philippakis of Olymbos to have been found in a locality called Tou Akhiniou To Spilio.

J56. Vroukounda

The site is a rocky promontory extending north-westwards for about five hundred metres. It preserves the name of the Classical and Hellenistic town of Brykous, the ruins of which as well as the associated rock-cut tombs are spread over the flat terraces and on the cliffs of the north-eastern side (Beaudouin 1880, 274 f. Bent 1885, 235 f. Dawkins 1902-3, 204. Della Seta 1924-5, 86).

The Prehistoric occupation of the site is more apparent than positive and this may be due to the abundance of later remains as well as to the intensive cultivation of the barren terraces. But one would reasonably expect such an occupation in this strategic position. The small cove of Brykous itself and particularly the great harbour of nearby Tristomo would have been very convenient to the Prehistoric navigator, especially the Mycenaean, following the eastern routes.

A rugged crag on the south-western edge of the promontory dominates the whole area and was probably occupied in the Prehistoric period. It is called Pyrgali, which means small fort. On its north-eastern side good stretches of Late Classical or Hellenistic circuit walls are preserved.

The only conclusive evidence for Prehistoric activity in Brykous is a fine highly polished stone axe made of black stone, apparently similar to that from Aperi. It was found in 1976 during the clearance of one of the rock-cut tombs, which date from later periods. The only explanation is that the object was kept as an heirloom by the inhabitants of the city of Brykous long after it had lost its practical function. Flakes of Melian obsidian were noted on the terraces and on the citadel of Pirgali (cf. Melas 1979, 172-173). Hope Simpson and Lazenby report a possible Mycenaean kylix stem and a few other sherds apparently Late Helladic (1962, 161-162; Hope Simpson 1965, 186).

IV. SAROS (fig. 19)

K57. Palatia

There is an abundance of architectural remains and plenty of pot sherds are scattered over the rocky hill-sides, which rise from the coastal strip, and on the bed of a ravine which ends at the pebble beach of Palatia. The

cove lies on the north-eastern part of Saros. It is well sheltered and one of the best on the island (fig. 54:a-b). Substantial stretches of ancient circuit walls and the ruins of large Christian Basilicas are also exposed on the rocky spurs overhanging the harbour on either side. All these date from Classical times down to the Medieval, although Della Seta (1924-5, 86-87) noted among the Medieval ruins "costruzioni rettangolari che per tipo e tecnica del materiale adoperato sembrano essere Pregreche ed anno il loro piu vicino riscontro nelle costruzioni Carie delle coste di Anatolia".

Apart from Della Seta the site was visited and described by Ross (1945, 63), Bent (1885, 239), who excavated some rock-cut tombs of Classical and later periods, and Dawkins, who bought at the village of Olymbos a small black stone axe of very smooth finely ground surface, "exactly like those found in Crete" (Dawkins 1902-3, 201. Annual report for 1903 of the University Museum of Archaeology and Anthropology at Cambridge). It was apparently similar to the axe found at Ria in Lefkos (no. 1174). Dawkins was told that it was found near Palatia and that similar objects were found in the neighbourhood of Olymbos.

In 1889 W. Paton presented to the British Museum a group of bronze implements (Walters 1897, 64-5). They were allegedly found on Saros and we believe that they may come from the area of Palatia. Their date ranges from EB I to MB I according to Branigan (1974, 118, 161).

Our survey of the site at Palatia yielded a small fragment of Melian obsidian, which was found on the south bank of the ravine, a few metres away from the beach. A few fragments apparently of Minoan cups were noted on the steep and narrow terraces overhanging the harbour some four hundred metres south-west of the beach.

K58. Argos

This is a terraced plateau in the mountains about fifteen hundred metres west of Palatia. According to Susini (1963-4, 244) "il nome si collega alla cultura Micenea". The site possesses the most extensive and fertile lands on Saros. There is a modern farming hamlet on the sloping rocky east side of the plateau (fig. 54:c). Although there are no visible traces of ancient occupation at the village itself, it is likely that it was playing the role of a refuge settlement for the people at Palatia from Classical times onwards.

Some three hundred and fifty metres south-east of the village a small Prehistoric settlement was identified by us in the Summer of 1981. The main occupation is concentrated over a small ridge which has a south to north orientation and is covered with narrow and arid terraces (fig. 54:d). The settlement is about a hundred and fifty metres long from the south to the northern tip of the spur, which falls steeply away to the deep gully-like stream of Entis. Its width is about thirty metres from the foot of the sheer west bank of the stream Stis Potamous to the crest of the ridge

above, and another thirty metres from the crest westwards over the terraces of the plateau itself, which now run in a west to east direction. In the middle of the ridge there is a ruined hut and another one lies on the south-west corner of the site. The north-east corner is bordered by the streams of Entis and Stis Potamous, which converge at this point.

Over the whole extent of the settlement there is a thin scatter of pottery and fragments of stone implements. The latter include blade fragments and flakes of Melian obsidian as well as chips of a local black stone which resembles obsidian, but is mat and recalls similar material found at Katoyi of Saros and on Kasos. The pottery includes scraps of handmade coarse ware, probably Late to Final Neolithic or Early Bronze Age, but the majority is Minoan plain ware of a poor quality.

K59. Kato-yi

The best natural harbour of Saros is Alimounda, some thirteen hundred metres north of Palatia (fig. 54:a). It is very well protected from the north-westerly winds and has two small sandy beaches. Besides there is relatively good land north and west of the cove. One might therefore be tempted to look for Prehistoric habitation in this area. In fact our exploration during the Summer of 1981 was successful. Some five hundred metres south-west and above Alimounda bay there is a small plateau overlooking it. There are flat fields in the centre and narrow terraces on the west and south, whereas a group of farmhouses and huts lies on the east side which is rocky and is bounded by high cliffs which fall steeply away to the coast. On the west the plateau is bordered by the steep cliffs of a mountain ridge.

Sporadic traces of Minoan occupation are littered over the terraces on the west side of the plateau. In the middle of this area the scatter appears to be slightly thicker. We collected coarse pottery, predominantly from large jars and cooking vessels. A couple of earlier handmade sherds similar to those from Argos were also noted. On the terraces far below the plateau, immediately north of Alimounda beach, we noted a thin spread of stone flakes similar to those from Argos and Kasos.

Again the impression one gets from the pottery finds is of a small Minoan community with no particular pretensions. Neolithic or Early Bronze Age occupation is also evident.

In general, the Prehistoric settlement on the island of Saros, which probably begins by Late Neolithic times and reaches perhaps a relatively higher standard in the Minoan period, appears to be very sparse and fairly poor, judging from the scarcity and poor quality of the remains. The Prehistoric picture of the island is reminiscent of the modern situation rather than that of Classical and Medieval times, when it appears to have been more populous and relatively more prosperous.

V. KASOS

This island had been little explored and attention had always been given to the citadel of Poli, which was thought to be the only settlement of considerable size, both in Prehistoric and Historical times. Ross was the first to visit and describe Kasos (1845, 32-50). Susini followed in the sixties (1963-4, 20 f.). Hope Simpson and Lazenby included a good summary of ancient Kasos in their survey of the Dodecanese (1962, 168; 1970, 69 f.).

V(L). SOUTHERN KASOS-KHELATROS (fig. 20)

Lying on the south-western side of Kasos, Khelatros is the largest and most protected, if not the only, natural harbour of the island (fig. 55:a). It has a southern exposure entirely shut off from the prevailing north wind. The narrow terraces, which cover the deep ravines on either side and north of the harbour, provide sufficient land for cultivation. Water was obtained from the numerous streams converging onto the pebble beach or from wells during the dry summer months. One well of uncertain date is still preserved below the site of Trapeza, close to the shore.

It is therefore not surprising that the Minoans chose this area to settle and not the northern part of the island, which is harbourless and much exposed to the north-westerly winds. Both geographical and archaeological evidence suggest that Khelatros was used by Minoan travellers as their very first landing place on their way to the east; it would especially have played an important role during the period of Minoan Thalassocracy, by providing good shelter to the Minoans in their commercial and maritime enterprises in the eastern Mediterranean.

Four Minoan settlements have so far been identified on the hillsides immediately north of the harbour, within an area of less than two square kilometres. This extent is bordered by rugged mountains and is scored by deep ravines and dry streams.

Like most of the Minoan sites on Karpathos and Saros, the traces of Minoan occupation at Khelatros are invariably located on the well-sheltered south and south-east ridge-slopes which overlook the harbour.

L60. Trapeza

The most prolific site lies immediately above the west side of the bay and overhangs the beach (fig. 55:a-b). It is a low plateau-like ridge pointing southwards, where it falls sheer in high cliffs ending on the shore. There are steep terraces and mountain ridges on the west and south-west.

The main settlement seems to have been confined to the eastern slope, immediately west of the road which terminates at the beach. Plenty of Minoan pottery and worked stones from ancient buildings, including large square blocks, are scattered over the surface of five narrow terraces. The site covers an area of about fifty metres west of the road by forty metres south

to north. Several stone querns and grinders were also noted among stumps of fallen ancient walls (fig. 55:c).

A thinner spread of Minoan sherds continues for a few metres up the ridge and south-west on the cliffs.

The small Minoan settlement at Trapeza, together with that at Vroulidia on Karpathos, is the only one, in all three islands, situated so close to the sea. This probably underlines its character as a maritime and commercial entrepôt.

L61. Kefala

This is a low flat-topped ridge, the first in a series of similar terraced ridges which overlook the harbour (fig. 55:d). It lies some eight hundred metres north-northeast of the coast, immediately on the right of the road to Khelatros at the point where it curves westwards running almost parallel to the shore-line. The deep stream Ta Kokina or Kremasta, immediately east and below, also runs parallel to the road.

A thin scatter of Minoan sherds is spread over the narrow terraces of the south ridge-slope. It covers an area of about forty metres from the road northwards by eighty metres east to west. Very sporadic traces of Minoan occupation are also noted beyond the limits of the main settlement in all directions as well as above, over the edge of the plateau itself. On the latter a Classical black-glazed sherd was also found.

L62. Tou Stamati Ta Lakia

This is a relatively large and undulating extent consisting of fairly fertile low and flat terraces on its south part and of narrow stony terraces on the north (fig. 56:a). It is bounded to the southwest-west by the deep stream of Askelinias and on the south by the ridges referred to above, including that of Kefala. To the east it is bordered by steep cliffs and narrow terraces, which slope down to the road and to the stream Ta Kokina, which runs alongside.

The main settlement appears to be confined to the narrow and rocky terraces some three hundred metres north of the flat top of Kefala. The site covers an area of about a hundred metres east to west by forty metres south to north. Abundant Minoan pottery and wall stretches from ancient structures are strewn all over the site. Immediately to the north and north-east there are low cliffs and a couple of shallow caves, which may have been used for burials by the Prehistoric inhabitants of the area. Minoan pottery also occurs on a smaller scale around the main occupation area, chiefly to the west and south-west, over a small white knoll and down its cultivated slope which descends to an expanse of flat ground. A worked flake of fine chert was also noted on the site.

A Minoan stone vase, now in the Museum of Rhodes, was allegedly found

in the area Tou Stamati Ta Lakia.

L63. Amoudiarides

Some two hundred and fifty metres west of the site Tou Stamati Ta Lakia at a slightly higher level, beyond a small terraced ravine, narrow stony terraces run along a ridge-slope up to the stream of Askelinias, which borders the site from the south-west (fig. 56:b).

The evidence for Minoan occupation is again plentiful on this site that, like Trapeza, was particularly fruitful in sherds. The main settlement is largely confined to an area of about two hundred metres north to south by seventy metres east to west. The ravine mentioned above bounds the site to the east. The flat expanse of land, of roughly triangular shape, which starts at the foot of the terraced slope, marks the southern limit of the site. Along the northern border of the site a narrow path leads up to the church of Ayios Georgios. Immediately above the path, on the right, there is a small olive grove which is surrounded by high rubble walls and belongs to Minas Zamalis.

Traces of intensive Minoan occupation with sherds and stones from ancient house and terrace walls are heavily concentrated around and particularly south of the ruined Zamalis' hut. But traces of scattered occupation continue down the slope and over the adjacent terraced ravine. A few Hellenistic and Roman sherds were also noted, as well as a couple of early handmade scraps and a chip of Melian obsidian which were found just north of the ruined hut.

The pottery evidence from Khelatros in general points to the existence of small Minoan communities living in scattered houses and hamlets rather than in major settlements, not unlike those in Afiartis on Karpathos. Their lifetime may have covered the period of the New Palaces as well as part of the First Palace period. Nothing needs to be later than LM I, after which period the settlements appear to be deserted, probably following a destruction.

The scanty evidence for some activity during the Classical, Hellenistic and Roman periods most probably indicates temporary occupation, apparently related to seasonal transhumance and the agricultural exploitation of the region. The few ruined modern huts scattered on the area bear witness to the similar nature of the settlement in recent times, when no permanent occupation has taken place.

A sudden and radical change in the settlement pattern of Kasos seems to have occurred in the course of the LM I period. The southern part of the island was abandoned and the northern part became the centre of a new major settlement, probably not long after the former was deserted. This is likely to be related to the coming of the Mycenaeans, who evidently found the central part of northern Kasos more convenient for three reasons: first

it lies immediately on their route to the south-east; second, it possesses a fine naturally defended citadel; and third, there is a large valley and a plateau, which provide the best cultivable lands on the whole island.

V(M). NORTHERN KASOS

M64. Argos (fig. 56:c)

The name of this plateau, which is the second grain producing area in extent and productivity on the island, implies ancient occupation, perhaps related to the Mycenaean or to the later Dorian colonists who originated from the Argolid. But the pottery we noted points only to a small Hellenistic and Roman settlement at the north terraced foot of a low rocky hill, which rises at the south-western edge of the plateau and is called Skhinias. The hill-slope is covered with rubble wall enclosures, which support stony terraces. Some of these terraces are planted with olive trees and vines. There are also several rubble huts and windmills, now almost totally deserted.

Some three hundred metres to the north-east, in the middle of the plateau, there is a rocky knoll enclosed by high rubble walls for protection against the strong north-westerly winds which are frequent in the area. There are a few olive trees and a small vineyard as well as a rain cistern and a shallow cave, where we noted a couple of ancient squared blocks. Traces of ancient occupation on the knoll are extremely rare and are confined to a few Hellenistic, Roman and Medieval sherds. We looked in vain for conclusive evidence of Prehistoric activity on the site. The only relevant find was a base apparently from a Minoan cup. Most likely it witnesses the occasional presence of farmers, who would have made their way to Argos and vice versa from the Minoan settlements at Khelatros.

M65. Ellinokamara

This is a cave lying on the cliffs of the lower northern slope of Mount Profitis Elias, some twelve hundred metres west of the village Arvanitokhori. The cave was visited by Ross (1945, 46-7) and has been explored by Susini (1963-4, 206-208) who reports, among other pottery, fragments of Mycenaean and Middle Minoan ware without illustrating or describing them. He also mentions some possible Linear A or B signs inscribed on stone blocks (ib. 206, 207-8, fig. 6). The site was also visited by Hope Simpson and Lazenby (1970, 71, figs. 14-15, pls. 25b-c). Their description is accompanied by a ground-plan and a front-elevation of the blocking wall, which they date to the Hellenistic period.

During our visit to the site in the Summer of 1981 we explored the narrow terraces in front of the cave in an attempt to identify traces of Prehistoric occupation. But the only relevant find was a chip of Melian obsidian, an early sherd apparently handmade, and a couple of scrappy sherds that may be Minoan or Mycenaean. The majority of the pottery looks Hellen-

istic, but there are also some Roman and Medieval sherds as well as a possible Classical piece.

M66. Amoua, Faneromeni and Vrisi (fig. 21)

About twelve hundred metres below and north-west of Ellinokamara, immediately east of a terraced ravine which starts a short distance west of the cave and runs down the mountain slope towards the coast, a row of low ridges begins. It extends north-eastwards and then turns to the east ending up at the village of Fri. The ridges reach an average height of sixty metres above sea-level and run parallel to the coastline. The coastal strip in between varies in width between about three hundred and seven hundred metres and consists of low stony terraces and a narrow plain with relatively poor soil. At the north-west side of the strip lies the little chapel of Ayios Konstantinos, on a low bluff bordered to the east by a small cove with a sandy beach which is called Amoua. The name also applies to a major area, including the overlooking ridges up to the chapel of Faneromeni, to the south-east. The small islands of Armathia are seen immediately to the north (figs. 56:d and 57:a).

To the south and south-east of this area lies a higher ridge, on the top of which the village of Ayia Marina is built. The undulating extent between this and the lower ridges is covered with terraces, mostly arid. But there is some good grain producing land, and scattered vineyards and olive groves are noted in the small ravines and on the top of one of the ridges, within rubble enclosures.

Sporadic traces of Late or Final Neolithic occupation are scattered on the top and over the upper terraced slopes of the spur-like ridges, which project towards the north and flank in turn an equal number of small valleys and ravines. From Amoua itself up to the area of Vrisi, immediately south and above the modern airstrip and a short distance north-east of the chapel of Ayios Georgios, which lies at the bottom of a small valley, nine such minor sites have produced identical material: small blade fragments and flakes of Melian obsidian associated with scrappy and indeterminate sherds of coarse fabric, apparently handmade. Many black stone flakes of a local type were also noted, identical with those from Saros. The villagers maintain that this sort of material comes from the locality of Amoues on Mount Kapsalo, north-east of the chapel of Ayios Mamas. A few obsidian flakes were also found on the coastal strip of Amoua immediately north of the farm track, at some thirty metres distance from the coastline.

The evidence from Amoua, Faneromeni and Vrysi is insufficient for relevant interpretation, but it seems to suggest the small Neolithic or Early Bronze Age farming and fishing communities so often encountered on the rocky promontories and coastal ridges of the Aegean islands.

M67. Tou Fridiou Tanefama

This is a rocky hill commanding the valley between the villages of Fri, Ayia Marina and Arvanitokhori. It also surveys the sea approaches from the north. Part of Fri is built on its north-eastern foot. Again we noted a few traces of Prehistoric habitation, chiefly confined to the upper terraces of the south-east slope. A thin scatter of Mellian obsidian flakes and plain handmade pottery most probably reflects an occupation similar to that in Amoua, Faneromeni and Vrisi.

M68. Emborios (fig. 57:b)

This is the modern harbour of Kasos and as its name as well as archaeological evidence suggest, it was used as such by the ancient Kasians. Traces of a Roman settlement, of an Old Christian Basilica and of a baptistion are seen on the low terraces south-west of the harbour and south of the road to Fri (Hope Simpson-Lazenby 1962, 168; 1970, 71).

The evidence for Prehistoric occupation of the site is again meagre, being confined to a few flakes of Melian obsidian and some local stone flakes. These traces were noted on the stony terraces south of the Old Christian remains, immediately east of the stream bed which runs from south to north.

A couple of early, apparently handmade sherds were also found midway between these terraces and the village of Panayia, immediately south-west of a chapel, which lies at the turning of the road to Poli.

M69. Kato Vounara

About twelve hundred metres south-west of the harbour at Emborio there is a high conical hill, which dominates the whole valley and is crowned by an old windmill which now has been restored. The hill-slopes are covered with narrow and stony terraces, now almost abandoned. On the saddle connecting the hill with Pano Vounara to the south-east, there are better lands enclosed by rubble walls and planted with fig trees, etc.

Scattered traces of Prehistoric occupation, apparently Late or Final Neolithic, are evident over a large area all around the hill, from its summit down the terraced slopes for a distance of about fifty to sixty metres. Similar traces are noted over the saddle and its eastern terraced slope. The evidence mainly consists of small blade fragments and flakes of Melian obsidian as well as of local stone flakes. But a thin scatter of handmade plain pottery was also noted, especially on the north and north-western slope, immediately below the summit. The latter is now devoid of ancient remains due to modern levelling and building operations.

The evidence, which is more plentiful here, points again to a Neolithic or Early Bronze Age community, not unlike those on the central northern coast of the island.

M70. Pano Vounara

This is another hill-like ridge lying immediately above Kato Vounara to the south-east and overlooking the surrounding area. The flat top of the hill consists of stony and arid fields. There are two Roman cisterns, and Hellenistic, Roman and Medieval pottery are thinly dispersed over the surface.

The evidence for Prehistoric activity was confined to a couple of Melian obsidian flakes and a few sherds which look Prehistoric.

M71. Poli

Some eight hundred metres east of Pano Vounara a rocky and sharp-pointed hill rises, on the western side of which as well as on the saddle connecting it with the mountain ridges to the south, the village of Poli is built. The rugged peak of the hill stands up sharply and is almost inaccessible (fig. 57:c). It is defended by sheer cliffs, especially on the eastern part which is bounded by a deep gorge-like stream bed. Narrow stony terraces run along its lower slopes.

This almost naturally defended acropolis was undoubtedly the major habitation centre of the island in Historical times and it was here that the only Classical town of Kasos was situated.

The citadel was visited by Ross (1845, 35-6) who reports good stretches of an ashlar wall. It was also visited and described by Hope Simpson and Lazenby (1962, 168; 1970, 69-70). Apart from the later remains, they refer to "flat vertical handles from large coarse ware jars of gritty fabric, an angular horizontal bowl handle of orange clay with cream slip and a fragment from the rim of a bowl of well levigated orange-grey clay, with smooth interior and two holes just below the rim, probably for suspension". They attribute these fragments to the Early or Middle Bronze Age. To the Late Helladic period they assign "a sherd of fine buff clay, apparently from the handle of a deep bowl, and two ring bases, also apparently from deep bowls, with interior surfaces in brown monochrome paint" (1970, 70). They also write that the whole area of the citadel is thickly littered with ancient cisterns, terrace and house walls and pottery of various periods.

We visited and surveyed the site in the Summers of 1976 and 1981, in an attempt to assess the character and the extent of Prehistoric occupation. On the terraces of the north slope we noted abundant pottery with a possible range from well back into the Archaic period down to Roman times. The only possible Prehistoric sherd was a fragment of a handle or foot, apparently from a Neolithic or Early Bronze Age jar.

On the eastern side, which is very steep, a good stretch of circuit wall is preserved on the brow of a high cliff. A short distance further south-east and below the cliff much pottery was collected. It was apparently

washed down from the top. The sherds are mostly Geometric, but some Mycenaean fragments are included as well.

On the terraces of the south slope above the saddle there is a thick spread of sherds similar to those from the northern slope. Ancient square blocks and millstones are also noted as well as carvings in the rock, ancient wall foundations and a wall stretch built with roughly polygonal stones of medium size.

On the rocky top of the citadel there is a roughly square area extending between a small hut which houses the TV antenna, and a ruined windmill (fig. 57:d). We noted here a thin scatter of coarse and handmade pottery similar to that from elsewhere in Kasos. But a couple of finely burnished rim fragments from large bowls were also found as well as two or three flakes of Melian obsidian. Finally we picked up a few small fragments from cups which may be either Minoan or Mycenaean.

From the pottery evidence so far at our disposal we can assume that the citadel at Poli has constantly been occupied from the Neolithic times down to the present. The settlement appears to have been relatively meagre before the Late Bronze Age, although even this period is not as substantially represented by surface material as are the Geometric and later periods.

Perhaps some time within the Late Helladic IIIA period the Mycenaean came to the island and established themselves on the citadel of Poli, probably becoming dominant over the Minoans who seem to pass out of the picture after the abandonment of their settlements at Khelatros. Most probably from the Early Iron Age onwards the occupation of the site became more and more intensive, judging from the abundance of Geometric and later pottery.

CHAPTER THREE: CATALOGUE OF FINDS

This catalogue includes all the Neolithic and Bronze Age finds from Karpathos, Saros and Kasos, both published and unpublished. However, the group from the tombs at Makeli, published by Charitonidis (1961-2) is not included here, nor are a stone figurine (Br.Mus.Cat. of Sculpt., 6-7, no. All, fig. 2), nor a side-spouted jar (Doumas-Marangou 1978, 149, no.1), both also from Pigadia. The Charitonidis' objects are illustrated here in figs. 109-124), and the figurine and the jar in fig. 58.

The objects referred to in the catalogue are stored in the Museum of the village of Menetes, in Karpathos, unless otherwise stated. All dimensions are given in millimetres.

A1. Tsoulakis' cave

Pottery

1. Belly sherd, probably from bowl. Th. .007. Light coarse fabric with a few white grits. Black core, brown surface, strong traces of straw tempering, brush marks inside.
LN-EB 1.
2. Belly sherd, probably from bowl. Th. .007-.009. Hard fairly heavy fabric with white and dark grits. Dark grey core, brown to the surface, which becomes orange brown inside. Brush traces on both sides.
LN-EB 1.
3. Belly fr. of hard gritty fabric and reddish brown colour. Most probably from Middle or Late Minoan cooking vessel.
4. Belly fr. from large vessel. Th. .011. Coarse hard and gritty fabric with dark grey core and orange brown surface which is very worn.
5. Belly fr. from a jar. Fine hard fabric, orange buff in colour. Buff slip and part of red band. This may be Late Bronze Age.

Stone objects

6. Obsidian blade. Dim. .079 X .020 X .005; Black colour, Melian.
Probably EBA.
7. Part of large pestle. Dim. .125X .103 X .066. Very hard and heavy dark grey sandstone. Wear marks due to use on three narrow sides as well as on one larger side. It may also have been used as rubber.
8. Whetstone of fine hard light grey sandstone. Dim. .108 X .095 X .034.
A groove was hewn on one of its narrow sides.

A2. Ayia Kara-Kefali

9. Blade fr. of Melian obsidian.
Probably LN-EBA.

A4. Embasi-Diakonis' Hotel

10. Amphoroid crater restored from seventeen frs. Small part of rim and one handle missing. H. .375, D. .310. Fine pinkish clay containing little sand. Pale yellow slip. Decoration in dark brown shading to brown and red. Horizontal bands round lower body and thinner lines in between. Festoon chain on shoulder containing pendent irises. Two parallel lines round neck, band along and below lip inside and out. Paint on the grooved handle.
LM III A 2e.
11. Three-handled piriform jar top and sherds from belly and base. Twenty-seven frs. were collected. Rim D. .147. Fine light brown clay. Decoration in red with bands on lower body, and dotted scale pattern and chains of interlocked lozenges on shoulder. Double wavy line round neck, band along lip inside and out.
LM III A 21.
12. Small piriform jar. Neck and one handle missing. H. .165. Fine pinkish clay, very well smoothed buff surface. Decoration in friable black, slightly silvering. Bands round lower body, foliate band and alternating A-type iris pattern in the angles of a zigzag line.
LM III A 2e.
13. Small globular stirrup jar. H. .094, D. .076. Fine pinkish clay with well smoothed grey surface, covered with flaking cream slip. Decoration in friable black, in parts silvering. Horizontal bands and lines on lower body. Foliate bands on shoulder having below a triple zigzag line on one side and two arcs enclosing them from above on the other. Paint on the disk with a reserved square in the centre.
LM III A 21.
14. Juglet of depressed globular shape. H. .099, D. .085. Fine pinkish clay, pale yellow slip. Decoration in black shading to red. Bands on lower body, foliate band on shoulder.
LM III A2.
15. Juglet of depressed globular shape. H. .075, D. .066. Fine orange brown clay, pale yellow slip. Decoration in brown shading to red. Bands round lower part, horizontal chain of spirals on shoulder, flanked by dots and strokes on either side. Painted quinquangular under base with reserved disk in the centre.
LM III A2.
16. Juglet of depressed globular shape. Parts of handle and belly missing. H. .121, D. .106. Hard red fabric with green core, decoration in black shading to brown on a creamy slipped surface, which is mostly covered with white solid incrustation. Horizontal bands on lower body, foliate band on shoulder,

LM III A2.

17. Handled cup restored from five pieces. Part of belly and handle missing. H. .090, D. .150. Fine slightly porous clay of light brown colour. Decoration in fugitive brown with bands on lower body and concentric arcs on the upper.

LM III A2.

18. Handled cup restored from three pieces. One third of the vase missing. H. .069, D. .140. Overall reddish brown paint, in parts flaking off.

LM III A21.

19. Plain conical cup. H. .058, D. .096. Brown clay including some white and grey sand. Strong wheel marks inside and outside.

LM III A2-B1.

20. Kylix frs. allowing visualisation of almost the whole profile. Bowl D. .125. Fine chalky buff clay.

LM III A2-B1.

21. Goblet or bowl frs., three from rim, one from belly and one from handle. Bowl D. 106. Same fabric as no. 20, but deeper bowl.

LM III A2.

22. Kylix or goblet frs., one from rim, one from belly with small part of the handle. D. .111. Fabric similar to 20, but harder. Overall thin wash of black colour shading to dark brown.

LM III A2.

23. Belly frs., probably from small piriform jar rather than a stirrup jar. Fine buff fabric with well smoothed surface. Dark brown bands and cross-hatched motive (diaper net) above.

LM III A2-B1.

24. Disk-and-handle fr. from small stirrup jar. Small air-hole through disk. Fine brown clay, pale cream slip, traces of brown and black decoration.

LM III A2.

25. Bronze spearhead fr. Dim., .035 X .017 X .008. Black core, green to the surface.

26. Small whetstone of light and hard dark grey sandstone. Suspension hole at the edge.

A5. Anemomiloi and Plateau

27. Small piriform stirrup jar now in Othos Museum, Karpathos. Small parts of base and of rim missing. H. .134, D. .101. Pure hard buff clay, very fine yellowish surface. Decoration in brown shading to red and orange. Bands on lower body, foliate band on shoulder. Parallel strokes across handles outside, paint round the edge of disk, solid disk in the centre.

LM III A2e.

28. Beak-spouted juglet of depressed globular shape. Base and part of belly

missing. Preserved H. .082, D. .082. Pure pink clay, decoration in fine red, in parts slightly shining. Bands round lower body and round the edges of neck. Foliate band on shoulder. Also now stored in Othos Museum. LM III A2e.

29-30. Belly sherds, probably from Late Minoan or Mycenaean jars. Light slightly gritty fabric of light brown or pinkish brown colour. Traces of black horizontal bands in 29 and of dark brown wash in 30.

31-33. Pithos rim and handle frs. Coarse heavy fabric with grey and brown grits. Grey core, brown to dark grey surface. Both handles are of round section.

MM III-LM IA.

A6. The Anemomiloi and Makeli cemetery

Nikolaidis Collection

34. Small three-handled piriform jar. Small part of base missing. H. .160, D. .140. Fine orange buff clay, buff slightly shiny surface. Very slight neck moulding. Decoration in brown shading to red and orange. Bands and stripes on lower body, six stemmed spirals on shoulder. Paint all over neck, on handles and inside rim, parallel lines round lip. Triple tricurve line below each handle.

LH III A2e.

35. Spouted jar, evidently handmade. Small parts of rim missing. H. .122, D. .180, rim D. .115. Coarse gritty and friable fabric. Black core, rough surface varying in colour from light grey to black. There is a hole in the bottom.

LM III A-B1.

36. Bird's head, probably dove's, apparently from a ritual vessel. Preserved height .045. Fine buff clay, dark grey inside as a result of burning. Decoration in thick and friable red with bands round neck as well as around and below the eyes. The latter meet another band running along the middle of the head.

LM III A-B1.

37. Bronze spearhead, restored from two frs. Part of rear edge missing. Dim. .280 X .038 X .013. Raised flat rib on either side. Black core followed by a bluish-grey layer and another of green colour.

LM II-III A1.

38. Bronze spearhead restored from seven frs. Parts of it missing. Preserved Dim. .242 X .032 X .012. Fabric similar to no. 37.

LM II-III A1.

This spearhead has kindly been analysed by Dr. N.H.Gale of the University of Oxford and was found to be of a highish tin bronze, as expected for a spearhead of this date. The copper comes from Laurion. The detailed analysis is given below.

Cu	Sn	As	Pb	Fe	$\frac{208_{\text{Pb}}/206_{\text{Pb}}}{2.05998}$	$\frac{207_{\text{Pb}}/206_{\text{Pb}}}{0.83109}$	$\frac{206_{\text{Pb}}/204_{\text{Pb}}}{18.855}$
88.3	11.4	0.14	<0.1	0.11			

39. Bronze sword restored from three frs. Preserved Dim. .250 X .033 X .019. Rear part missing. Raised rib of semicircular section. Black core, green to the surface.
Probably MM II-III.
40. Bronze knife restored from four pieces. Dim. .202 X .019 X .008. It is much corroded. Five holes in the tang with parts of the nails for the attachment of handle.
Probably LM II-III B1.
41. Bronze razor frs., the one preserving a hole and the nail for the handle. They are also in a bad state of preservation.
42. Bronze mirror. Three frs. Th. .003.

Elementary School Collection

43. Large stirrup jar of globular-conical shape. H. .277. D. .236. Hard slightly gritty clay. Fine pale creamy slip on surface, which is badly damaged on one side. Decoration in black shading to red. Bands on lower body, double horizontal spirals on shoulder. Horizontal parallel strokes on handles, concentric circles on the perforated disk. Plastic knob on shoulder.
LM III A1.
44. Small piriform stirrup jar. H. .164, D. .133. Fine hard red clay, pale creamy slip on surface, easily flaking off. Decoration in very friable brown-black. Bands and stripes round lower body, diaper net on shoulder above zigzag line, the open spaces of which are filled with triple chevron pattern in alternating direction. Parallel strokes across handles.
LM III A2e.
45. Small piriform stirrup jar restored from three pieces. Top part missing. Preserved H. .096, D. .091. Slightly gritty fabric of pinkish red colour. Friable pale creamy slip. Decoration in flaking red with bands on lower body, foliate band on shoulder above and zigzag line with alternating A-type iris motif below.
LM III A2e.
46. Beak-spouted jug of globular shape, restored from many pieces. Small part of belly missing. H. .174, D. .127. Fine chalky buff clay. Plastic pellet where handle meets rim. Decoration with blobs in very thin and friable brown.
LM I.
47. Miniature beak-spouted jug. H. .082, D. .082. Fine pinkish red clay, friable creamy slip. Decoration in shiny orange-red with bands and

stripes round lower body. Foliate band on shoulder, bordered below by horizontal band of uniform parallel chevrons or stylised irises.

LM III A2.

48. Small piriform jar, once forming part of composite vessel, apparently of ritual character. H. .073, D. .067. Two holes on the side which was attached to its twin pot. Hard light red clay greenish in the core. Pale creamy slip. Decoration in brown to black with bands and stripes round lower body and horizontally placed spirals on shoulder, having rows of vertical strokes between them.

LM III A2.

49. Squat alabastron restored from many pieces. Part of belly and one handle missing. H. .072, D. .131. Fine buff clay, well smoothed surface. Decoration in friable black shading to dark brown. Parallel stripes round the middle of the body, thick wavy lines (rock or wave pattern) on shoulder in association with dotted rosettes.

LH III A1.

50. Piriform stirrup jar fr. Th. .007. Slightly gritty buff clay, finely smoothed surface. Decoration in dark brown with parallel horizontal stripes.

LM III A2.

51. Three-handled alabastron of angular profile. H. .080. No other details. The vase is only known from a short reference in the relevant book of the elementary school in Karpathos and from an associated photograph. Almost certainly it is identical with the "pyxis with angular profile", described by Hope Simpson and Lazenby (1962, 160).

LH III A2.

52. Cup fr. from rim and belly. Th. .045. Fine hard buff clay, well smoothed surface. Decoration in fugitive brownish black. Horizontal bands framing a sort of metopes formed by vertically placed double arches, the corners filled by concentric arcs (adder mark). Paint inside below rim, across which parallel strokes. Both fabric and profile similar to 1272.

LM III B1.

53. Tripod pot. Edges of feet missing. H. .072, of bowl .066, D. 119. Coarse gritty fabric dark grey in colour, brown in core. Wheel marks, two small holes through bottom.

LM III A2-B1.

54. Fire box lower part. Preserved height .090, D. c. .115. Other details unknown, see no. 51.

LM III A-IIIB1.

55. Stone vase restored from five pieces. H. .059, rim D. .081. base D. .067. Dark grey-green, white-veined serpentine.

MM 1?

56. Stone vase made of the same material. One handle missing. H. .070, D. c. .120. Horizontal grooves round lower body. Other details unknown, see no. 51.

Probably MM III-LM IA.

Rhodes Museum, nos. 105-114 etc.

57. Bridge spouted jug of depressed ovoid shape. H. .270, D. .280, rim D. .112. Fine yellow buff fabric, decoration in dark brown shading to red, mostly fugitive. Bands and stripes round lower body, double-lined scale pattern on upper part, containing spirals. Paint also on neck, spout and handle.

LM II/III A1.

58. Three-handled piriform jar. H. .316, D. .245, rim D. .130. Chalky buff clay including some fine dark sand. Decoration in flaking black shading to brown. Horizontal bands round lower and upper body, two superimposed rows of cross-hatched triangles on shoulder.

LH III B.

59. Globular pilgrim flask. Top part and one handle missing. Fine pinkish buff clay, pale yellow slip, well smoothed. Decoration in red, slightly shiny. Concentric circles on either side, parallel horizontal lines below handles.

LH III A2 late.

60. Small piriform stirrup jar. H. .097, D. .075. Fine heavy orange red clay, pale cream slip. Decoration in brownish black, easily flaking off. Thick band and thinner stripes on lower body. On shoulder festoon motif flanked by horizontal parallel strokes and pendent spirals. On the other side double foliate band. Dots and strokes on disk, on handles and on reserved bands round both necks.

LM III A2 late.

61. Small piriform stirrup jar. H. .112, D. .091. Fabric as 60, yet with a few small white grits and grey core. Decoration varying from orange to black. Thick band and stripes round lower body, foliate bands on shoulder. Small air hole through disk.

LM III A2 late.

62. Small piriform stirrup jar. Top part of the real neck missing. H. .082, D. .069. Hard light red clay, pale cream slip on surface. Decoration in shiny red with band and stripes on lower body and most probably foliate bands on shoulder. The whole surface is badly damaged.

LM III A2 late.

63. Small piriform Stirrup jar. H. .096, D. .076. Hard pinkish red clay. Surface damaged, but it certainly bore same pale slip as the previous stirrup jars. Decoration in fugitive red-brown. Parts of band and stripes on lower body preserved.

LM III A2.

64. Piriform trefoil-mouthed juglet restored from many pieces. Part of rim missing. H. .087, D. .074. Hard reddish clay, traces of creamy slip preserved on the much worn surface. Decoration in shiny red now wholly gone.
LM III A2 late.
65. Miniature spouted jug of depressed globular shape. H. .054, D. .049. Hard pinkish red clay with fine dark grits. Pale cream slip mostly gone. Decoration in friable shiny red with bands on lower body and foliate band round shoulder. Paint also on neck, rim and handle.
LM III A2.
66. Cup. H. .050, D. .094. Pinkish red clay containing small grits. Well smoothed surface varying in colour from light red to dark grey and thus forming a large blob on one side.
LM III A2e.
67. Tripod pot or "brazier". Foot edges, having almost certainly been of the coiled type, are missing. Bowl H. .104, with feet as preserved .140. D. .119. Coarse gritty fabric of reddish brown colour. The upper part of the body was perforated before firing.
LH III A2-B1.
68. Small three-handled piriform jar rim fr. Rim D. c. .100. Hard pinkish clay light brown in core. Few small grits. Pale yellow slip, well smoothed. Decoration in thin orange red. Parallel stripes along rim flange. Paint also preserved inside and outside below rim.
LH III A2-B1.
69. Small stirrup jar top fr. Disk D. .034, neck D. 020. Fine orange buff clay, well smoothed surface. Decoration in shiny and friable red. Concentric arcs on shoulder, concentric circles round a central dot on disk. Band round neck, which has a slightly raised moulding.
LM III A2e.

Saltas' House

70. Goblet or bowl rim fr. of fine chalky fabric. Light brown clay containing few brown grits.

A7. Xenona, Avla and Makeli

- 71-72. Cup and bowl or goblet rims of fine chalky buff clay. Overall brown wash on both frs.

71: probably MM III. 72: probably LM III A2.

- 73-74. Cup base frs. Fine chalky fabric of light brown or orange brown colour. Circular string marks in 73, strong wheel marks inside of 74.

73: LM I? 74: probably MM IIB-IIIA.

75. Neck-and-body fr. probably from jug. Few brown grits, green core, orange surface.

76. Base fr. apparently from a Minoan jar. Heavy gritty light brown fabric.

77. Belly fr. from a pithos with thumb impressed relief decoration. Hard gritty fabric, orange brown in colour.
78. Bronze dagger of fine preservation. Dim. .015 X .028 X .002. Two holes in the rear edge for the handle. Most probably made of wood. Melas 1979, 142, drawing 4 and fig. 5.
Probably EB 1-2.
79. Small leaf-shaped dagger, also finely preserved. Dim. .073 X .034 X .002. Three holes for the handle attachment. Melas 1979, drawing 5 and fig. 5.
Probably EB 1-2.

A8. Manolakakis' Land

Unstratified

Conical cups

80. Whole profile. H. .058, rim D. .090, base D. .053. Light chalky buff clay. Dark brown wash outside continuing as a band inside, below rim.
MM IIIA - LM IA.
- 81-82. Rim and whole profile. H. .058 and .061, rim D. C. .093, .090.
Fabric as 80, decoration in thick flaking red with bands below rim inside and out in 81 and with a curious linear motif in 82.
MM IIIA - LM IA.
- 83-84. Base frs. with parts of belly. D. c. .058. Same pure and soft fabric, three parallel horizontal stripes on lower body, brown in 83, black in 84.
LM IA.
- 85-86. Bases, one with strap handle attachment. D. .064 and .062. Same fabric, uneven surface covered by brown wash in 85. Brownish black stripe round 86 extending a little under base. Five more similar frs.
MM III.
- 87-91. Five base frs. of similar buff fabric. Dark brown paint outside or band round base.
- 92-96. Rim and belly frs. of same fabric, but including a few fine brown grits. Rim D. .087. Parallel horizontal or diagonal stripes in friable reddish brown or brown. 93-96 probably belong to hole-mouth jars rather than cups.
92: MM IIIA-LM IA. 93-96: LM IA.
- 97-100. Bases and base frs. D. .055, .049, .052, c. .050. Pure chalky light brown fabric, buff on surface, which is roughly finished. Seven similar pieces, six bases, one rim.
97-98: Probably MM III. 99-100: MM III-LM IA.
- 101-10. Nine base and one rim frs. of similar fabric and profiles.
- 111-114. Base, complete profile and base frs. of four more convex-sided cups. D. of 110, c. .050, H. of 111, .063. Little white and grey sand

in the light brown to pale buff clay. Uneven surface. Thin red stripes on rim of 112 inside and out. Dark brown wash inside and brownish black band on base of 114.

111: Probably MM III. 112-114: MM III - LM IA.

115-117. Bases of similar cups displaying a low offset or concave foot.

D. .055, .045, .054. Pure chalky buff fabric. Four more similar pieces. Probably LM IA.

118-120. Whole profile, rim with part of body and base of handled cups with slightly outcurved walls. H. of 118, .065, rim D. .078. Fine chalky clay, light brown to buff. Decoration in orange to brownish black with bands on rim, inside and out in 118-119 and horizontal bands on base and diagonal on upper body in 120.

MM III - LM IA.

121-124. One belly sherd with part of handle and three bases with handle attachment. D. of 124, .050. Few small brown grits in 123. Light chalky fabric, ranging in colour from light greyish brown to buff. No paint has been noted. Four similar frs. and seven frs. from strap handles, two of which bear traces of black wash.

MM III - LM IA.

125-128. Four similar base frs. with handle attachment.

129-135. Seven strap handle frs. of similar fabric. All of them must have been of the raised-above-rim type.

136-139. Whole profile, bases and rim. H. .055, D. of 138, .054, of 139, .086. Fabric as before, but in 139 harder with small black and yellow grits. Decoration in brown-black paint easily flaking off. Overall wash outside or parallel bands, horizontal or diagonal in 136 and 138. Trickle decoration inside rim of 136.

MM IIIA - LM IA.

140-146. Complete profile and six bases with part of handle. H. .062, rim D. .094, base D. of 143, .050. Light chalky fabric varying in colour from greenish grey to buff. Seventeen more frs. from similar cups.

143: probably MM III. 140-2 and 144-6: MM III - LM IA.

Rounded cups

147-152. Two base frs. with part of body, three belly frs. and one rim.

D. of rim .078. Light chalky clay varying in colour from light brown to pale yellow. Hard orange red fabric in 149. Thin brown wash covers the exterior of 147 and 151. Red parallel horizontal or vertical stripes outside of 148, 150 and 151, and red paint round handle in 152. 150 may belong to a hole-mouth jar.

MM IIIB - LM IA.

Carinated Cups

153. Whole profile. H. .059, base D. .045. Pure chalky clay, light brown with buff surface. Just below the carination, incised horizontal line all round belly.

LM IA.

Deep bowls and basins

154. Base fr. D. .120. Hard gritty fabric, light brown in colour with buff surface. Reddish brown fugitive wash inside. Traces of trickle decoration outside.

MM III - LM IA.

155. Base fr. with part of belly. Many brown grits, light brown clay, rough surface.

MM III - LM IA.

156. Base fr. with part of belly presenting inside part of horizontal handle. Heavy gritty fabric, light brown core, buff surface.

MM III - LM IA.

157. Rim fr. of similar to 156 fabric. D. c. .250.

MM III - LM IA.

Hole-mouthed Jars

158. Rim with part of belly and vertical handle of round section. D. c. .120. Slightly gritty fabric light brown in core, buff on surface.

MM III - LM IA.

159-161. Three rim frs. of similar fabric, Rim slightly everted. D. of 159, .126. Horizontal band in flaking black on rim outside in 159, 161. Dark brown overall wash in 160.

MM III - LM IA.

162. Rim fr. with part of belly. D. c. .130. Light hard clay light brown in core, buff on surface. Decoration in friable brown with horizontal band along rim outside, from which start parallel diagonal bands running across the body.

LM IA.

163. Spout fr. of similar fabric. Overall thin brown wash.

LM IA.

164. Spout fr. of similar fabric. Brown flaking band round rim and spout, where it meets body.

LM IA.

Shallow Plates

165-6. Two frs. both whole profiles. D. c. .170. Fine hard slightly gritty fabric, light brown to buff in colour, Dark brown horizontal band on base continuing underneath. Surface well smoothed inside.

Basins

167-170. Three rim and one belly frs. from deep conical basins preserving part of body and of horizontal handle. Hard heavy oatmeal fabric varying in colour from light brown to buff. Thickened rim on both sides in 167, 169. In 167 band below rim inside and out in thin orange red. Parallel diagonal strokes across rim flange. Traces of brownish black wash inside and outside 170.

MM IIIIB - LM IA.

171. Rim fr. of shallow conical basin. D. c. .320. Heavy oatmeal fabric of brown colour. Rim thickened inside.

172. Base fr. from deep basin with an offset foot. D. c. .340. Oatmeal fabric, grey core, brown surface.

173. Rim fr. and part of belly from deep basin with small ledge inside for the lid. Fabric similar to 170. Brown core, buff surface. Traces of brown band running diagonally from rim down the body.

Probably MM III.

Large Vessel Handles

174-176. Frs. from horizontal handles of round section. Small parts of belly preserved. Apparently all three belonged to closed vessels. Semi-coarse hard and gritty fabric, softer and chalky in 176. Reddish brown clay in 174 and light brown to buff in 175-176. Bands round handle in 175-176 in thin black or brown.

Jar Rims and Necks

177. Two joining frs. of rim-neck-and-shoulder. D. c. .120. Fine orange brown clay. Pale yellow surface, which is uneven and covered outside with thin orange brown wash.

178. Rim and neck fr. of similar fabric. D. .110. Outer surface coated with solid orange brown wash.

179. Similar fr. of hard gritty fabric. D. .112. Light brown clay, red horizontal bands inside and outside rim and on base of neck.

180-183. Four neck and shoulder frs. 180 and 181 are of hard and gritty fabric, brown in core and buff on surface. Decoration with black or red band on junction of neck and shoulder. 182 and 183 come from larger and coarser vessels. Brown clay becoming buff on surface of 183, which bears traces of black wash.

184-185. Two spout frs. from jugs. Fine chalky buff clay, fugitive brown wash outside. Plastic disk outside 185, evidently inspired from metal prototypes.

LM IA?

Jar Belly Sherds

186. Probably from small jar. Hard gritty fabric of light grey colour. Decoration in thin flaking brownish black, most probably with running spiral and tangents.
LM IA?
- 187-188. Two sherds of hard gritty fabric, pinkish brown in core, buff on surface. Brown-black bands in 187, forming what may be part of a spiral. Probably MM III.
- 189-191. Three sherds of hard light brown fabric, pure in 189 and 190, gritty in 191. Reddish brown trickle decoration in 189, reddish brown and dark brown bands in 190 and 191.
Probably MM III.
- 192-193. Heavy gritty fabric of light brown colour, red horizontal bands. Those in 192 and the lowest one in 193 are probably parts of a spiral. Probably MM III.

Jar Bases

- 194-195. D. .111, .182. Heavy gritty fabric, grey brown core in 194, buff well smoothed outer surface. Orange brown clay in 195 with traces of orange red splashes outside.
- 196-7. D. .096, .250. Hard slightly gritty clay, light brown in core, buff on surface. Traces of overall black wash in 196, black trickle decoration in 197.
- 198-200. D. .130, .182, .170. Fine fabric, slightly gritty in 200. Light brown core and buff surface. Grey core and reddish brown surface in 199. Traces of brown wash on 198 and 199.

Clay Lamps

- 201-202. Two whole profiles, yet lacking stem and foot. D. c. .218, .220. Fine heavy orange brown clay in 201, chalky light brown in 202. Both covered with solid red paint, slightly shiny in 202.

Tripod Pot Foot

203. Part of foot with small part of belly. Coarse gritty fabric, grey core, brown surface. Thin oval section.
Probably MM IB - MM II.

Pithos Rims

204. Rim fr. with part of shoulder, D. c. .280. Heavy gritty fabric, relief decoration with horizontal rope coil below rim.
MM III?
- 205-206. Two rims with small parts of shoulder. D. c. .280, .230. Very heavy and gritty fabric. Grey core and orange brown surface in 204,

greenish buff clay in 205.

MM IIIB - LM I.

Stone Objects

207. Half quern of fine hard dark grey sandstone.
 208. Part of stone rubber of the same material.
 209. Pebble rubber with red plaster preserved on both flat sides.

Stratified

Layer I

210. Almost complete conical cup. H. .058, rim D. .090. Few small grits. Light chalky clay ranging in colour from light brown in the core to pale buff on surface, which is rough and coated with overall dark brown wash. Slight wheel marks.
 MM IIIA - LM IA.
211. Similar conical cup. Small parts of rim missing. H. .056, rim D. .080. Fabric as last, but finer and lighter in colour. Slight traces of similar wash outside.
 MM IIIA - LM IA.
212. Handled conical cup almost complete. H. .067, rim D. .085. Fine chalky buff clay, thin fugitive brown wash outside continuing inside as a horizontal band.
 MM IIIA - LM IA.
213. Whole profile of carinated cup with handle attachment. H. .057, rim D. .081. Fine yellow buff clay, brown bands along rim inside and out.
 LM IA.
214. Whole profile of tripod tray. Coarse gritty fabric of brown colour. Traces of burning inside. Thick oval section of foot.
 MM III - LM I.

Layer II

- 215-217. Two whole profiles and one base of conical cups. H. of 215, .063, D. c. .95. H. of 216, .064. Fine chalky clay, pale yellow or buff. Brown wash outside 215, continuing as a horizontal band inside rim. In 216 and 217, brown bands round base and on rim inside and out.
 215: Probably MM IIB - IIIA. 216 and 217: MM III - LM IA.
- 218-220. Cup rim frs. of same fabric and decoration as 215 to 217.
- 221-222. Cup base frs. of incurved conical form. Same fabric, dark brown band round base. D. .038, .052.
 LM IA.
- 223-224. Rim and belly frs. of carinated cups. Fabric as before. Overall brown wash in 223 and inside 224. Bands round rim outside 224.
 MM IIIB - LM IA.

225. Straight-sided cup base. D. .058. Bevelled foot. All painted inside, reddish brown bands outside.

MM IIB- IIIA.

Bowls

226-229. One base and three base frs. of little bowls. D. .056, .092, .076, .045. Cup-shaped and of chalky fabric of buff colour similar to the cups. Brown or dark brown band on base of 226 - 8, band round bottom inside 229.

MM IIIB - LM IA.

230. Rim fr. from deep bowl of hard gritty fabric and light brown colour. D. c. .146. Brown band round rim, inside and outside.

MM IIIB - LM IA.

231-232. Base frs. of larger concave-walled bowls. D. .178, .170. Heavy gritty fabric of light brown colour. Grey core in 231, which is black-washed inside.

MM III - LM IA.

233. Rim fr. from deep basin. D. over .400. Coarse fabric, grey core, dark brown surface left rough.

MM IIIB?

234. Profile of footed plate or tray. Foot missing. D. .250. Brown grits, hard heavy fabric of light brown colour.

Hole-mouthed Jars

235-236. Spout piece restored from three frs. and rim fr. from the same vessel. Rim D. .118. Fine light brown fabric, pale yellow surface. Spout covered by brown wash. Decoration of rim as in 159, 161.

MM III - LM IA.

237-238. Spout and rim frs. of similar fabric. Buff surface covered by black wash outside. In 238 only traces of it have survived.

MM III - LM IA.

Jugs and Amphorae

239. Belly fr. Few grey grits, chalky buff fabric. Decoration with blob motif in dark brown.

240. Belly fr. of fine yellow buff clay. Brown parallel lines running horizontally and part of cross-hatched loop below them.

LM I.

241. Neck-and-shoulder fr. D. c. .076. Few brown grits, chalky pinkish fabric. No decoration.

MM IIIB?

242. Handle fr. Buff clay with few brown grits. Round section.

Basins

- 243-244. Two horizontal handles of round section, one preserving small part of the body and the other fragmentary. Buff clay with brown grits. Traces of brown paint outside 243, brown horizontal bands inside 244.

Pithoi

245. Belly fr. with thumb impressed coil decoration. Coarse and gritty orange brown clay.
- 246-247. Belly frs. of light slightly gritty fabric and trickle decoration in brown or dark brown.
- 248-250. Three frs. of horizontal handles with small part of belly, most probably from pithoi. All three of round section. Light gritty fabric, buff or orange. Decoration with dark brown to black round handle in 248 and 249, trickle in 248 and red overall paint in 250.

Tripod Pot

251. Foot fr. of coarse and gritty fabric. Brown colour, thin oval section. Probably MM IB - II.

Layer III

Conical Cups

252. Rim and belly fr. of almost straight-sided cup. D. .088. Fine chalky clay, brownish buff in colour. Brown band along rim inside.
MM IIIA - LM IA.
253. Base and part of belly of concave-sided cup or saucer. D. .048. Same fabric of yellowish buff colour.
254. Whole profile of conical incurved cup restored from three frs. D. .096. Slight carination outside. Same fabric as before. Black wash inside continuing outside as a band along rim.
LM IA.
255. Strap handle fr. from raised-handled cup. Fabric as last.

Hole-mouthed Jars or Deep Bowls

- 256-257. Rim frs. of fine chalky fabric and buff colour. D. c. .110, .120. In 256 brown vertical stripes starting from a brown line running along and below rim. Similar but broader line on rim of 257.
MM III - LM IA.
258. Rim fr. with neck and part of shoulder. Fine orange buff clay, traces of brown paint outside.
259. Base fr. probably from amphora or jug. Fine light brown clay, orange buff surface. Orange band round base.
260. Foot of coarse and gritty fabric. Grey core, brown surface.
MM III - LM I.

261-262. Rim frs. of similar fabric and colour. D. .200, .240. Traces of burning inside.

MM III - LM IA.

Miscellanea

263-265. Cup frs. One whole profile, one base and one rim with raised handle. Base D. .058, .048. Fine light brown fabric, buff to surface.
MM III - LM IA.

266-267. Base and belly frs. from conical incurved cups. Fabric as before.
266: Probably LM IA. 267: MM III - LM IA.

268. Belly fr. of stemmed bowl with part of the cylindrical base. Fine orange buff clay.
MM II - III?

269. Foot of tripod vessel. Coarse gritty fabric, brown core, greyish brown surface. Flattened section.
Probably MM IB - II.

A9-10. Sevdalis' Land and Sfayia

270. Whole profile of handled rounded cup restored from nine pieces. H. .008, base D. .043. Pure light brown clay, rough surface, straight string marks.
MM III.

271. Base and body frs. of conical concave-sided cup. D. .043. Fine chalky buff fabric, strong ribbing inside produced by the wheel.
MM IIIA - LM IA.

272. Two joining rim and belly frs. from similar cup.

273. Rim fr. probably from a hole-mouthed jar. D. .126. Light chalky buff fabric with light brown grits.
MM IIIA - LM IA.

Conical Cups

274-275. Base frs. D. .040, .043. Chalky light brown fabric, straight string marks.
Probably MM III.

276. Belly fr. of fine orange brown fabric. Strong wheel marks inside, creating ribbing.
MM III - LM IA.

Hemispherical Cups

277-278. Rim frs. of fine orange buff and light brown fabric.
LM IA.

Rounded Cups

279. Base fr. of fine chalky light brown fabric. D. c. .045. Wheel marks

inside, straight string marks.

MM IIIA.

280. Base fr. of coarse and gritty brown fabric. D. .038.

LM IA.

281. Two joining base frs. of fine chalky pale yellow fabric. D. .044.

Overall dark brown wash.

MM III - LM IA.

282-284. Three base frs. of pure or slightly gritty (in 282) fabric.

Light brown clay, grey in 284, which bears circular string marks.

282, 284: LM IA. 283: MM III.

285-287. Three base frs. of slightly gritty fabric and light brown colour.

D. .038. Curved string marks in 287.

285: MM IIIB. 286 - 7: LM IA.

288. Five rim, belly and base frs. belonging to the same vase. Rim D. .100.

Light brown clay.

MM IIIB - LM IA.

289. Three rim and belly frs. belonging to the same pot. D. .104. Fine yellow fabric.

Probably LM IA.

Deep Conical Bowls

290. Almost complete. Small part of rim missing. H. .093, rim D. .208, base D. .086. Heavy gritty fabric, brown core, light brown to surface.

Strong wheel marks on both sides and curved string marks underneath.

Probably MM IIIB.

291-292. Base and belly frs. belonging to the same pot. Rim D. c. .290.

Similar fabric, with strong wheel marks.

Rounded Bowls or Hole-mouthed Jars

293. Rim and handle fr. Fabric similar to 290. Handle of round section.

There is a similar rim fr., but of better fabric with fine white and grey sand. Light brown in core, buff surface, strap handle.

MM III - LM IA.

294. Five joining rim and belly frs. D. .142. Traces of horizontal handle

c. 2 cms below rim. Fine hard clay of buff colour. Strong wheel marks on both sides.

MM III - LM IA.

295. Rim and belly fr. Hard light brown fabric with brown grits and buff surface. Strong wheel marks.

MM III - LM IA.

296-297. Two frs. of gritty buff fabric. Wheel marks on both sides.

MM III - LM IA.

Jug or Ewer

298. Neck with part of shoulder. D. .045. Strong neck moulding. Fine hard fabric, light grey in core, buff to surface, where traces of thin brown paint are preserved.

MM III.

Jars

299. Six frs. forming almost the whole profile, probably of an ewer. D. .202, Rim D. .092. Heavy gritty fabric, brown core, buff surface. MM III.
300. Four belly frs. belonging to the same pot. Few brown grits, hard buff fabric. Decoration with spiral motif in thin and friable dark brown. Probably MM III.

Cooking Pots

- 301-304. Horizontal handle with part of rim and body, vertical handle, belly and foot frs., the last of thin oval section. Coarse gritty fabric of brown colour. Grey core in the foot. Probably MM IB - II.

Various Handles

305. Horizontal of round section, with part of rounded belly, probably from a bowl. Hard fabric, grey grits, grey core, orange surface.
306. Part of horizontal handle of round section, probably from a pithos. Few brown grits, buff clay. Traces of brown paint round handle.
307. Horizontal handle fr. of round section. Pure light grey clay.
308. Two joining frs. of vertical handle, round in section. Hard heavy buff fabric with few brown and white grits. Probably from pithos.

All. Sisamos

309. Minoan stone vase of the blossom type. H. .095. D. .151. Dark green white-veined serpentine. Melas 1979, 151-152, fig. 13, drawing 7. MM III - LM I.

B13. Karvounolakos

310. Small flake of Melian obsidian.

C14. Vathipotamo

311. Small belly fr. of hard almost pure fabric, black core, brown surface. Probably Middle or Late Bronze Age.
312. Base fr. of coarse gritty fabric, grey core, pinkish surface. Most probably from a MM or LM cooking pot.
- 313-316. Small blade fr. and three chips of Melian obsidian.
- 317-319. Three flint frs. of brown colour.

C15. Ayioi Apostoloi

320. Blade fr of Melian obsidian.

C16. Sakeli Kremos

321-323. Two blade frs. and one flake of Melian obsidian.

C17. Kremos Tis Kipou

324-325. Two belly sherds of dark grey to black, handmade fabric similar to those from Vouno. Th. .012 and .009. Most probably from bowls. Probably LN - FN.

326-328. Three cup frs., one from base, one from rim and one from belly. Soft buff fabric. Circular string marks in 326.

326: Probably LM IA. 327-328: MM III - LM IA.

329-330. Grinder and whetstone frs. of hard grey sandstone. They may be Prehistoric, but later date is also possible.

D18. Vouno

331. Belly fr. from a large jar or bowl. Th. .025-.015. Handmade coarse, gritty and heavy fabric, greyish black core, brown to surface, which is orange buff outside. On the much worn exterior brush marks and white incrustation.

LN or FN.

332. Belly sherd apparently from a closed vessel. Th. .010-.012. Heavy gritty fabric, grey-black core, light brown outer surface, which bears burnishing signs. The inner surface varies in colour from grey to dark brown due to uneven firing.

LN - FN.

333. Belly fr. with slightly curved profile, probably from a bowl. Th. .007-.008. Almost pure coarse dark grey fabric, brownish to the surface, which is light brown outside and reddish brown inside. Burnishing marks on both sides.

LN - FN.

334-335. Belly sherds of slightly curved profile, probably from large bowls. Th. .008 and .010. Hard coarse fabric with small white particles. Brown clay, black core, pink to the outer surface, light brown on the interior which bears slight burnishing marks.

LN - FN.

336. Four belly frs. belonging to the same pot. Th. .007-.009. Coarse gritty fabric, blackish core, brown to surface.

LN - FN.

337-338. Two base frs. from conical cups. D. .046 and .045. Light soft buff fabric, small grey particles in 337, straight string marks on both.

MM III.

339. Belly fr. with vertical strap handle apparently from a deep bowl. Coarse, friable and slightly gritty fabric, black core, dark grey to light brown surface, in parts shading to buff on the interior, where slight burnishing marks are visible. Slight traces of straw tempering. LN or FN.
340. Rim fr. of a straight-sided bowl. D. .150. Coarse slightly gritty fabric. Black core, brown to surface which is red and smoothed. LN - FN.
341. Rim fr. from a conical bowl. D. .140. Almost pure hard fabric, dark grey core, grey surface which is smoothed. LN - EBA.
342. Strap handle fr. of a Minoan cup. Pure soft buff fabric.
- 343-348. Six blade frs. of Melian obsidian. LN - EBA.
- 349-358. Ten obsidian flakes of Melian type. 349 may have been used as a scraper.
359. Stone hammer of light grey sea pebble. Percussion signs on one narrow side.
360. Stone quern of the saddle type made of hard grey sandstone.
361. Disk-shaped stone grinder made of the same material.
- D20. Tou Stavrou To Kefali
362. Complete profile of amphoroid crater made up from nine frs. Height .335, rim D. .206, base D. .118. Hard light fabric with few fine white grits. Grey core, orange interior and pinkish brown outer surface, which is covered with friable cream slip. Slight moulding around base of neck. Decoration in dark brown with bands and stripes round lower body. On one side of the upper body papyrus flower on either side of a loop filled with chevrons. Double horizontal wavy lines and stemmed spirals vertically arranged flank the main decoration. On the other side traces of pendent concentric arcs forming part of a festoon motif. Vertical S lines below handles, wavy line round neck, parallel strokes across flat lip. LM III A2e.
363. Wide-mouthed juglet of depressed globular shape, restored from many pieces. Parts of belly, rim and handle missing. H. .098, D. .102. Pure hard orange brown clay, well smoothed orange buff surface, covered with thin pale yellow slip. Decoration in friable red with bands and lines on lower body and stylised foliate band round shoulder. Paint also on handle and inside rim. Melas 1979, 155; fig. 15. LM III A2 late.
364. Beak-spouted juglet of depressed globular shape made up from many pieces. H. .088, D. .080. Fine hard pinkish clay, surface covered with

thick dull cream slip, now mostly gone. Decoration in brown shading to black with horizontal bands on lower body and foliate band on shoulder. Melas 1979, 156-157, fig. 17. LM III A2.

365. Miniature jug of depressed globular shape. Top missing. Preserved H. .064, D. .062. Very fine orange buff clay, well smoothed and glossy yellow surface. Decoration in shiny red shading to brown and easily flaking off. Bands and stripes on lower body. On either side of the upper part stemmed spiral flanked by scale pattern and fan pattern filled with parallel horizontal arcs. Dotted rosette as filling ornament. Melas 1979, 155-156, fig. 16. LM III A1 - III 2e.
366. Base and wall frs. probably of a jug. Base D. .080. Pure chalky buff clay, brown to black wash on the exterior. Melas 1979, 157-158, fig. 18:2.
367. Five frs of a plain kylix allowing restoration of the complete profile. H. .165, rim D. .143. Pure soft and chalky clay of buff colour. LM III A2late-IIIB1.
368. Cup of rounded profile made up from two pieces. H. .054, rim D. .095. Hard light fabric, pink clay containing fine sand. Well smoothed surface covered with thin compact slip. Melas 1981, fig. 14. LM III A2e.
369. Complete profile of rounded cup with slightly flaring rim. H. .041, rim D. .091. Pure chalky buff clay, overall reddish brown wash easily flaking off. LM III B1.
370. Two pieces forming almost the whole profile of a rounded handled bowl. Rim D. .130. Well levigated chalky buff clay, well smoothed surface. Decoration in friable black with oblique strokes along and below rim and parallel strokes across upper side of handle. Traces of paint around handle attachment. Melas 1979, 157, fig. 18:3. LM III A2 - III B1.

D21. Stous Fournous
Cups and Jar fragment

- 371-373. Complete conical cup and base frs. of slightly incurved and straight-sided conical cups. H. .063, rim D. .095. Base D. .041, .048 and .050. Profile of 372 as that of 371. Pure orange brown clay in 371, light brown and buff with little white and grey sand in 372, 373. Straight string marks in 371 and 373. 371 and 372: MM III - LM IA. 373: Probably MM II-III.
374. Whole profile of handled cup with concave walls. H. .071, rim D. .108. Very fine fabric imitating metal prototypes. Pure hard clay of pinkish orange colour and well smoothed surface covered with dark brown paint easily flaking off. MM III.

375. Base-and-wall fr. of a small jar. Pure heavy clay greenish core light brown surface.
- 376-377. Rim frs. of slightly rounded cups with spreading rims. Pure chalky buff fabric. Strong wheel marks.
Probably MM III.
- 378-382. Almost complete profiles of rounded cups with flaring rims. Rim D. c. .130, .120, .098, .120, .120. Base D. of 380 .050. Fine light fabric of buff colour. Strong wheel marks on both sides.
Probably MM III.
- 383-392. Base frs. from ten rounded cups. D. .054, .048, .048, .046, .050, .080, .042, .056. 390 and 392 belonged to saucers rather than to cups. Profile of 389 as 391. Pure or slightly gritty fabric containing little grey or brown sand. Buff, orange or light brown clay occasionally with greenish core. Straight wheel marks in 390, traces of black paint outside 391.
Probably MM III.

Bowls

- 393-394. Whole profile and base fr. of two deep bowls. Rim D. of 393 .164, base D. .104. Hard gritty clay, buff in 393, orange brown with green core in 394. Trickle decoration in thin black outside 393.
MM IIIB - LM IA.
395. Wall fr. with rim and part of horizontal band from rounded bowl. D. .144. Hard gritty fabric brown in core, buff on surface. Traces of brown to black horizontal bands outside.
MM III - LM IA.
- 396-399. Base frs. of deep conical bowls or basins. D. of 397 .144. Hard gritty fabric, green or grey core, brown surface.
MM III - LM IA.

Hole-mouthed Jars

400. Rim fr. of hard slightly gritty fabric and light brown colour. D. .158.
Probably MM III - LN IA.
401. Rim fr. of small jar. D. .116. Fine buff clay. Traces of dark brown paint on lip.
Probably MM III - LM IA.

Jars

402. Vertical handle with part of rim and belly, most probably from wide-mouthed jug or askos. Heavy, gritty light brown clay.
MM IA?
403. Belly fr. most probably of juglet. Light hard clay mixed with fine grey and brown sand. Grey core, light brown surface. Traces of reddish splashes.

- 404-405. Neck frs. probably from amphorae. D. .065 and .070. Heavy gritty fabric, light brown in colour. Grey core in 405.
- 406-410. Five belly frs. most probably from amphorae or jugs. Hard gritty fabric of light brown, buff, reddish brown and greenish grey colour. Decoration with reddish brown bands in 406, black line in 407, black and brown band in 408, 409. Overall black wash in 410.
- 411-414. Base frs. of hard gritty fabric. D. .136, .154, .126, .126 and .126. Light brown, orange brown and buff clay. Green core in 414.

Basins

- 415-418. Rim and wall frs. of four deep basins. D. of 415 and 416 .172, .188. Hard gritty fabric of light brown, brown and buff colour. Grey core in 417. Deep parallel incisions horizontally arranged inside 418. MM III - LM IA.
- 419-427. Wall frs. of basins with deep cross-incisions inside. Horizontal handle attachment in 419 and 420. Hard gritty fabric ranging in colour from buff to light brown. Grey or greenish core. Slight traces of black wash in 419.

Pithoi

428. Rim and shoulder frs. of chalky light brown clay and buff surface. D. .288. Decoration with two horizontal thumb impressed bands on shoulder. LM IA?
- 429-431. Rim frs. of hard gritty fabric. D. .238, .190, .188. Light brown or buff clay, grey core in 429. MM III - LM IA.
- 432-434. Neck and belly frs. of heavy gritty fabric. Buff, orange brown and reddish brown clay, light brown core in 432, greenish grey in 433 and 434. Thumb impressed relief decoration in all three.
435. Base fr. of small pithos. D. .116. Heavy gritty fabric, pinkish core, orange surface.

Various Handles

- 436-439. Vertical handle frs. of round or rounded section, from jugs rather than from amphorae. Pure or slightly gritty fabric of light brown or buff colour.
- 440-443. Horizontal handle frs., most probably from jars except for 441 which rather belonged to an open vessel. Coarse gritty fabric, brown or orange brown in colour, greenish grey core in 440.

Tripod Pots and Chert flake

- 444-452. Feet with parts of belly and foot frs. of lozenge-shaped, flattened or rounded triangular section. Deep incised groove along the inner side

of 446. Coarse, heavy and gritty fabric of brown colour, occasionally with grey core. 444 and 445 belong to the same vessel. Traces of burning inside 445.

Probably MM IB - LM I.

453-457. Wall frs. from tripod pots of the same fabric.

458-461. Two horizontal and two vertical handle frs. of similar fabric.

Brown or grey clay.

462. Chert flake of brown colour.

D22. Laspoma

Cups

463-465. Two base and one rim frs. of conical-incurved cups. Light pure fabric of buff and light brown colour.

463: Probably LM IA. 464-465: MM III - LM IA.

466-469. Base, rim and belly frs. of rounded cups. Pure or slightly gritty clay. Buff, creamy or light brown colour.

466-8: MM I? 469: MM IIB?

470-471. Base and base fr. of similar cups. D. .048 and .040. Slightly raised base. Hard heavy gritty fabric, light brown clay, dark grey core in 471, circular string marks.

Probably MM IIB.

Bowls and Basins

472-473. Base and wall frs of rounded and conical bowls. D. c. .110 and .144. Pure heavy buff clay in 472, hard and gritty in 473, with greenish grey core and orange surface. Traces of black wash inside and outside 472.

474-475. Bowl base frs of hard heavy fabric. Grey core, light brown and orange brown surface.

MM III - LM IA.

476-477. Rim frs. of deep bowls or basins. Hard gritty light brown fabric. Two parallel horizontal incisions inside 477.

MM III - LM IA.

Jar

478. Base fr. probably of an amphora. Very hard and heavy fabric with many small and large grits. Orange clay.

Various Handles

479-484. Horizontal handle frs. of round section. Most of them must have belonged to jars. Hard heavy fabric with many grits. Orange and brown surface, grey core in 482 and 484.

Incised Basin

485. Wall fr. with horizontal handle attachment. Heavy gritty fabric, greenish grey core, orange surface.

Pithoi

486. Rim-and-shoulder fr. of large pithos with thumb-impressed relief decoration. Hard heavy fabric with many large grits. Grey core, orange brown surface.

LM IA?

487. Rim fr. of heavy gritty fabric. Light grey clay, buff surface. Traces of black wash on both sides.

MM III - LM IA.

D23. Palio Mitato

Conical Cups

- 488-490. Two complete profiles and one base, all made up from pieces.

H. .067, .074. Rim D. .093, .080. Base D. of 490, .043. Pure chalky buff clay, straight string marks in 488 and 490. Splash-and-trickle decoration in thin black inside and outside 488 and 490.

488: MM I - II. 489: Probably MM IIIA. 490: Probably MM IIB.

491. Rim fr. restored from two pieces. D. .094. Pure hard orange buff clay.

MM I - II.

492. Whole profile of shallow conical cup made up from six pieces. H. .037, D. .117. Hard gritty fabric of buff colour, traces of thin reddish brown paint inside. Strong wheel marks inside and outside, straight string marks.

MM IIIA.

493. Base fr. of similar cup. D. .042. Pure hard orange buff clay.

MM III.

Rounded Cups with bevelled rim.

494. Whole profile of pure soft fabric restored from three pieces. H. .050, D. .105. Buff clay, pinkish core, little splashes in thin reddish brown outside. Strong wheel marks, straight string marks, thumb impression on lip, forming a kind of small spout.

MM III.

495. Complete profile of similar cup made up from seven pieces. H. .045, D. .105. Pure and heavy pinkish brown clay, unevenly smoothed surface, strong wheel marks, straight string marks.

MM III.

- 496-497. Base fr. and base with parts of the wall, made up from three pieces. D. .052, .043. Pure hard buff clay, straight string marks and strong

wheel marks. Traces of reddish brown splashes outside.

MM III.

498-500. Base and rim, belly and base frs. of similar cups. D. of 498, .051, of 500, .088. H. .050. Light hard buff clay, strong wheel marks, rough surface, straight string marks, thumb prints in 500. Red to black splashes inside and outside of 498 and 500.

MM III.

501-505. Base, belly and rim frs. of five similar cups. Base D. of 501, .048. D. of 505, .092. Pure hard clay varying in colour from buff to orange buff and brown. Wheel marks inside and outside.

501-504: MM III. 505: MM IIIA.

Rounded Cups with vertical or everted rim

506. Rim fr. of hard gritty fabric. D. 091. Pinkish clay, strong wheel marks outside forming horizontal ribbing.

Probably MM III.

507. Two joining rim frs. of similar cup. D. .092. Pure hard light brown clay. Uneven surface with thin reddish brown wash outside.

Probably MM III.

508-510. Rim and belly frs. of three cups. D. .096, .103, .103. Handle attachment in 510. Light pure clay, rough surface, wheel marks. Friable dark brown wash inside and outside 509.

Probably MM III.

511-514. Rim, belly and base frs. of four cups. Handle attachment on rim of 511. Rim D. .102, .104, .009, .009. Light pure clay varying in colour from buff to pinkish. Uneven surface, wheel marks. On both sides of 511 and 514 thin friable brown wash forming a mottle effect in 511.

Probably MM III.

515-519. Rim, belly and base frs. of five cups. Rim D. .098, .118, .130, .110, .103. Handle attachment in 515 and 518, the former having an applied pellet. Light pure buff clay, rough surface, wheel marks on both sides, thin brown wash inside and outside.

Probably MM III.

520-527. Rim, belly and base frs. of eight cups. H. of 520, 523, 526 and 527, .058, .064, .068, .065. Rim D. .088, .110, .108, .112, .114, .108, .105. Light pure buff clay, strong wheel marks, rough surface. Small irregular knobs in 525. Traces of thin reddish brown wash inside and outside 524, 526, 527. Straight string marks.

Probably MM III.

Cup Bases and Handles

- 528-533. Base and base frs. of rounded cups with flat slightly raised base.. Pure hard clay, buff or light brown in colour. Uneven surface, straight string marks and strong wheel marks. Traces of black wash on both sides of 529, 530, 533 and outside 531.
Probably MM III.
- 534-537. Base frs. and base of rounded cups with slightly raised base. D. of 537 .068. Pure hard clay, reddish brown, light brown or buff in colour. Dark grey core in 535. Uneven surface, straight string marks and strong wheel marks. Traces of brown wash on both sides of 536, inside 535 and outside 537.
Probably MM III.
- 538-548. Vertical handle frs. of flat or flattened (539, 548) section. Pure buff or brown clay, occasionally with traces of brown wash.

Jars

549. Almost whole profile of oval-mouthed amphora reconstructed from many pieces. H. c. .330, rim D. c. .109, base D. .109. Hard heavy fabric with many reddish brown grits. Light brown to buff clay, wheel marks, unevenly smoothed outer surface, which is orange buff and covered with thin wash varying in colour from orange to buff. Decoration in chalky cream with horizontal bands and spirals around body and neck.
MM IIIB.
550. Rim, belly and base frs. of broad-mouthed jar. Rim D. .180, base D. .210. Hard heavy fabric with dark grits, grey clay, buff outer surface. Brush marks on the uneven inner surface. Dull black wash outside leaving broad reserved bands around base and rim.
551. Two joining wall frs. of an amphora or jug. Hard and heavy, slightly gritty clay of pinkish brown colour. Rough pink surface. Wheel marks and thumb imprints inside. Splash-and-trickle decoration in thin compact black.
Probably MM III.
552. Belly and shoulder frs. probably of a jug. Light hard gritty fabric of buff colour. Unsmoothed inner surface. Splash-and-trickle decoration in dull black.
Probably MM III.
553. Belly frs. probably of a jug. Hard pure clay of yellowish buff colour. Uneven surface covered outside by thin light brown to black wash, unevenly applied and leaving a broad reserved band.
554. Belly frs. probably from jug. Buff clay, strong wheel marks inside, very thin and compact brown slip outside.
- 555-556. Neck, shoulder and belly frs., probably from a jug or a hole-

moutherd jar. Handle 556 may belong to the same vase. Hard micaceous light brown clay, buff outer and light grey inner surface. Decoration in friable black shading to brown with broad horizontal bands.

MM III?

557. Belly frs. of an amphora, most probably belonging with 549. Hard and gritty light brown clay. Brush marks on the uneven inner surface. Thin and compact wash outside, ranging in colour from brown to black. Decoration in thick and chalky cream with spirals bounded by horizontal bands. MM IIIB.

558. Shoulder and belly frs., most probably of a juglet. Pure hard light buff clay, well smoothed creamy surface. Decoration in dull brown to black with irregularly executed spirals, evidently running. Probably MC III.

559. Belly fr. probably of a jug. Fine buff clay containing fine sand. Strong wheel marks inside.

560. Handle fr. with small part of belly probably of a juglet, once containing oil as witnessed by traces of oily substance on the interior. Hard light brown fabric, pinkish red wash easily flaking off.

Pithoi, Bowls, Basins, etc.

561. Rim and base frs. of a small pithos. Coarse gritty fabric, grey core, brown to surface which is orange in colour.

MM III?

562-563. Rim and belly frs. of deep bowls with horizontal handles. Rim D. of 562, .160. Hard slightly gritty fabric, buff clay, creamy surface left uneven. Wheel and brush marks. Two more rims from similar pots were found.

MM III - LM IA.

564. Goblet stem with very small parts of the bowl and base. H. .044, D. .027. Pure heavy orange brown clay. It may be Prehistoric, but can also be later. Cf. Maisons III, pls. XVII : 4 and XXXV : 117.

LM IB - II/LH IIB?

565. Rim frs. of a large conical bowl or basin. D. c. .280. Heavy gritty buff fabric. Rough surface, strong wheel marks forming horizontal ribs inside. Brown splashes inside and out.

Probably MM IIIB.

566. Rim-and-wall frs. of a small bowl. D. .146. Fine hard light brown clay, strong wheel marks on both sides.

Probably MM III.

567. Base and belly frs. of a conical bowl. Base D. .079. Heavy gritty fabric of buff colour, rough surface, strong wheel marks.

Probably MM IIIB.

568. Two joining rim frs. of a conical basin. D. c. .290. Fabric similar to

567. Traces of brown splashes inside.

Probably MM IIIB.

569. Rim fr. of a basin. D. c. .300. Hard slightly gritty fabric of brown colour. Thin compact orange to brown slip on the upper part, on and below rim, inside and out.

MM III - LM IA.

570. Rim fr. of a basin. D. c. .280. Heavy and very gritty fabric, grey core, pink to surface which is very worn.

571. Shoulder fr. from a pithos of heavy gritty fabric. Dark grey core, pinkish brown to surface which is orange buff. Brush marks on both sides. Thumb impressed horizontal band.

572. Disk-shaped loom weight fr. of heavy gritty fabric and brown colour. One hole and part of another are preserved, as well as the groove above them on the periphery.

Cf. Lasithi II, 55, pl. III, 3 : 45, fig. 23 (MM III) and PM I, 253.

573-574. Spout fr., most probably of a jug. The grooved handle 574 apparently belonged to the same pot. Hard reddish brown clay containing fine grits and mica. Brush marks on spout.

MM III - LM IA.

575. Base frs. from a basin of similar to 568 fabric and, probably, profile.

Cooking Pots

576-588. Rim frs. from thirteen tripod pots. Coarse gritty fabric. Colour of clay ranges from grey to dark brown and the surface from buff to all variations of brown and grey. Wheel and brush marks often visible on the rough surface inside and out.

Probably MM IB - LM I.

589-600. Handle and wall frs. from twelve cooking pots of the same fabric. Of the handles four are vertical and the rest horizontal. All are of round section.

601-610. Base and belly frs. from ten cooking vessels of the same fabric to the previous.

611-619. Feet and foot frs. from nine vessels of the same fabric as before. Flattened or thin oval section. Raised rib along 617 and 618.

Probably MM IB - III.

Stone Objects

620-621. Frs. from saddle-shaped querns of hard grey sandstone.

D24. Midi

622-624. Base and base frs. of Minoan cups. D. .040, .042, .048. Pure hard clay, brown in 622, brown with greyish outer surface in 623, yellow buff in 624. Uneven surface, straight string marks, circular in 622.

Probably MM III.

D25. Tripes

625. Small belly fr. of handmade coarse and gritty fabric. Th. .008. Dark brown core, light brown to the surface. Slight burnishing marks outside. Probably LN - FN.
626. Similar piece, but of coarser fabric and black colour. Th. .009. Traces of straw tempering. Probably LN - FN.
- 627-628. Base frs. of Minoan cups. D. c. .058, .045. Pure hard clay of brown and buff colour. MM III - LM IA.
629. Base fr. of a Minoan cup. D. c. .050. Hard fabric with brown grits, greyish brown core, light brown to the surface. MM III - LM IA.
630. Neck-and-shoulder fr. of Minoan jar. Hard buff clay containing brown grits.
- 631-632. Hammer and pestle frs. of heavy dark green stone. Percussion signs on one of the narrow sides in 631.
- 633-634. Whetstone frs. of hard grey stone. Upper side of 633 hollowed by the use. 634 is metalliferous and very heavy. It seems likely that these whetstones were used in making stone axes and chisels.
635. Stone chisel made of hard dark green sea-pebble. Dim. .072, .026, .018. LN - FN.
636. Arrow-head of Melian obsidian. Dim. .036, .019, .005. Probably LN.
- 637-642. Six blade frs. of Melian obsidian.
- 643-649. Seven flakes of Melian obsidian.

D26. Lakos

650. Rim fr. with part of horizontal handle from small bowl. Hard slightly gritty fabric of light brown colour. MM III - LM IA.
651. Rim fr. of cup with handle attachment. Applied pellet on the junction of handle and rim. Pure light fabric of creamy buff colour. MM IIIA?
652. Base fr. of small bowl. D. .072. Very hard buff clay containing much sand. Circular string marks. MM III - LM IA.
- 653-655. Base frs. of cups. D. .048, .048, .052. Hard light brown fabric, slightly gritty in 653. Straight string marks in 654. Probably MM III.

656. Horizontal handle fr. of round section and pure buff clay. Probably from small bowl.
657. Base fr. probably from basin. Heavy buff fabric with many brown and white grits.
658. Neck-and-belly frs. most probably of jug. Hard pinkish brown fabric with many brown grits. Decoration in thin friable black with spiral on belly and broad band or overall paint around neck.
659. Vertical handle fr. of rounded section, most probably from small jug. Slightly gritty light chalky fabric of buff colour.
660. Rim fr. of amphora with part of strap handle. Hard light brown clay containing much grey and brown sand. Stripes in friable black around handle, traces of paint inside below rim.
- 661-662. Neck and shoulder frs. of amphorae. Heavy gritty fabric, brown in 661, buff in 662.
- 663-664. Belly frs. of amphorae, or jugs, with part of vertical handle of round section in 664. Heavy gritty fabric, green core and brown surface in 663, grey core and light brown surface in 664, which bears traces of black wash.
- 665-667. Wall frs. of basins with deep cross incisions inside. Heavy gritty fabric of light brown colour, buff in 666.
- MM II - III?
- 668-670. Handle frs. of round section, two vertical, one horizontal. Hard, gritty light brown fabric.
- 671-672. Foot frs. of tripod pots. Hard heavy clay containing much sand. Grey core, brown surface. Thin oval section. Several more similar frs. were collected some having a deep incised groove along outer side. Probably MM IB - II
- 673-674. Belly and handle frs of small pithoi. Heavy gritty fabric, cream clay with pale yellow surface in 673, light brown clay with buff surface in 674. Brush marks inside 673.
675. Loom weight fr. of hard light brown clay containing much sand.
- 676-677. Belly, handle and base frs. of two pithoi decorated with thumb impressed bands in relief. Hard, very gritty fabric of light brown or buff colour. Creamy grey core in 676. Handles of round section. MM IIIB - LM IA.
- D27. Ais Minas
678. Belly sherd probably of amphora or jug. Th. unknown, since part of the inner wall has flaked off. Very hard orange brown clay. Matt decoration in compact black with concentric semicircles. Probably Anatolian Geometric; cf. Xanthos IV, 61 f., pls 21 : 85-6, 88 (black on red), and 23 : 100-2, 24 : 107, 109 (bichrome).

679. Wall fr. most probably from MM or LM I cooking vessel. Coarse gritty fabric, brown in colour.
680. Belly fr. probably of a MM or LM juglet. Pure hard greenish grey clay.
681. Handle fr. of flat section most probably from a Minoan cup. Light hard fabric, pure buff clay.
- 682-683. Melian obsidian flake and flint flake of creamy colour.
- D28. Kastelos
684. Flake of Melian obsidian.
- D29. Psorari
685. Rim fr. of deep bowl or wide-mouthed jar. Fairly coarse and gritty fabric, orange brown clay, grey core. It may be Minoan, but a later date is also possible.
- 686-697. Base frs. of Minoan cups and saucers with a possible date from MM III to LM III. Profile of 687 as 686. D. .045, .046, .046, .054, .046, .055, .046, .050, .045, .056, .070. Pure hard clay ranging in colour from buff and light brown to orange, pink and brown. Occasionally there are few small grits and grey core. Dark brown bands around base outside 686, 687 and inside 687 round bottom. These two cups may be LM III.
- 688-691, 693, 697 : Probably MM III. 692, 694 : MM III - LM IA.
- 695-696 : Probably LM IA.
698. Whole profile of a shallow plate with vertical walls. Base D. .160. Hard and gritty orange brown clay, grey core.
- 699-700. Base frs. of rounded bowls. D. of 699, .106. Hard gritty brown fabric with grey core in 699, light pure clay of light brown colour and pinkish core in 700. Traces of black horizontal band around base inside and outside.
- MM III - LM IA.
- 701-704. Base frs. of three conical basins and a wide-mouthed jar. D. of 704 c. .200. Hard gritty fabric, grey or pinkish core, light brown surface. Probably Minoan (MM III - LM I), but they may be later.
- 705-706. Base frs of rounded bowls with low ring foot. D. .076, .100. Pure hard clay with pinkish core and light brown surface in 705, coarse gritty brown fabric in 706.
- They are rather later than Minoan.
707. Wall fr. of a basin with deep incisions inside. Chalky and gritty buff fabric.
708. Goblet stem of hard gritty fabric. D. .030. Grey core, orange surface, which is very worn. It may be later than Prehistoric.
709. Neck-and-shoulder fr. with vertical handle attachment, probably from a Minoan jug. Hard gritty orange brown fabric.

MM III?

- 710-712. Rim frs. most probably from Minoan amphorae or amphoroid craters.
Hard light brown fabric, gritty in 712, which may be later than Minoan.
- 713-716. Rim frs. apparently from Minoan amphorae. D. .089, .090, .090.
Hard gritty fabric of brown colour, orange in 716. Brown core in 713, orange in 716. Traces of dark brown paint in 716.
714 : probably MM III.
- 717-179. Base frs. of Minoan jars. D. .100, .112, .128. Hard gritty fabric, buff in 717, reddish brown with grey core in 718, grey core, brown inner and grey outer surface in 719.
- 720-723. Belly frs. most probably from amphorae. Light hard fabric, buff orange buff clay, brown in 723, grey core in 720-722. Decoration in black shading to brown with papyrus motif in 720 and, probably, in 721, and horizontal bands in 721-723.
720-1 : LM III A2. 721-3 : LM IIIA - IIIB.
- 724-726. Vertical handle frs. of big amphorae. Round section in 724, 725, flattened in 726. Hard gritty fabric, pinkish brown in 725, yellow in 724, 725. Grey core in 724, brown in the rest. Traces of black paint in 724.
- 727-729. Vertical and horizontal handle frs. probably from jugs and pithos.
Hard gritty fabric, pure in 728, orange brown in 727, 728, grey in 729. Grey core in 728.
- 730-734. Three rim, one neck and one belly frs. from pithoi. Heavy gritty fabric ranging in colour from light brown and orange buff to orange brown and grey. Grey core in 730, brown in 732. Traces of black paint outside 730 and 732. Vertical relief band from rim in 732, which may be from a large basin rather than from pithos. Thumb impressed horizontal band in 734.
Probably MM III - LM IA.
- 735-737. Foot frs. of tripod pots. Hard and gritty clay, brown in 735, pinkish brown in 736, grey-brown in 737. Grey core in 735, 736.
735 : LM III. 736-7 : Probably MM IB - II.

D30. Baela

- 738-740. Rim frs. of the flaring type, from rounded Minoan cups. Light pure buff clay, strong wheel marks especially inside.
MM III - LM IA.
- 741-749. Base and handle frs. of Minoan cups and saucers. D. .073, .072, .052, .044, .048, .042, .042, .045. Light pure buff clay, orange brown and pinkish brown in 741, 746. Little sand in 741, 745. Traces of brown wash outside 741, circular string marks in 744-747.
742-5 : Probably MM III. 741, 746-8 : MM III - LM IA.

750. Base fr. apparently from jar. Hard light brown fabric, very few brown grits, buff surface, traces of black horizontal bands outside.
- 751-752. Shoulder and belly frs. of amphorae or jugs. Very hard and gritty fabric of brown colour. Grey core in 752 which bears decoration with broad horizontal bands in thin compact brown.
- 753-755. Jar handle frs., two horizontal of round section and one vertical of flattened section. Hard gritty buff and brown fabric.
756. Foot fr. of tripod vessel. Coarse gritty fabric, grey core, brown surface, thin oval section. Several more similar frs. were noted.
757. Wall fr. of a basin with cross-incisions inside. Hard and gritty light brown fabric.
758. Rim fr. of a large pithos. Heavy gritty fabric, grey core, brown to surface.

LM IIIA - IIIB?

759. Obsidian flake of creamy colour.

D31. Mastikharia

760. Flint flake of brown colour.

- 761-762. Obsidian flakes. The first is probably of the rare white-spotted variety (Renfrew et al. 1965, 232). The second is ordinary Melian.

D32. Kourouklos

- 763-764. Belly sherds probably of small jars. Th. .009. Handmade, fairly hard and coarse fabric with few inclusions. Black core, brown to surface which is very worn. Slight traces of straw tempering.

LN - EB 1.

- 765-768. Belly frs. of small rounded vessels. Th. .005. Handmade coarse fabric, orange buff clay containing brown and grey sand. Grey core. Burnishing marks outside.

LN - EB 1.

D33. Tsigounas

- 769-770. Rim and belly frs. with horizontal handles, probably from hole-mouthed jars. Hard slightly gritty fabric of buff colour. Brown core in 769. Traces of black bands on belly around handle.

MM II - III?

- 771-772. Wall frs. of rounded cups. Light slightly gritty fabric of buff colour. Traces of black paint outside 772 round the handle attachment.

- 773-774. Base frs. most probably from jars. Heavy gritty fabric, orange brown in 773, buff in 774.

- 775-777. Neck and belly frs. probably from jugs. Hard gritty fabric in 775, 776, light grey with buff surface in 775, light brown in 776 which bears traces of black wash. Pure soft reddish clay in 777 with traces of a band in thick friable red.

777 : MM IB?

778. Wall fr. of a basin with deep cross-incisions inside. Heavy gritty fabric, grey core, orange brown to the surface.
MM II-III?

E34. Poliatses

- 779-781. Base and belly frs. apparently of Minoan cups similar in fabric and profile with analogous from Leftoporos and Tou Sakeli Ta crema.
D. .052, .052. Light buff clay, strong wheel marks.
Probably MM III - LM IA.

- 782-783. Amphoroid crater rim frs. of light buff clay. D. .186, .162.
Traces of parallel strokes across rims continuing inside on lip in 783.
Traces of thick red paint below rim inside 782.
LH IIIA-B rather than Minoan.

784. Flake of Melian obsidian.

E35. Leftoporos

Pottery

785. Shoulder, belly and handle frs. of a large pithos. Coarse handmade fabric with white and dark grits (deliberately added). Traces of straw tempering. Grey core, pinkish brown towards the surface which is orange pink and much worn. Decoration with oblique and horizontal relief bands, the latter having below small projections at equal intervals.
LN or FN.

786. Large pithos handle frs. A small fr. of the belly was also found with slight burnishing marks. Coarse, gritty and friable ware, dark grey core, orange to buff surface which is very worn. Straw tempering.
Relief decoration with plastic pellet.
LN or FN.

787. Rim frs. from large basin of heavy friable ware. Black core, orange brown surface covered outside with thick creamy incrustation. Plastic pellets protruding from rim.
LN or FN.

788. Wall frs. of basin. Fabric as last, with which probably belongs.
LN or FN.

789. Neck and shoulder frs. apparently from a pithos. Heavy friable fabric with very few white and grey grits. Black core, orange brown exterior which is much worn, well smoothed inside. Straw tempering.
LN or FN.

790. Rounded base fr. of a large jar or pithos. Coarse heavy ware, gritty and micaceous. Black core, brown surface, worn inside. Slight traces of straw tempering.

LN or FN.

791. Jar body fr. with vertical handle attachment. Finer than the previous fabric, brown, grey and white grits, dark brown core, pinkish orange surface. Slight traces of straw tempering.
LN or FN.
792. Wall fr. of a smaller jar with horizontal handle attachment. Fabric as 789, outer surface covered with thin creamy slip, apparently incrustation.
793. Rim fr. of slight spreading profile from a large deep jar. D. .260. Coarse heavy clay with small and large grits and mica. Dark grey core, orange brown surface now worn. Straw tempering.
LN or FN.
794. Rim fr. of a deep bowl. D. .240. Coarse gritty and micaceous ware, grey core, brown to surface which is reddish brown and burnished. Straw tempering.
LN or FN.
795. Rim fr. of a small jar. D. .110. Coarse slightly gritty fabric, dark grey core, light brown inside, orange brown outside where there are brush marks. Straw tempering.
LN - FN.
796. Rim fr. of a large jar. Friable fabric with few grits (not added). Black core, brown surface, straw tempering.
LN - FN.
797. Rim fr. from similar vessel, but better made with added grits and mica. Black core, brown surface.
Probably LN.
- 798-799. Small rim frs. of large deep bowls rather than jars. Coarse light and friable ware with very few grey and white grits (not added). Dark grey to black core, orange brown and brown surface. Straw tempering in 798.
LN - FN.
800. Flaring rim fr. of a small bowl. Fairly fine heavy fabric with white sand (apparently added). Grey core, surface varying from reddish to grey due to uneven firing. Traces of burnishing, but also brush marks inside.
LN - EBA.
801. Rim fr. of a small bowl made up from two pieces. Hard gritty ware, dark grey core, grey surface now worn. Decoration with plastic pellet (metallic rivet) outside, below rim.
Probably LN.
- 802-803. Vertical strap handles of concave section from deep bowls or jars. Coarse ware with white and grey grits and white sand. Dark grey core, brown to buff surface, pinkish brown in 803.
LN - FN.

804. Strap handle fr. of flattened section apparently from jar. Coarse gritty fabric, dark grey core, buff to surface which bears creamy incrustation.
- 805-806. Handle frs. of rounded section, apparently from pithoi. Heavy friable ware with very few yellow and white grits. Black core, brown to surface, now worn. Straw tempering.
LN - FN.
- 807-809. Handle frs. of flat section from large bowls similar to 339 from Vouno. Coarse friable and gritty ware, light brown surface, black core in 807-808, which also bear traces of straw tempering.
LN - FN.
- 810-811. Handle frs. of flattened section, apparently from smaller jars. Hard fairly light fabric, grits (added) in 810, sand in 811. Greyish clay. Black core and straw tempering in 810.
They may be EBA rather than NL.
- 812-814. Belly frs. from deep bowls or jars. Coarse gritty and heavy ware, dark grey core, pinkish orange or brown surface with creamy incrustation, well smoothed outside 812, 814 and inside 813. Straw tempering in 814.
LN - FN.
- 815-820. Wall frs. of six bowls, 815 with round handle attachment. Light friable fabric, almost pure with very few inclusions in 817 and 819. Black core, brown surface, buff in 815. Straw tempering in 819, 820. Well smoothed interior in 816, covered with thin slightly shiny red paint.
LN - FN.
- 821-825. Body frs. probably from jars. 821-822 are from shoulder and preserve handle attachments. Coarse friable, slightly gritty ware, black core, brown surface, straw tempering. Plastic knob in 825.
LN - FN.
- 826-839. Rim and belly frs. of Minoan cups. D. of 829-832, .100, .094, .098, .098. 836 is of the "eggshell" type (wall th. .002). Light pure fabric varying in colour from cream and yellow buff to pinkish and orange brown. Thin black wash outside 838, traces of overall orange wash in 839.
Probably MM IIIA.
- 840-847. Base frs. of Minoan cups and saucers. D. .050, .048, .070, .057, .042, .080, .057, .080. Fabric as last. Occasional straight string marks, strong wheel marks, rough surface.
Probably MM IIIA.
- 848-849. Cup handle frs. with small part of rim. Fabric as last.
MM III.
850. Pithos rim fr. of hard heavy and gritty clay which is light brown in

colour.

MM III?

851. Horizontal handle fr. of jar. Round section, hard gritty ware, grey-green core, light brown to surface.

Stone Objects

852. Small tanged point finely made from Melian obsidian. It was probably used for fishing rather than for hunting.

Probably LN.

- 853-855. Blade frs. of Melian obsidian with one or two worked edges.

Probably LN.

- 856-867. Frs. of parallel-sided or triangular-sectioned Melian obsidian blades. 859, 861 and 862 have one or two worked edges.

Probably LN - FN.

- 868-915. Small frs. from similar blades of Melian obsidian.

LN - FN.

- 916-926. Complete and fragmentary notch-sided and nose-pointed tools made of Melian obsidian. 816, 821 and 824 have certainly been subjected to secondary working.

Probably LN.

- 927-936. Flakes of Melian obsidian. 927 is a small core. Some of the flakes may have been used as scrapers.

937. Stone mortar of dark grey schist. Slightly hollowed upper side with percussion signs.

- 938-939. Frs. from two stone querns of the saddle type, made of hard black volcanic stone, probably imported from Melos.

- 940-942. Saddle-shaped quern and disk-shaped grinders made of fine grey sandstone.

- 943-945. Sea pebbles used as hammerstones. Percussion signs on one narrow side. 943 may also have been used as a rubber, as its flat side indicates.

946. Whetstone fr. of hard grey sandstone. Hollowed on one large side, grooved on the other.

947. Fragment of stone object made of red stone. It was finely ground and smoothed, the inward sloping surface being shiny. It may have been used as macehead.

E38. Tou Sakeli Ta Krema

- 948-951. Belly and base frs. of straight-sided conical cups. D. .058, .056. Pure chalky buff clay, yellowish in 948-949. Straight string marks on 951.

951 : Probably MM, IIB, III.

- 952-959. Rim and belly frs. of concave-sided cups. D. of 952-953, .096, of

954, .064, of 956-958, .046, of 959, .048. Fabric as last. Straight string marks on 956 and 959.

Probably MM IIB - III, except 953 which is rather MM III - LM IA.

960-961. Cup handle frs. of flat section, slightly raised above rim. Fabric as last.

962. Rim fr. from bowl. D. .178. Chalky buff clay, brown grits.

963. Belly fr. of jug or askos. Fabric as last.

964-966. Base frs. from big jars of hard gritty fabric. D. of 964-965, .224, .166. Light brown clay, brown with grey core in 964.

967-970. Wall frs. of basins with deep incisions inside. Hard light and gritty ware of light brown colour.

971-973. One vertical and two horizontal handle frs., probably from amphora and basins or small pithoi. 971 and 973 of round section, 972 flattened. Hard light fabric, gritty orange brown with grey core in 971, slightly gritty buff and light brown in 972-973, the latter with grey core.

974-977. Foot and horizontal handle frs. from cooking pots. Coarse friable fabric of brown colour. Grey and white grits, brown clay, grey core in 977.

Probably MM II - LM I.

E39. Asomatoi

978. Base fr. of bowl. D. .066. Chalky buff clay.

Probably MM III.

979-980. Jar neck frs. D. .097, .068. Hard light ware with grey grits, grey core and orange surface in 979. Light brown clay in 980. 979 comes probably from an ewer.

981-982. Jar base frs. of coarse heavy fabric with grey and brown grits. D. .176, .177. Grey core, light brown surface in 981, 982 half greyish buff, half orange buff.

983. Wall fr. of basin with cross-incisions inside. Hard light, orange buff clay with very few white and brown grits.

Probably MM II - III.

E40. Vonies

984. Gable-lidded clay larnax mended from many pieces. Parts of body and more than half of lid missing. H. .485, with lid .655. Length varying between .915 and .980 from bottom to rim. Width .330 at bottom, .430 at rim level. Average wall thickness .015. Two horizontal handles on each long side of the lid and one on each narrow side. The walls of the lid have an average thickness of .011. A strip of clay lies along the top of the lid, whereas along its lower edges of the long side inside there are traces of holes apparently intended to hold the walls

of the damaged lid with horizontal sticks. Similar holes were pierced through the lid of a larnax at Palaikastro, evidently intended to admit strings, by which lid and body could be laced together (Palaik. I, 297, pls XVII-XIX). Hard coarse ware with large grey grits. Dark greenish grey clay, pinkish towards the surface which is yellowish buff and roughly smoothed. Traces of thin black wash outside the lid (cf. PTK 83, tomb 90).

985. Large three-handled pithoid jar of piriform shape made up from fragments. Parts of belly and rim missing. H. .650, rim D. .365, base D. .275. Hard gritty clay, grey core, orange brown towards the surface which is covered with yellow-creamy slip easily flaking off. Ledge neck moulding, torus base with ring moulding. Decoration in black shading to brown now partly gone. Thick encircling bands on lower body. On shoulder zone three panels with different motifs: papyrus flowers, stylised octopus and scale pattern. Narrow panels with stemmed spirals on the flange of the horizontal lip. Panels with linear motifs below handles, including parallel lines and concentric arcs alternately arranged. Parallel horizontal lines across the handles, which are of the grooved type.

LM III A2 late.

986. Amphoroid crater of piriform shape mended from frs. Very few small parts missing. It was found within the larnax together with 1021. H. .385, belly D. .330, rim D. .255. Hard heavy pinkish red ware, small white grits. Surface covered with dull yellowish cream slip. Decoration in orange to black. Bands and stripes around lower body. Double-lined tricurved arch net containing pendent concentric arcs on one side of the upper body, combination of isolated and running spirals with cross-hatched lozenges on the other. Panels with double spirals below handles, wavy line between horizontal bands around neck. Parallel strokes of paint across rim flange.

LM III A2 late.

987. Amphoroid crater of piriform shape restored from many pieces. Parts of belly and rim missing. H. .355, belly D. .325, rim D. .276. Hard reddish brown clay containing small white grits. Light greenish grey core, thin friable yellowish cream slip on surface. Decoration in friable paint ranging in colour from orange to brownish black. Encircling bands & stripes on lower body. The main zone consists of an elaborate version of the linked whorl-shell motif. Cross-hatched triangles with concave sides ending up in spirals. The latter in connection with columns of concentric arcs running parallel to the coil of the spirals and gradually diminishing in size give the effect of stylized argonauts or whorl shells. Double spiral below handles antithetically arranged. Wavy line around neck.

LM III A2 late.

988. Amphoroid crater of piriform shape made up from many fragments. Parts of belly, rim and handles missing. H. .337, body D. .315, base D. .105. Hard pinkish red ware with small white grits. Light grey core, slip similar to 987, but better preserved. Decoration ranging from red to black, in some parts flaked off. Bands and stripes on lower body, stylised octopus on either side of the upper body. Double band of Z pattern round shoulder below the neck moulding, panels below handles with vertical rock or wave patterns flanking a vertical row of dots. Wavy line along rim flange.

LM III A2 late.

989. Amphoroid crater of piriform shape mended from many pieces. One handle missing as well as parts of belly and rim. H. .370, body D. .337, rim D. .385. Hard pinkish red clay containing small white grits. Greenish core, yellowish cream slip easily flaking off. Decoration in friable paint ranging in colour from red to black. Encircling bands and stripes on lower body, stylised octopus on either side of the upper. Rock or wave patterns in panels below handles and around neck. Parallel lines across the handles outside and on the rim flange.

LM III A2 late.

990. Rim fr. of amphoroid crater found by a villager somewhere near the tomb. D. .184. Hard light red ware with few small dark grits. Friable yellowish cream slip. Decoration ranging from brown to black. Traces of rock or wave pattern on neck, parallel strokes across the flange continuing outside on the lip. Broad band below rim inside.

LM III A2.

991. Top part of a large jar restored from pieces. H. .134, rim D. .183. Hard gritty clay, greenish grey core, orange pink surface. It was found in layer I some fifteen cms west of the larnax. Probably LM III A2.

992. Piriform stirrup jar made up from many pieces. H. .138, body D. .115. Fine light buff clay, well smoothed, slightly shiny surface. Decoration in brown to black mostly gone. Bands and stripes on lower body, concave-sided hatched triangles alternately arranged on shoulder zone below handles (linked whorl-shells). On the handle zone of shoulder concentric arcs associated with curved hatched and cross-hatched bands (elaborate triangles). Concentric circles on disk with large dot in the centre. Parallel strokes across the handles outside.

LM III A2e.

993. Small depressed globular stirrup jar restored from fragments. It was found in layer II immediately east of the larnax. Neck and part of one handle are missing. H. .098, body D. .109. Fabric as last. Decoration

in brown to black easily flaking off. Encircling bands and stripes on lower body, five sets of chevrons on zone, concentric circles on disk.
LH III A2late-III B1.

994. Depressed globular stirrup jar mended from pieces. Top of real mouth and one handle missing. It was found together with 993. H. .095, body D. .100. Fabric and decoration as last. Painted ring on disk encircling a dot.

LH III A2late-III B1.

995. Depressed globular stirrup jar made up from fragments. It was found together with the last two. H. .128, body D. .129. Hard pinkish red clay, few dark grits. Thick cream slip easily flaking off. Decoration in friable dark brown to black. Bands and stripes on lower body, foliate band on shoulder below handles, concentric arcs on the handle zone of shoulder (adder mark).

LM III A2 late.

996. Depressed globular stirrup jar made up from fragments. Parts of belly missing. H. .099, body D. .117. Hard and gritty reddish brown clay, white and dark grits, thick creamy slip now almost gone. Decoration in brown to black easily flaking off. Encircling bands and stripes on lower body, four stemmed spirals on shoulder. Painted dot on the disk in the centre of a reserved circle.

LM III B1.

997. Depressed globular stirrup jar restored from pieces. Many parts missing, mainly from the top. H. .133, body D. .136. Fine pinkish buff clay, well smoothed slightly shiny surface of yellowish cream colour. Decoration in brown to black. Bands and stripes on lower body, band with triple horizontal dashes on shoulder below handles, foliate band associated with stylised iris motif on one side of the main shoulder zone, two elaborate triangles on the other side. Parallel strokes across handles outside.

LM III B1.

998. Piriform stirrup jar mended from pieces. Top part missing. Preserved H. .129, body D. .110. Fabric exactly as last. Traces of similar decoration on shoulder. Only small part of the band with double horizontal dashes survived.

LM III A2e.

999. Small depressed globular stirrup jar almost complete. It was found at the bottom of layer I some ten cms. west of the burnt layer, immediately beneath nos. 1002, 1015 and 1007. H. .105, body D. .105. Hard light brown clay, well smoothed pale yellow surface. Decoration in red to dark brown. Encircling bands on lower body. Double spirals flanked by wavy lines on one side of shoulder zone. Parallel wavy lines flanked by

solid paint on the other. Parallel strokes across handles outside.

LM III A2.

1000. Small depressed globular stirrup jar made up from pieces. H. .073, body D. .075. Fabric as last. Decoration in thin orange brown. Band and stripes on lower body, parallel strokes and wavy lines on shoulder zone, set in panels which are separated by vertical lines. Bars of paint across handles outside.

LM III B1.

1001. Small piriform globular stirrup jar found in layer I west of the larnax, together with nos. 991 and 1017. H. .097, body D. .087. Hard orange red clay, slight traces of dull creamy slip on surface. No decoration is preserved apart from slight traces of bands in red. Small hole through the disk.

LM III A2.

1002. Small depressed globular stirrup jar found at the bottom of layer I immediately west of the burnt layer together with nos. 999, 1006 and 1014. Friable pinkish red clay containing small white grits. Traces of creamy slip on surface. Decoration in red to brown now almost gone. encircling bands and stripes on lower body, traces of chevrons on shoulder zone.

LM III B1.

1003. Piriform ewer restored from three pieces. It was found in layer II immediately west of the larnax, along with nos. 1001, 1005 and 1035. H. .288, body D. .215. Fabric similar to 996. Fine pinkish red clay, thin compact yellowish cream slip. Decoration in red to black with bands encircling the body and stemmed spirals on shoulder zone. Hatched band embraces neck and handle, wavy line round neck flanked by horizontal bands, the lower covering the neck moulding.

LM III A2.

1004. Globular beak-spouted jug mended from fragments. Parts of belly and handle missing. H. .210, body D. .190. Fine hard buff clay, decoration with four blobs and trickle motifs in thin brown to black easily flaking off. Traces of paint also on neck and spout.

LM III A2 late.

- 1004A. Complete profile of a similar but larger jug, which is not illustrated here. H. .270. D. c. .280. It is nearly identical in fabric, shape and decoration with C23 which is smaller in size and has a broader base and a longer spout extending outwards almost horizontally, while that of 1004A is exactly similar to 1004. Greenish grey clay, dull creamy slip. Neck moulding and bars of paint across the lip flange.

LM III A2e.

1005. Ovoid jug with very small spout. Only part of rim missing. It was

found along with 1003. H. .107, D. .100. Fine chalky pinkish red clay, unevenly smoothed surface, Decoration in friable red with badly executed bands round neck and lower body. On the upper part six curious linear motifs consisting of multiple chevrons. Bars of paint across handle outside.

LM III A2late-III B1.

1006. Juglet of depressed globular shape made up from fragments. It was found at the top of layer I between the burnt layer and the almost undisturbed skeleton, along with nos. 1002, 1007 and 1015. H. .109, body D. .109. Fabric as last, but finer with well smoothed surface. Decoration in red easily flaking off. Encircling bands and stripes, quirk motif on shoulder zone.

LH III A2 late.

1007. Trefoil-mouthed miniature jug of depressed globular biconical shape. It was found in layer III immediately west of the larnax, along with nos. 1008, 1009 and 1041. H. .065, body D. .062. Fine hard reddish brown ware, buff surface covered with thin wash of black colour, slightly shiny and partly gone.

LM III B1.

1008. Depressed globular miniature jug found along with the last one. H. .066, body D. .070. Fine pink clay, rough surface covered by thin wash varying in colour from orange-red to dark grey.

LM III B1.

1009. Miniature jug of squat globular biconical shape found together with the last two. H. .067, body D. .074. Fabric as last, but of better quality. Similar dark wash.

LM III B1.

1010. Rim and belly frs. probably from a juglet. Rim D. .040. Very hard dark grey ware containing very sparse white grits. Well smoothed surface recalling grey Minyan fabric.

LM III A2 late-IIIB1.

1011. Almost complete profile of small handled jar made up from fragments. Hard light red clay containing very small white grits. Greenish core, well smoothed buff surface. Decoration in red with three blobs and trickle pattern around body.

LM III A2 late-IIIB1.

1012. Cylindrical jar with tubular spout and three raised handles, two horizontal and one vertical. It has been restored from fragments. H. .104, D. .129. Fine hard pinkish red clay, thin compact creamy slip similar to no. .996. Decoration in red with bands and stripes encircling the lower body and broad band with multiple chevrons alternately arranged on the upper. Quatrefoil pattern associated with

columns of concentric arcs on top. The latter is encircled by four concentric circles, the outer-most being connected by groups of parallel strokes with the band encircling the edge of the top.

LM III A2.

1013. Cylindrical lidded pyxis mended from fragments. Parts of belly and handle missing. H., without handles, .105, rim d. .108. Hard gritty pinkish red clay, dull creamy slip easily flaking off. Decoration ranging in colour from orange red to black. Broad and narrow bands around lower and upper body, flanking the main zone which is divided into four panels; the chief decoration consists of two dotted loops on either side, framed by a thicker line. They are antithetically arranged and flank a column of gradually diminishing concentric arcs, not unlike those in nos. 987 and on top of 1012. On the secondary panels below the handles, which are made of two superimposed coils of clay, horizontal zigzag lines. Concentric bands and stripes on lid.

LM III A2 late.

1014. Small goblet made up from fragments. Parts of rim and belly missing. It was found at the bottom of layer I along with 999, etc. H. .078, rim D. .113. Fine hard buff fabric. Overall thin compact wash ranging in colour from orange to blackish and giving a mottle effect.

LM III A2late-III B1.

1015. Almost complete profile of goblet restored from fragments. Preserved H. .155, rim D. .170. Fine chalky buff clay, well smoothed surface. Decoration ranging from orange to dark brown, easily flaking off. Encircling bands on lower body, running spirals along handle zone, carelessly executed.

LM III A1.

1016. Profile of cup made up from many pieces, D. .120. Fine pinkish buff clay, well smoothed yellowish surface. Decoration in orange red with bands and stripes inside and out.

LH III A2.

1017. Kylix mended from fragments. Part of foot missing. H. .170, rim D. .152. Fine orange buff clay, well smoothed buff surface. Decoration in red with hands on foot and stem, encircling lines on lower body; on either side of handle zone three stemmed spirals and equal number of chevrons. The whole composition is carelessly executed and may imply local manufacture.

LH III A2e.

1018. Whole profile of a low-stemmed kylix. H. c. .160, rim D. .140. Fine hard buff clay, yellowish, very well smoothed surface, covered with black streaky wash inside and out. Two bands made of the same thin paint run around foot.

LM III A2e.

1019. Kylix mended from pieces. Many parts missing. H. .156, rim D. .151. Fine chalky buff clay, well smoothed surface.
LH III A2late-III B1.
1020. Whole profile of cup restored from many fragments. H. .052, rim D. .126. Fine pinkish clay, overall black wash inside.
LM IIIA2late-III B1.
1021. Bridge-spouted cup made up from pieces. Tip of spout missing. It was found inside the larnax along with 986. H. .058, rim D. 144. Fabric identical with that of cup 1016. Decoration in thin dark brown to black, easily flaking off. Encircling bands and stripes inside and out, occasional splash of paint outside. Strokes across flange and handle.
LM IIIA2late-III B1.
1022. Deep cup with pinched out spout, mended from fragments. Parts of rim and belly missing. H. .126, rim D. .193. Fine hard buff clay, well smoothed yellowish buff surface. Decoration in streaky orange red. Encircling bands and stripes on lower body inside and out, alternating arcs (linked whorl-shells) on the main zone, similar to those on stirrup jar 992, but associated with papyrus flowers. Bars of paint across rim flange.
LM III A1/III A2.
1023. Whole profile of slightly spouted cup made up from many pieces. H. .075, rim D. .123. Fabric similar to 1016 and 1021. Fine buff clay, slightly shiny yellow buff surface. Decoration in brown to black with encircling bands and stripes inside and out, and multiple stems antithetically arranged on handle zone.
LM III B1.
1024. Complete profile of cup restored from fragments. H. c. .070, rim D. .125. Fabric as last and 1016. Slightly shiny surface. Decoration varying from orange to black. Encircling bands and stripes, festoons accompanied by stylised iris flowers on handle zone.
LM III A2 late.
1025. Slightly spouted cup mended from fragments. H. .087, rim D. .162. Fine orange buff clay, well smoothed surface. Decoration in dark brown shading to black. Encircling bands on lower body and along rim inside and out. Chain of cross-hatched lozenges along handle zone. Large dot on bottom inside, vertical lines along the edges of handle continuing down the bowl.
LM III B1.
1026. Whole profile of slightly spouted cup made up from pieces. H. .075, rim D. .145. Hard brown clay containing few fine grey grits. Thin creamy slip easily flaking off. Decoration in streaky black. Encircling

bands on lower part and along rim, festoons connected with chevrons and containing concentric arcs. Overall black paint inside.

LM III A2 late.

1027. Complete profile of cup restored from fragments. H. .063, rim D. .115. Fine hard light brown clay. Thin streaky wash inside and out, varying in colour from pink and orange to dark grey and giving a mottle effect.

LM III A2 late-III B1.

- 1028-1031. Four slightly spouted cups mended from fragments, Small parts of rim and belly missing. They were found at the top of layer I, immediately west of the larnax. H. .094, .085, .080, .079, rim D. .161, .162, .153, .167. Fabric similar to the last. Pure hard buff clay, very thin, compact and streaky slip of yellowish colour. Decoration ranging from orange pink and light brown to dark brown and black, now almost gone. Three half blobs pendent from rim inside and out, in parts ending up in trickle pattern.

LM III A2 / III B1.

1032. Hand made conical cup. H. .060, rim D. .062. Pure hard buff clay, uneven surface covered inside and out with dark brown wash similar to that on no. 366 from Tou Stavrou To Kefali.

Probably LM III A2.

- 1033-1036. Four small one-handled bowls of identical profile. 1033 and 1036 were found in layer II west of the larnax. H. .050, .047, .049, .055, rim D. .130, .134, .134, .140. Fabric as 1028-1031. Thin-streaky wash inside and out, easily flaking off and ranging in colour from orange and pink to black.

LM III A2 - III B1.

1037. Rim and handle frs. of a similar, but deeper bowl. D. .150. Fabric as 1033-1036. Similar overall streaky wash varying in colour from reddish brown to dark brown. Two thin incised grooves along and below rim.

LM III A2 - III B1.

1038. Broad-mouthed and side-spouted jar of ovoid shape made up from fragments. Parts of handles, rim and belly missing. It was found in layer III, immediately east of the larnax. H. .208, body D. .197. Coarse fabric ranging in colour from red to dark grey and containing small and large grits. Fairly smoothed surface varying in colour from buff to greyish black. Traces of burning on one side, perhaps related to the cremation procedures.

LM III A - III B1.

1039. Tripod pot or brazier of depressed globular profile mended from pieces. Small part of rim missing. It was found in layer II, east of the larnax.

H. .088, body D. .125. Handmade, coarse and very gritty ware of reddish brown colour. Unevenly smoothed buff surface. Eight small holes in the bottom made before baking.

LH III A2 - III B1.

1040. Tripod pot or brazier restored from fragments. It was also found in layer II. H. .107, body D. .110. Fabric as last. Many holes in the upper part of the vessel. Four rim and body frs, from a similar vessel were found in the tomb.

LH III A2 - III B1.

1041. Fire box fr. found immediately west of the larnax in layer III. Preserved H. .075, D. .120. Coarse wheel made ware, pinkish buff clay, light grey in core. Fairly smoothed buff surface. Many large holes in bottom which reaches a thickness of thirty mms. Very strong traces of burning chiefly inside.

LM IIIA - III B1.

F41. Piles-Romani

1042. Stone axe apparently made of a dark green, black-spotted sea pebble. Dim. .072 X .050 X .030. It is finely made and well polished. Probably LN - FN.

F42. Aperi-Football field

1043. Minoan stone vase of the bird's nest type. H. .084, body D. .119, rim D. .078, base D. .086. It is made of dark green serpentine variegated with light green veins. Most probably imported from Crete.

MM III - LM I.

1044. Minoan cup base. D. .050. Fine hard buff clay, well smoothed surface. The fabric is similar to 1016 and 1023 from Vonies. Decoration in black with encircling lines between bands inside and out.

LM III A2 - III B.

1045. Flake of Melian obsidian.

1046. Stone axe made of fine, hard and heavy stone of dark red colour, apparently igneous and containing iron. Dim. .098 X .046 X .034. It is well polished, but badly damaged, especially at the cutting edge.

Probably LN - FN.

II (G). Lefkos Region

1047. Baseless wide-mouthed amphora of globular shape and with vertical rim. H. .195, body D. .186, rim D. .098. Coarse handmade ware, few grits (apparently not added). Black core, unevenly smoothed surface varying in colour from buff to grey due to uneven firing. Burnishing and brush marks preserved in parts.

Probably FN.

G44. Moutsouna

1048-1054. One rim and six base frs. from conical cups with slightly concave walls. Base D. .048, .049, .052, .046, .047. Light pure clay of buff, light green, light brown and orange brown colour. Small white grits in 1051, grey core in 1050, 1051, 1054. Uneven surface, wheel and string marks occasionally visible. Traces of overall black wash outside 1048.

1048, 1053 : Probably MM III. 1049-1052, 1054 : MM III - LM IA.

1055-1057. Base frs. of two bowls and one conical cup with slightly incurved wall. D. .078, .077, .059. Light brown clay, pure and chalky in 1055, hard slightly gritty with green core in 1056-1057.

MM III - LM IA.

1058-1073. Rim frs. of two saucers and base frs. of conical cups with slightly incurved walls, and of rounded cups. D. .160, .098, .060, .060, .046, .052, .053, .051, .054, .054, .054, .053, .040, .040, .041, .042. Light hard fabric with small grits or sand in 1059, 1062, 1066, 1073. Buff, light brown or grey clay, grey or green core in 1059, 1067. Slight traces of brown paint outside 1066, black outside 1065.

1060-1071, 1073 : Probably MM III. 1058-1059, 1072 : MM III - LM IA.

1074-1078. Cup handle frs. of light chalky fabric and buff or light brown colour. 1074-1075 are of the raised above rim type. 1078 is a handle attachment on a wall fr. Traces of overall black wash in 1075.

1079-1080. Rim frs. from bowl and basin similar to analogous from Fournoi in Afiartis. D. .184, .184. Hard gritty fabric, grey in 1079, brown in 1080.

MM III - LM IA.

1081-1089. Base frs. from bowls and jars. D. .167, .103, .135, .104, .154. Hard, heavy and gritty fabric, buff, light brown or orange brown clay. Green and grey core in 1084, 1087.

1090-1091. Rim frs. from deep bowls or small hole-mouthed jars. Light hard fabric of light brown colour. Slight traces of brown paint.

1092-1093. Horizontal handle frs. of round section, probably from hole-mouthed jars. Light hard clay, light brown or buff in colour. Light green core in 1092, traces of black paint in 1093 round its attachment to the body.

1094-1097. Neck, spout and rim frs. apparently from jugs. Rim D. .110. Neck moulding around 1094, handle attachment in 1097. Hard gritty fabric, little fine sand in 1096. Light brown clay in 1094-1095, brown and pinkish brown in 1096-1097.

MM III - LM IA.

1098-1099. Jar rim frs. with handle attachment. D. of 1098, .180. Hard heavy and gritty fabric, brown in 1098, grey in 1099.

- 1100-1104. Jar neck and shoulder frs. D. .058, .056, .082, .086, .092. Hard gritty fabric of orange brown or light brown colour. Greenish grey core.
- 1105-1108. Jar base frs. D. .158, .120, .120, .130. Fabric as last. 1105 is gritty and micaceous.
- 1109-1114. Three horizontal and three vertical handle frs. of round and rounded section. Fabric as last. Greenish and grey core in 1113-4.
1115. Small fr. apparently from base or a stand. D. .154. Fine light fabric with few brown grits. Orange brown clay, traces of overall black wash.
1116. Rounded base fr. apparently from a jar. Pure hard reddish brown clay. Traces of overall black compact paint.
- 1117-1127. One base and ten wall frs. of jars or basins with cross-incisions inside. D. of 1118, .200. Heavy gritty fabric of buff or light brown colour, dark brown in 1117. Greenish grey core in 1119-1124. The rough scorings inside 1117 may be of particular significance; they appear to have been scratched before baking and are too incomplete to identify. They are rather unlikely to represent Linear A signs (cf. PM I, 642. Lasithi II, 39. Phylakopi 80). Yet their identification as potter's marks seems plausible. This practice was widespread both in the Prehistoric Aegean and in Egypt. Similar signs occur in Phylakopi, both on fine and on coarse ware, including cooking vessels. They were usually scratched outside the vessels, either on the bottom or on the handle (Phylakopi 177-185; cf. especially the signs B15 and C1-5 on page 179).
- 1128-1132. Rim, shoulder, belly and handle frs. from pithoi. Heavy gritty fabric of orange brown colour, buff in 1132. Light green and grey core in 1128 and 1130. The handles are round in section, 1131 horizontal, 1132 vertical.
- 1133-1138. Five foot and one belly frs. from tripod pots. 1133-1136 are of flattened section, 1137 of round. Deep incision outside 1133, 1135. Heavy gritty ware of brown and orange brown colour. Grey core in 1133, 1134, 1136.
- 1133-1136 : Probably MM IB / II-II. 1137 : Probably LM III.
- 1139-1140. Two scraps of coarse apparently handmade pottery. Light fabric badly fired and friable in 1139, harder in 1140. Small grey, white and yellow grits. Black and greyish black core, light brown surface. Probably EBA or early MBA.
- 1141-1166. Blade frs. and flakes of Melian obsidian. 1166 is of the Nisyrian white-spotted type.
- 1167-1170. Two flakes of brown chert and two obsidian flakes.
1171. Chip of Melian obsidian found at Frangolimnionas.

G45. Pelekito

1172. Base fr. apparently from Minoan cup. D. .048. Pure chalky buff clay, much worn surface.

MM III - LM IA.

1173. Wall fr. probably of Minoan cup or bowl. Light pure clay of creamy buff colour.

G46. Ria

1174. Stone axe made of black heavy stone which is similar to 1045 from Aperi. Dim. .062 X .051 X .022. Finely polished surface now much damaged.

Probably LN - FN.

1175-1177. Base and belly frs. most probably from jars. Very hard coarse and gritty ware of brown colour.

They may be MBA or LBA.

1178. Wall fr. most probably of Minoan cup. Fine hard yellow buff clay.

G47. Arolimna

1179-1188. Blade frs. and flakes of Melian obsidian. 1188 is of the Nisyrian type.

G48. Rizes

1189-1190. Base frs. apparently of MM or LM I cups. D. .047, .040. Hard coarse brown clay with white and grey grits in 1189, pure orange brown clay in 1190 that bears curved string marks. Grey core.

1189 : Probably MM III. 1190 : Probably LM IA.

G49. Aouroi

1191. Base fr. most probably of MM or LM I cup. D. .054. Very hard and gritty clay, grey core, orange interior, orange brown exterior surface.

Probably MM III.

1192. Flake of Melian obsidian.

G50. Mandraki

1193-1194. Wall frs. from large bowls or jars. Light friable and handmade ware with few grits(not added). Black core, brown surface now much worn.

They resemble those from Leftoporos and may date from LN or FN.

1195-1199. Base, strap handle and wall frs. from similar pots. Harder fabric with grits(probably added). Grey, orange grey or reddish brown clay, much damaged surface.

Probably EBA or early MBA.

1200. Wall fr. most probably of MM-LM I cup. Light pure orange buff clay.

1201. Handle attachment that may be of the lug type or the beginning of a strap handle. Fabric as 1193-1194.
Probably LN.
- 1202-1206. Four parallel-sided blade frs. and one flake of Melian obsidian.
- G51. Vounos
- 1207-1208. Body sherds of coarse and apparently handmade ware similar to 1196-1199 from Mandraki. Black core, brown surface, now much worn.
Probably EBA.
1209. Flake of Melian obsidian.
- G52. Skamnos
1210. Wall fr. probably of conical cup, if not from a juglet. Hard pure clay of light brown colour. Grey core. Decoration outside with four encircling bands in black shading to brown.
Most probably LM I.
1211. Base of conical cup with incurved upper body. D. .043. Hard light brown clay mixed with little sand. Circular string marks.
MM III - LM IA.
1212. Rim fr. from straight-sided cup or bowl. Hard light buff clay mixed with small white and grey grits. Decoration in thick dull brown with a row of double cross-hatched triangles (hour-glass design) below rim outside. Narrow band of paint along rim inside.
Both fabric and decoration suggest that 1212 is Geometric (cf. Coldstream 1968, pl. 58: d) rather than Late Helladic (cf. Broneer 1939, 361, fig. 37: a, LH IIIC).
- 1213-1216. Base frs. of rounded cups. D. .060, .055, .050, .049. Pure chalky clay in 1213, greenish grey with grey core and light brown surface in 1215-1216. Brown gritty clay and worn surface in 1214. Strong wheel marks in 1215-1216 which bear circular string marks.
Probably MM III.
- 1217-1223. Base and base frs. of rounded cups. D. .047, .045, .050, .044, .046, .045, .048. Hard pure fabric, slightly gritty in 1220, 1222.
Buff, light brown, orange brown and greenish grey clay, grey core in 1221. Strong wheel marks, uneven surface, circular string marks in 1223. Part of encircling brown band inside and outside 1217.
Probably MM III.
- 1224-1229. Base frs. from bowls and jars. D. .153, .153, .084, .100, .084, .090. Hard, heavy and gritty fabric in 1224-1225. Slightly gritty in 1227-1229, pure chalky in 1226. Light brown clay, brown in 1224 that is rather later than Minoan.
1230. Horizontal handle of round section, apparently from deep bowl. Fine hard buff clay, well smoothed surface. Decoration in slightly shiny

- black with band along upper part.
Most probably imported LH IIIB-C.
- 1231-1235. One rim fr. most probably of jug and four jar belly frs. Rim D. .096. 1232 has vertical handle attachment. Pure chalky buff clay in 1231, gritty light brown in 1232-1234, slightly gritty light buff in 1235. Greenish grey core in 1232, 1234. Traces of overall black wash in 1232-1235.
1231: MM III?
- 1236-1238. Jar base and vertical handle frs. D. .080, .086. The handle is of round section. Heavy fabric of light brown colour. Grey, brown and white grits, traces of black wash in 1238.
1239. Belly fr. of jug or small amphora. Hard light fabric with few grey and white grits. Light grey clay. Decoration in dull black with spiral. Probably LH IIIB.
1240. Two frs. apparently from spouted jug. One from vertical handle, the other from spout. They are similar to 573-574 from Palio Mitato.
MM III - LM IA.
- 1241-1242. Rim and shoulder frs. probably of amphoroid craters. D. .202, .214. Hard slightly gritty fabric of brown colour, strong moulding in 1242 at the junction with neck, small part of which is preserved. Decoration of 1241 in dull black with spiral or concentric arcs on neck. The rim flange is also painted down to the neck below rim. Traces of black slightly shiny paint on 1242.
- 1243-1245. One vertical and two horizontal handle frs, apparently from pithoid jars or large amphorae. Heavy gritty ware, brown and light brown surface, grey core in 1244-1245.
- 1246-1248. One rim and two base frs. from jars or basins with cross-incisions inside. Rim D. .236, D. of 1247, .180. Very hard and gritty ware with brown surface. Greenish grey core in 1246-1247.
- 1249-1251. One belly fr. and two rim frs. from pithoi. Heavy gritty fabric, coarser in 1250-1251. Brown clay in 1249-1250, greenish grey and orange in 1251. Grey core in 1249 that bears thumb-impressed relief decoration at the junction of neck and shoulder. 1250-1251 may be from large basins rather than pithoi.
Probably MM III - LM IA.
- 1252-1261. Eight feet and two wall frs. from tripod cooking vessels. Coarse, heavy and gritty ware of brown colour.
1252-1253, 1256-1259 : Probably MM IB-II. 1254 : Probably MM III - LM I.
- 1262-1263. Pithos belly fr. with thumb-impressed decoration and rim fr. of jar. Hard and gritty fabric of light brown colour, grey core in 1262.
1262 : Probably MM III. 1263 : MM III - LM IA?
1264. Stone axe fr. made of fine heavy black stone similar in texture to

1046 and 1074 from Aperi and Ria. Highly polished surface.
Probably LN - FN.

H53. Mesokhori-Kaminakia

1265. Stone quern of the saddle type made of hard grey sandstone. Preserved length .210, width .240, thick. .115.

I54. Diafani

1266. Small stirrup jar of squat globular shape. H. .058, body D. .084. Hard reddish brown clay mixed with small white and dark grits. Thin yellow slip as in 1270, easily flaking off. Decoration in black shading to brown with encircling bands and lines on lower body. Two multiple chevron motifs flanking a column of diminishing concentric arcs on either side of the shoulder zone. Loop of paint around the bases of false neck, spout and handles. Solid paint on disk and along handles.

Paton 1887, pl. LXXXIII:3. BM Cat. A977. CVA BM 5, 10:8.

LM III B1.

1267. Small wide-mouthed spouted jug of depressed globular body. H. .110, Body D. .115, base D. .052. Fabric exactly similar to 1272. Fine buff clay, compact yellowish slip, on top of which traces of apparently overall orange coating. Surface much damaged by incrustation. Decoration in dull black now almost gone. Encircling bands on lower body. Around neck base broad band connected with the lip by two vertical lines on either side of the neck. Band of quirk motif on shoulder zone. Traces of paint on handle.

BM Cat. A976, pl. XV. CVA Br. Mus. 5, 10:12.

LM III A2/III B1.

1268. Bull's head rhyton with one horn restored. H. .120, body D. .112, rim D. .055. Hard and heavy brown clay with very small inclusions. Thin dull and compact yellowish slip similar to 1267, 1271-2. Decoration in dull black paint. Two pairs of vertical lines from muzzle to shoulder behind the eyes. A horizontally hatched panel marks the position of the nose. Immediately above it chevron motif. The available space on the cheeks and the forehead is filled with quatrefoil-like crosses of unequal size. On the rear, below handle sets of horizontal lines in vertical panels separated by broad band running along the throat. Bars of paint along the edges of the flat loop handle. Horns and insides of ears are also coloured. Small hole in the flattened muzzle, pierced while the clay was soft.

Paton 1887, 449, pl. LXXXIII: 9. BM Cat. A971, pl. XV. CVA Br.Mus. 5, 10:11.

LM III A2 late.

1269. Funnel cup-rhyton of piriform body. Pointed tip missing. It was evidently pierced. Preserved H. .120, body D. .150, rim D. .087. It was apparently made with two skins united at the base of the rim. At the shoulder, across the handle, a bull's head in relief is attached. Inside, there is a funnel terminating about five cms. above the point of fracture. At the junction of handle and rim there is a hole communicating with the funnel. Fabric completely different from the rest in the group. Hard heavy clay of light greyish brown colour, small black and white grits, no slip on surface. Decoration in dull black now almost gone. Encircling bands on lower body and neck, concentric arcs on shoulder zone containing and flanking smaller sets of similar arcs. Traces of paint along handle outside.
 Paton 1887, 449, pl. LXXXIII: 10. BM Cat. A972, fig. 244, pl. IV.
CVA Br. Mus. 5, 10:10, fig. 14.
 LM III A2/III B1.
1270. Kylix of fairly angular profile. H. .198, rim D. .160, base D. .098. Fabric as 1267, 1272. Fine and quite heavy pinkish clay, buff in the base. Very well smoothed surface much damaged by incrustation. It is covered by thin pale yellow slip. Decoration in black easily flaking off and leaving pinkish traces. Encircling bands around foot, stem and below rim. Conventional whorl shells alternating with dotted circles or conventional sea anemones on the main zone. Paint on handles as in 1267-72.
 Paton 1887, 449, pl. LXXXIII: 6. BM Cat. A974, fig. 246. CVA Br. Mus. 5, 10:13.
 LM III B1.
1271. Kylix of similar profile. H. .195, rim D. .154, base D. .094. Fabric resembling that of the last kylix. Pinkish buff clay, well smoothed yellow buff surface with no slip. Decoration in friable black. Encircling bands on foot, stem and below rim. Thinner lines around the lower body of the bowl. On the handle zone horizontally running spirals with their ends overlapping. Bars of paint along the edges of the handles.
 Paton 1887, 449, pl. LXXXIII: 7. BM Cat. A975, fig. 247, pl. XV.
CVA Br. Mus. 5, 10:9.
 LM III A2 late.
1272. Cup of angular profile. H. .075, rim D. .047, base D. .038. Slight spout at right angle to the handle. Fabric as 1267, 1270. Fine hard and heavy clay of buff colour, compact yellowish slip. Decoration in friable black occasionally shading to brown. Encircling bands on lower body and on rim inside and out. On the handle zone sets of concentric arcs filling the angles formed by curved lines running obliquely from the lip band at the base of the handle. Paint on handle as in 1267, 1270.

BM Cat. A973, fig. 245, pl. XV. CVA Br. Mus. 5, pl. 10:14.

LM III B1.

1273. Bronze sword of the cruciform type found together with the vases 1266-1272. It is broken into five pieces. Dim. .312 X .028 X .004. The flanged hilt was .022 thick and filled with ivory, traces of which have survived. Fine decorative grooving on flanges and along the ivory plates. Four parallel lines down the centre of the blade. Paton 1887, 449, pl. LXXXIII: 3. BM Cat. of Bronzes, 46.
LH III A2-B1.

K57. Palatia

1274. Leaf-shaped bronze dagger with three rivet holes at the edge for handle attachment. Length .172, width .034. Occasional indentations at the edges due to corrosion.
Walters 1897, 64, fig. 3. BM Cat. of Br., 43.
EB 1-2.
1275. Bronze flat celt of type A (BM Cat. of Br., 355). Length .158, width .086. Lozenge-shaped hole at the narrow edge.
Walters 1897, 65. BM Cat. of Br., 44, fig. 2.
Probably EB 2.
1276. Bronze chisel. Length .183, width .043.
Walters 1897, 64, fig. 4. BM Cat. of Br., 45.
EB 1 - MB 1.

K58. Saros-Argos

- 1277-1278. Wall and slightly incurved rim frs. from conical cups. Fabric and profile similar to 829-834 and 952 from Leftoporos and Tou Sakeli Ta Krema.
Probably MM III - LM IA.
- 1279-1281. One base and two wall frs. of slightly rounded cups. Fabric as last, profile similar to 842-844 and 959 from Leftoporos and Tou Sakeli Ta Krema.
Probably MM III - LM IA.
- 1282-1285. One base and two wall frs. from pithoi. Hard gritty ware of orange brown colour, grey core in 1285. Horizontal thumb-impressed bands in 1283-1285.
Probably MM III - LM IA.
- 1286-1287. Wall frs. from little rounded bowls. Hard, light and gritty fabric of grey and orange colour.
- 1288-1291. Two base frs., one vertical and one horizontal handle frs. from jars. Hard gritty fabric of orange, orange brown and buff colour.
Grey core in 1288, 1291.
- 1292-1293. Foot frs. from tripod cooking vessels. Coarse and gritty fabric

of brown and orange colour. Thin oval section.

Probably EB 1.

1294-1295. Small belly frs. of light, friable and handmade ware. Few inclusions (apparently not added). Black core, reddish brown surface, now much worn.

Probably LN or FN-EB 1.

1296-1297. Rim and belly frs. probably from jars. Almost pure, hard and light ware with little fine yellow sand (apparently not added). Dark grey core, orange brown surface, now damaged.

LN - EBA.

1298-1299. Body and neck frs. apparently from jars. Coarse handmade fabric with few brown, grey and yellow grits (probably added). Black core, orange brown and light brown surface that bears slight brush marks inside 1298.

Probably EB 1.

1300-1303. Blade and flakes of Melian obsidian.

K59. Kato-yi

1304-1306. Wall frs. probably from large jars and jar or tripod vessel handle fr. of rounded section. Coarse handmade ware with few grits (not added). Black core, brown surface, grey inside 1304-1305.

Probably EB 1.

1307-1309. Jar base frs. of hard slightly gritty fabric. Grey core, orange brown surface.

Apparently MM or LM I.

1310-1312. Horizontal handle frs. of round section. Hard gritty ware of orange buff colour, brown with grey core in 1311.

MM - LM I.

1313. Foot fr. of tripod vessel. Coarse, heavy and gritty fabric of reddish brown colour. Thin oval section.

Probably EB 1.

L60. Trapeza

1314-1320. Complete profile and bases from conical slightly rounded cups.

H. .049, rim D. .085, base D. .049, .055, .054, .065, .059, .050, .057.

Hard gritty fabric varying in colour from orange brown and pinkish brown to reddish and greyish brown. Strong wheel marks, circular string marks in 1314, 1316, 1328, uneven surface.

1314-1315 : Probably LM IA. 1316-1320 : Probably MM III.

1321. Flaring rim of cup. D. .096. Light slightly gritty fabric of light brown colour and buff surface.

MM III - LM IA.

1322-1327. Rounded cup bases of hard slightly gritty fabric. D. .049, .050,

- .047, .042, .057. Buff, orange brown, brown and light brown clay.
Grey core in 1322. Unevenly smoothed surface mostly worn.
Probably MM III.
- 1328-1333. Rim frs. from rounded cups of similar to 1322-1327 fabric.
D. .096, .096, .096, .107, .106. Pure chalky light brown clay in 1332 that has a spreading rim. Fine light fabric in 1333, which has a carinated profile and apparently spreading rim.
1328-1331 : Probably MM IIIA. 1333 : Probably MM II - IIIA.
1334. Base fr. from bowl of light fabric. D. .070. Buff clay mixed with fine grey sand. Broad band in dull dark brown paint along base outside continuing underneath.
MM III - LM IA.
1335. Base fr. of large bowl rather than jar. D. .170. Heavy gritty ware, greenish grey core, light brown surface.
1336. Base fr. of bowl or small jar. Light gritty clay, greenish grey core, brown surface.
1337. Wall fr. of slightly rounded bowl. Hard gritty fabric, light grey to black in colour. Overall black slightly shiny paint.
1338. Ring base fr. of deep bowl. Fine orange buff clay, traces of thin dull black paint inside and out. This looks Hellenistic rather than Prehistoric.
- 1339-1340. Base frs. apparently from rounded bowls or globular jars. D. .080 .114. Hard slightly gritty ware, light brown clay, green core in 1340.
- 1341-1345. Four base and one belly frs. from jars. D. of 1342-1345, .114, .098, .100. Heavy gritty fabric, light brown and orange brown clay, green and grey core in 1341-1344. Part of brown band in 1345.
- 1346-1347. Rim frs. of amphorae. D. of 1346, .094. Light, chalky and gritty orange buff fabric in 1346, reddish brown clay in 1347, mixed with grey and white sand. Overall creamy slip on the latter, on top of which traces of black paint.
1346 : Probably MM III. 1347 : Probably LM IA.
- 1348-1349. Rim frs. of wide-mouthed jars. D. .095, .080. Heavy gritty ware, reddish brown and orange brown clay, grey core in 1349, the surface of which is buff outside and bears traces of brown paint.
1348 : Probably MM III. 1349 : Probably LM IA.
- 1350-1351. Wall frs. of jars or deep basins with cross-incisions inside. Heavy gritty ware, grey core, orange brown and buff surface.
Probably MM II - III.
1352. Rim fr. of shallow bowl. D. .186. Heavy and very gritty fabric, reddish brown clay. This may be later than Minoan.
- 1353-1354. Horizontal handle fr. with part of belly from a pithos or large

basin and wall fr. of a pithos with thumb-impressed relief decoration.
Heavy gritty ware, orange buff and pinkish clay.

1355-1357. Foot and rim frs. from cooking vessels. 1357 with vertical handle attachment. Coarse and gritty brown or gritty fabric similar to 444-461 from Fournoi on Karpathos. Traces of fire on 1356, especially inside.

Probably MM III - LM I.

1358-1360. Horizontal handles of round section. 1358 probably belonged to a skyphoid jar, 1359-1360 are apparently from pithoi. Heavy gritty fabric, orange brown, light brown and orange clay. Grey core in 1358-1359.

1361-1366. Vertical handle frs. of round or rounded and flattened (1361-1362, 1366) section. Hard gritty ware, grey, brown, light brown and buff clay. Deep narrow groove in 1366. All appear to belong to jars except for 1361 which may come from cup.

L61. Kefala

1367-1370. Rim, belly and base frs. from slightly concave and slightly rounded conical cups. D. of 1367, .092, base D. .063. Hard slightly gritty fabric, clay varying from orange and pinkish brown to brown and greenish brown. Grey core in 1370.

Probably MM III.

1371-1372. Base frs. apparently from small jars, D. .080, .080. Heavy slightly gritty ware, grey core, orange surface, now much worn.

1373-1375. Jar rim and neck frs. with handle and handle attachments. D. of 1373, .115. 1374 may belong to an oval-mouthed amphora and 1373 to a wide-mouthed jar. Hard slightly gritty fabric, grey exterior, brown to buff interior in 1373. Orange buff clay in 1374, orange brown in 1375. Rough surface. In 1373 horizontal bands in thin dull black around neck and shoulder and across handle.

1373 : MM I?

1376-1377. Shoulder frs. apparently from globular, almost spherical jugs. Neck D. in 1376, .050. Hard gritty fabric, light brown and orange brown clay. Orange outer surface in 1377.

1378-1382. Rim and wall frs. from jars or basins with cross-incisions inside. Heavy gritty ware, orange brown clay, grey in 1378.

1383-1386. Belly frs. from pithoi. Hard gritty ware, grey core, pinkish buff inner and orange buff outer surface in 1383 which bears trickle decoration in dull dark brown. Brown clay in 1384-1386, light brown inside, buff outside. All four bear raised thumb-impressed bands. Probably MM I - III.

L62. Tou Stamati Ta Lakia

1387. Conical cup of heavy gritty fabric. Rim missing. D. .058. Grey inside, light brown to buff outside. Strong wheel marks, curved string marks.

MM IIB - IIIA.

1388-1389. Base fr. and base of rounded bowl and cup. D. .077, .060. Hard slightly gritty ware, orange clay, grey core in 1388. 1389 is grey inside and light brown outside.

Probably MM III.

1390-1398. Eight base and one wall frs. from conical slightly rounded cups. D. .059, .060, .053, .060, .050, .055, .054, .051. Hard slightly gritty fabric, pure in 1393, 1397-1398. Light brown, reddish brown, brown, grey and orange buff clay. Mostly uneven surface, circular string marks in 1391, straight in 1397.

1390-1396 : Probably MM III. 1397-1398 : Probably MM III - LM IA.

1399-1404. Rim frs. of slightly incurved and slightly concave cups. D. of 1402-1404, .104, .099, .092. 1402-1403 with flaring, 1404 with offset rim. Fabric as last. Pure orange clay in 1399, 1403-1404, grey core in 1401-1402, 1404.

MM III - LM IA.

1405. Concave-sided bowl restored from two frs. Parts of belly missing. H. .065, rim D. .198, base D. .098. Pure hard pink clay, orange buff surface that is unevenly smoothed and bears wheel marks. Decoration in thin dull red with half blobs and trickle patterns pendent from rim inside and out.

MM I - IIB.

1406-1407. Rim frs. from small straight-sided conical bowls. D. .150. Slightly gritty fabric, grey core, light brown to buff surface.

MM III - LM IA.

1408-1411. Base frs. from bowls. D. .090, .077, .059, .142. The ring base 1411 is exactly similar to 1224 from Skamnos on Karpathos and is rather later than Minoan. Hard fabric, pure in 1408, slightly gritty in 1409-1410. Greenish or grey core, orange and light brown surface now much worn. Traces of thin compact brown paint inside 1408. Encircling narrow groove inside 1410.

MM III - LM IA.

1412. Spout and belly frs. from jug. Light pure clay of orange buff colour. Dull black paint on both sides of the spout and on the belly fr.

MM III - LM IA.

1413-1415. Neck, shoulder and belly frs. from jars. D. of 1413, .086. This may belong to a jug. Hard gritty ware, brown and orange clay, grey core in 1415.

- 1416-1421. Jar base frs. D. .136, .112, .114, .089, .130, .132. Hard and gritty fabric, light brown, orange brown, greenish grey, brown and orange clay, grey core in 1415.
- 1422-1427. Rim and vertical handle frs, from jars. All handles except 1426 are of round section. 1422-1425 preserve part of rim and may come from oval-mouthed amphorae. Hard gritty ware, green or grey core, very worn surface ranging in colour from buff to brown.
- 1428-1431. Two vertical and two horizontal handles of round section from large jars or pithoi. Gritty ware, light in 1428, heavy in 1429-1431. Grey core, buff, orange buff and brown surface.
- 1432-1435. Wall frs. from cross-incised jars or basins. 1432 is fairly curved and preserves a horizontal handle of round section. Hard gritty fabric, green core, brown or orange surface.
- 1436-1437. Pithos belly frs. Heavy gritty ware, grey core, orange brown surface. Relief bands with thumb impressions.
1438. Foot fr. of tripod pot. Coarse and gritty ware, brown clay. Probably MM III - LM I.
1439. Bottom fr. apparently from strainer. Light gritty fabric of orange brown colour. Traces of five narrow holes made while the clay was soft.
1440. Belly scrap of coarse friable ware apparently handmade and inadequately fired. Small creamy grits (apparently not added). Light brown core, orange brown surface. Probably EBA.
1441. Flint flake of light honey colour. Retouched round the edges.
- 1442 (Rhodes Museum 7564). Minoan stone vase made of dark greenish grey serpentine variegated with whitish veins. H. .060, body D. .086, rim D. .068, base D. .043. Finely polished surface now partly damaged. MM I - II.
- L63. Amoudiarides
- 1443-1452. Bases and base frs. from rounded cups. D. .030, .054, .048, .050, .040, .050, .050, .050, .044, .064. Fabric as 1314-1332. Pure buff or light brown clay in 1443, 1449, 1451-1452. Handle attachment in 1450. 1443-1445, 1447-1448, 1450-1452 : Probably MM III. 1446, 1449 : MM III - LM IA.
- 1453-1456. One wall and three rim frs. of rounded cups. D. .098, .120. Fabric as last. Light pure light brown clay, slightly gritty in 1456, orange buff with grey core in 1453. The latter bears an oblique band of dull black paint inside and out. 1453, 1455-1456 : Probably MM III. 1454 : MM III - LM IA.
- 1457-1461. One rim and four base frs. from bowls. D. .134, .089, .066, .120, .080. Hard slightly gritty ware, orange brown or greyish brown clay. Green core in 1457, 1459.

- 1457 : Probably MM II - III. 1459, 1461 : Probably MM III. 1458,
1460 : Probably MM III - LM IA.
- 1462-1469. Jar base frs. D. .080, .134, .118, .094, .140, .100, .096,
.094. Heavy slightly gritty fabric, orange, brown and greyish brown
clay, grey or green core. Traces of splash decoration in dull black
in 1466. 1463 is of brown sandy clay and may be later than Minoan.
- 1470-1472. Neck and shoulder frs. most probably from jugs. Neck D. .062,
.070, .070. Hard light ware, pure orange with green core in 1470, buff
gritty in 1471 that bears a black band along neck and shoulder at their
junction. Light brown clay, slightly gritty with green core in 1472.
- 1473-1476. Body frs. from jugs rather than amphorae. Handle attachment in
1475-1476. Hard fabric, slightly gritty orange brown in 1473-1474, pure
grey in 1475, gritty light brown in 1476. Decoration with encircling
bands in dull dark brown on the cream surface of 1473. Traces of brown
paint in 1474, band in dull friable black round handle in 1475.
- 1477-1483. Four horizontal and three vertical handle frs. Flattened (1477),
rounded (1478-1479) and round section. Hard heavy ware, light brown
clay, green and grey core. 1477-1478 may belong to skyphoid jars or
basins, 1479-1480 to pithoid jars.
- 1484-1485. Wall frs. from cross-incised jars or basins. Heavy gritty ware,
coarse brown with greenish core in 1484, hard orange in 1485.
Probably MM II - III.
1486. Foot fr. from tripod pot. Coarse, heavy and gritty ware, brown clay.
Relief decoration with raised ridge along outer side.
Probably MM IB - II.
- 1487-1488. Small belly sherds of coarse and friable ware. Few white inclu-
sions (apparently not added). Burnishing marks inside 1487.
Probably EBA.
- M64. Kasos-Argos
1489. Base fr. apparently of Minoan cup. D. .050. Light hard buff clay,
few brown grits. Unevenly smoothed surface, straight string marks.
Another two scraps from similar cups were found.
Probably MM III.
- 1490-1491. Jar neck and belly frs. Hard ware with white grits, light brown
clay and dark grey core in 1490 which may come from MM or LM I jar.
Dark grey clay in 1491 which may be MBA.
- M65. Ellinokamara
1492. Body sherd of coarse and fairly friable, apparently handmade ware.
Black core, reddish surface, fairly smoothed outside where traces of
thin black paint.
LN - EBA.

- 1493-1494. Base and wall frs. apparently from Minoan rounded and conical cups.
D. .062. Heavy fabric in 1493 with grey core and orange surface. Grey and white grits. Strong wheel marks inside. Light pure buff clay in 1494. A couple of similar scraps were collected.
1493 : Probably MM III.
1495. Chip of Melian obsidian.
- M66. Amoua, Faneromeni and Vrisi
1496. Small rim fr. of bowl. Th. .010. Light friable ware with few inclusions (apparently not added). Dark grey core, brown surface now much worn.
Most probably LN - FN.
1497. Wall fr. apparently from bowl. Fabric as last. Light brown surface, traces of straw tempering. Part of a hole preserved, probably for suspension. Cf. similar from Poli in Hope Simpson and Lazenby 1970, 70.
LN - FN.
- 1498-1504. Small sherds of similar to 1496-1497 ware. Black core, dark greyish brown or grey surface now much worn. 1498 probably belonged to a small jar. Some fifty more similar frs. were collected.
LN - FN.
- 1505-1518. Two parallel-sided, three triangular-sectioned blade frs. and nine flakes of Melian obsidian.
- M67. Tou Fridiou Tanefama
- 1519-1523. Small body frs. exactly similar to 1498-1504. Th. .015, .011, .008, .007, .006. Another ten similar sherds were kept.
LN - FN.
- 1524-1525. Flakes of Melian obsidian.
- M68. Emborios
- 1526-1527. Small body sherds of coarse fairly hard ware. Th. .008, .015. Small white inclusions (apparently not added). Black or dark grey core, brown surface now very worn.
Probably EBA or early MBA.
- 1528-1531. One flake of Melian obsidian and three flakes of local stone.
- M69. Kato Vounara
1532. Small rim fr. from bowl. Fabric as 1500 from Amoua. Brown core, buff surface now much worn.
Most probably LN or FN.
- 1533-1538. Small and very worn body sherds of similar to 1532 ware. Th. of 1533, .012. It is burnished outside. Most of the frs. probably come from bowls (not illustrated).

- 1539-1548. Four parallel-sided, trapezoidal or triangular-sectioned, blade frs. of Melian obsidian and six flakes of local black stone.
- M70. Pano Vounara
1549. Jar neck fr. of coarse gritty fabric. Brown clay, dark grey core, orange surface (not illustrated).
Probably MBA.
- 1550-1551. Base and belly frs. apparently from Minoan cups or saucers.
D. .080. Handle attachment in 1551. Hard light fabric, light brown with few grey grits and grey core in 1550. Pure cream clay and orange buff surface in 1551. Strong wheel marks on the latter (not illustrated).
Probably MM III - LM IA.
1552. Flake of Melian obsidian.
- M71. Poli
- 1553-1554. Rim frs. from bowls. D. of 1553, .164. Fairly hard coarse and gritty ware, dark brown clay, highly burnished and shiny surface, dark brown to black inside, light brown (1553) and dark grey outside.
Apparently LN.
- 1555-1556. Rim frs. from bowls or jars. D. of 1556, .142. Fabric similar to analogous from Leftoporos on Karpathos. Coarse friable ware with grits(not added). Black core, brown surface which is burnished, but now much worn. Straw tempering, brush marks in 1555.
LN - FN.
1557. Strap handle fr. from deep bowl similar to 339 from Vouno and 807-808 from Leftoporos. Slightly gritty and friable ware, black core, brown surface.
LN - FN.
- 1558-1559. Body sherds most probably from large bowls. Fabric as last. Burnishing marks on the grey surface outside 1558 and inside 1559. The latter appears to have been as highly burnished as 1553-1554.
LN - FN.
- 1560-1561. Rim frs. from rounded cup and kylix. Pure, hard and light fabric, buff colour. Overall thin dark brown wash in 1560.
Probably LH III.
- 1562-1563. Body frs. apparently from Mycenaean or Minoan jars. Pure hard fabric, creamy buff and light brown clay. Horizontal band in friable dark brown in 1562, overall black paint in 1563, easily flaking off.
LH III or LM III.
1564. Vertical handle fr. of round section. Heavy gritty fabric, brown core, buff surface.
- 1565-1568. Jar body sherds of pure and hard grey clay. Surface varying from reddish (inside 1565) to pinkish buff, creamy and yellowish. Decoration

with horizontal bands in compact dark brown.

Probably LH III.

1569-1570. Wall frs. probably from deep bowls. Hard light ware with very few fine brown grits. Grey core, pink or brown towards the surface that is covered by dull cream (1569) and yellow slip. Overall black (1569) or red inside easily flaking off. Dark brown bands outside.

Probably LM IIIIB.

1571-1578. Body frs. from jars and deep bowls. Pure hard fabric, few yellow and grey grits in 1576 which is of red clay and has very well smoothed surface bearing horizontal lines in thin creamy and chalky paint. 1575 is of light green clay and bears brown concentric circles. Both these may be Geometric. The rest are of brown, light grey or buff clay. Decoration with bands and wavy lines in thin compact dark brown, black or red. 1574 has an overall black paint inside and most probably, like 1573, belongs to deep bowl.

Probably LH IIIIB - IIIC.

1579. Rim fr. from a large bowl or crater. Chalky buff clay, dull black wash outside, easily flaking off.

LH III or LM III.

1580-1581. Wall frs. with handle attachment from deep bowls. Hard greenish buff or light brown clay, bands round body and handles in black shading to brown. Compact dark brown paint inside 1580.

LH IIIIB - IIIC.

1582. Body fr. of amphora. Very hard orange buff clay, well smoothed slightly shiny surface. Decoration with horizontal bands in friable dark brown shading to brown and orange.

Apparently LH IIIIB - IIIC.

1583-1584. Base frs. apparently from Minoan cups. Heavy slightly gritty fabric, brown clay, reddish brown surface. Circular string marks and strong wheel marks inside 1584 which is exactly similar to 1493 from Ellinokamara.

Most probably MM III - LM I.

1585. Horizontal handle fr. of round section, probably from pithos. Very hard gritty ware, grey core, pinkish orange towards the surface which has a thin creamy slip and bears traces of narrow dark brown band along base of handle.

Probably MM III - LM I.

1586. Wall fr. from large pithos. Th. .023. Orange brown clay with grey core and small white and grey grits (apparently not added). Traces of straw tempering.

LN - EBA.

1587. Vertical handle fr. of round section apparently from Minoan or

Mycenaean jar. Slightly gritty fabric, grey core, orange surface.

1588. Foot fr. of a tripod vessel. Fabric similar to 1586.

Probably EB 1.

CHAPTER FOUR: CLASSIFICATION AND SUMMARY OF OBJECTS

The LM/LH III material published by Charitonidis (1961-2) is included in this analysis. It is numbered C 1 - C 105 and is illustrated here in an appendix (figs. 109-124).

I. CERAMIC INDUSTRY

I(A). NEOLITHIC AND EARLY BRONZE AGE POTTERY

a. Fabric

All the early pottery found on Kasos, Karpathos and Saros comes from unstratified contexts, having been collected from the surface. All sherds have suffered greatly from the exposure on the surface and ploughing. Most of them are too broken and fractured all round. Generally they are in too poor a condition for recognition of the vessels to which they belonged to be easy. With only one exception no whole or restorable pots were found. In general, the material is handmade and can be divided into coarse household ware which often has a slight burnish, and finer semi-coarse burnished pottery. The second category is represented by only a few sherds, including some examples with polished rather than burnished surface. Shapes appear to be common in both classes of pottery, as well as fabric, the only difference being in the surface treatment.

In its general features the fabric of the first class appears to be uniform, but some variations do occur. Sherds from large vessels, normally more than one cm. thick, are coarser and often heavily stone-gritted, whereas thin-walled vessels, less than one cm. thick, are usually of comparatively finer paste, although they are also practically unburnished and coarse-gritted. On the other hand, there are examples of heavy coarse ware which is slightly burnished.

In the heavy ware the clay is usually inadequately baked and crumbly. Sherds dropped on a hard surface make a dull thud rather than a ringing sound. The biscuit always includes fine sand and pebbles or grits, which vary in quantity and size. Normally they are light in colour and appear not to be intentionally added. Mica is rarely seen, and seems to be deliberately added. The micaceous paste is harder and better baked. Straw inclusions and other impurities seem never to have been deliberately used as temper, although they may sometimes be present in the clay.

The surface is gritty to the touch and generally has no elaborate finishing. As a rule it is uneven and merely smoothed in the customary manner, by wiping or rubbing with a piece of cloth or a bunch of grass. Brush marks are often visible on the surface. Sometimes the latter is given a slight "scribble burnish". On most sherds from Vouno there is a heavy incrustation.

The core is normally dark grey or black in colour, rarely with a thin

reddish layer in its centre or flanked by thin layers of lighter colour. The rest of the wall varies in colour from light grey and light brown to reddish brown or orange brown, very rarely to dark grey or black.

The material is chiefly dark-faced, but light-faced ware, usually buff or light grey, is not lacking. The surface colour is roughly the same as that of the wall. Sometimes the interior is different in colour from the exterior. Occasionally there is a variegated surface, more often brown mottled with grey or buff. There is little doubt that this effect is purely accidental, owing to firing under reducing conditions.

Most of the medium-sized wares are of much the same fabric, but they are better made and baked. The surface is normally better preserved and often has slight scorings and brush marks. A small variant of this class can be distinguished at Leftoporos (790 and 793). This is a heavy and well baked ware with small and large grits and much mica, presumably both deliberately added. The core is black, the surface light brown to brown.

Another variant comprises medium and small-sized pottery of similar coarse fabric, but fired hard and more or less evenly right through the wall, which is brown or dark grey. Normally but not always the surface has a lighter colour, orange brown or greyish brown. Such ware has been found at Vathipotamo, Vouno, Tripes, Kipos, Leftoporos, Finiki, Mandraki, Saros and Poli on Kasos.

Finally, a small group of orange-coloured sherds from Saros and Poli on Kasos can be distinguished. They are of better levigated clay, which has fine grit and sand inclusions, and are better fired. The core is grey or black and the surface orange or brownish orange. They may be Early Bronze in date.

The semi-coarse ware can be divided into two categories. The first includes two heavily burnished sherds from Poli (1553-1554). The clay is brown in colour and is fired hard. The surface is finely burnished and shiny, dark brown to black inside, light brown or dark grey outside.

The second class is represented by several sherds from Kourouklos (763-768), one or two from Leftoporos (800 and probably also 801) and one from Vouno (341). All are of hard, slightly gritty fabric and are well polished. 765-768 and 800 may also have been slightly burnished. They are buff or grey in colour. 800 has a reddish mottling on a grey surface.

One single example of red-slipped ware was found at Leftoporos (816). It is a body fragment, probably of a bowl. The clay is pure and soft, the interior surface is well smoothed and covered with a thin slightly shiny slip. This class of pottery is well represented in Late Chalcolithic 2-3 contexts in western Anatolia, notably at Beycesultan and Kum Tepe in the Troad (Beycesultan, 83-4, LCh. 2. Kum Tepe, 320 f., IA 1 and IB 1.). It is also found in small quantities on the islands of Samos and Kalymnos (Furness 1956,

187, 192).

b. Shapes

With only one exception (1047) no whole or restorable pot has been recovered and the sherds were too broken and small for their shape to be fully reconstructed. Nevertheless, on the evidence from some rim fragments several partial restorations can be made. As might be expected, the range of shapes appears to be limited. They are on the whole simple, and the usual open forms seem to preponderate over the closed types. A small number of different shapes seem to be represented, but often the dividing line between open and closed forms cannot be clear-cut, for one form tends to pass over almost imperceptibly into the other. Only one flat sherd was found at Finiki indicating a flat base. This probably belonged to a large storage jar. All the rest are curved implying a round base for the bulk of the pottery (cf. Lasithi I, 28-31). All shapes are represented in different sizes.

1. Large Storage Jars and Basins

The large strap handles 785-786 and the body sherds 785 belong to large jars or pithoi probably intended for water storage like those found in Vathy on Kalymnos (Maiuri 1928, 111, 114-115). Handle 786 finds its exact parallel at this cave, both in fabric and decoration (ib. pl. XVIII:5). Similar examples turned up at Saliagos (Saliagos fig. 45:8) and Phœistos (more marked knob on a saddle handle, Vagnetti 1972-3, 58, fig. 59:9). Handle 785 is perfectly matched by Saliagos fig. 44:5 and on Kalymnos (Furness 1956, pl. XVIII:8). Large coarse storage vessels were also found in Aspripetra, Tigani (Furness 1956, fig. 3:29,31), in levels of all periods at Emporio (Chios I, 199, fig. 133, per. X-VIII; 157, per. VII-VI; 187, per. V-IV; pls. 72:1184, 1194; 76:1283-4, 1292, per. IV; II, 530, pl. 100, period IV) and on Saliagos (Saliagos pl. XIX:a). One from Emporio is 1.40 ms. high and one from Aspripetra (Aspripetra fig. 81) has two vertical strap handles and a round base. The latter, together with our examples, may correspond to Vagnetti's type 9 of class A (1972-3, 58, figs. 34:1-3,38,46; 59:1-4). They have a cylindrical or trococonical neck, globular body and two vertical strap handles from neck to shoulder or on belly.

787 belongs to a large conical basin. An exactly similar vessel but without plastic decoration was found at Poliochni (Poliochni pl. LXXVII:g, evolved blue period). Similarly shaped and knobbed rims, yet belonging to closed vessels, again from Poliochni (ib. 111, pl. LXX:h,i, early blue period), Ayio Gala upper cave and Emporio VII-VI (Chios I, figs. 38:239 and 157:742,745).

2. Open Bowls

There are examples of large or medium and small-sized bowls. All the former appear to belong to the rounded deep bowl type (Vagnetti's 1972-3

type 2a of the coarse class A). 794, 797-799, 1496, 1532 and perhaps 331, 339, 791-792, 819 and 823 belong to this category. They would normally have had two vertical strap handles like 399 and 802, from the rim or a little below the rim. They all appear to have been round-bottomed.

794 has a flaring rim and corresponds to Vagnetti's type 2b of class A (1972-3, 56, fig. 57:10,21) and Hood's type 14A (Chios I, 183-184, fig. 27:158 from Ayio Gala upper cave, and fig. 98; fig. 149:617-618, burnished and mottled ware, per. VII; figs. 171:1082, 1116 and 172:1105,1109,1119, per. V-IV). The type is rare at Phaistos where it has a vertical strap handle from the rim. The type is known already from EN Knossos in coarse burnished ware and continues in coarse ware into MN and LN (Furness 1953, fig. 4:1,4). Our example can be paralleled at many LN and FN sites in the Aegean. Furness 1953, fig. 11:1 and Lasithi I, fig. 7:T21,26, pl. 7:18 are exact counterparts both in shape and fabric. Vagnetti 1972-3, figs. 57:19, 66:1 and Saliagos fig. 40):3 are close parallels, whereas fragments from Gortyna (Vagnetti 1973, fig. 2:1), Poliochni black period (Poliochni 70, pl. VII:o), Magasa (Palaik. IV, 264-265, fig. 3) and Emporio periods II and IV-VI (Chios II, figs. 200:1549, 226:2210-2211. Cf. 224:2132-2133) are also fairly similar.

798-799, 1496 and 1532 are straight or slightly incurved rims, which are the commonest forms throughout the Neolithic. The type corresponds to Vagnetti's 2a of class A (1972-3, 54-55, figs. 11:13-16,19-20,26,34,47; 57:3-9, 80) and Hood's type 5A which is common in levels of all periods (Chios I, 175, 310-311, figs. 98; 121; 122:94,98; 143, the latter from per. VII-VI; fig. 164 per. V-IV). In Phaistos the walls are usually straight on the upper part and rounded on the lower. There is sometimes a slight burnishing, often only internally. The handles - saddled or strap - are either set on the rim or immediately below it. Several fragments have a relief decoration with knobs or raised bands. In Knossos it appears as early as EN I-II in burnished ware (Furness 1953, 103, fig. 4:1-3. Evans 1964, fig. 22:1-4; 29:1-2,14,18) and continues in coarse ware in the MN (Evans 1964, fig. 33:1-6) and LN (ib. fig. 36:1-13). At Gortyna (Vagnetti 1973, fig. 2:5) it occurs in FN burnished ware. The same is true at Emporio periods VI-V and II (Chios II, 435-437, figs. 197; 226:2179-2180; 234:2357). 798-799 can be compared with LN and FN examples from Knossos (Evans 1964, fig. 36:1), Phaistos (Vagnetti 1972-3, fig. 57:4, 15-16), Gortyna (Vagnetti 1973, fig. 2:2), Poliochni black period (Poliochni 70-71, pls. II:g-h, VII:p,q), Rhodes (Rhodes fig. 12:22,27), Kalymnos, Samos and Ayio Gala (Furness 1956, 181, 188, fig. 14:1. Chios I, figs. 5:10 and 21-23), Magasa and Lasithi on east Crete (Palaik. IV, 264-265, fig. 3. Lasithi 1982, fig. 6:5), and Balikesir in north-western Anatolia (French 1961, fig. 5:56-57).

The shape is very popular in Lasithi where most of the so-called Trapeza ware are of this type (Lasithi II, fig. 7:T31-32). They always have a round

base, which appears to be the case with the islands in the discussion. 790 almost certainly belonged to such a vessel and is closely matched at Lasithi (Lasithi I, fig. 7:T18,20,23). The same applies to 331 which is closely paralleled at Phaistos (Vagnetti 1972-3, fig. 57:2). 339 may also have come from a globular deep bowl like Lasithi I, fig. 7:T7=pl. 8; Lasithi II, T33; Maiuri 1928, fig. 93:b (from Kalymnos); Aspripetra fig. 83:4 and Vagnetti 1972-3, fig. 57:17.

1553-1554 are the only heavily burnished fragments found. They come from medium-sized and slightly convex-sided bowls. They fit in well with Vagnetti's hemispherical bowl type 2a of class C (1972-3, 63 f.) and with Hood's type 5A-B (Chios I, 175, figs. 98 and 121:61,64,75,81,85,86, all burnished with flattened top, period VIII; figs. 143:454,462-463, per. VII-VI; 164:886,900,908, per. VI-V). Yet no example affords a real parallel to our sherds, although from partial resemblances it is pretty certain that they belong to LN or FN. Furness's type I (1953, 103, fig. 4:11) which appears as early as EN and continues through MN and LN seems stylistically related to our examples, but the square rims become common only during LN (Evans 1964, 225). There are FN parallels from Poliochni black period (Poliochni 70, pl. V:k) and Phaistos (Vagnetti 1972-3, fig. 49:2 and 62:19), as well as from Kum Tepe IB (Kum Tepe 334, fig. 14:513). Closer counterparts are provided by heavily burnished examples from Mykonos, Phylakopi and Naxos (Mykonos, 398, pl. 124:16-18; 127:8). The latter evidence rather points to an LN date for 1553-1554. 819-823 may belong to deep medium-sized bowls.

341 and 800 belong to small conical bowls with slightly spreading rim, which corresponds to Hood's type 14A. This type was first recognised at Emporio in period VIII, became common in periods VII-VI and was much at home throughout V-II (Chios I, 183, fig. 98. Also fig. 16:63-67 from Ayio Gala upper cave). Our examples are of semi-coarse grey fabric and have a smoothed surface, which may correspond to Vagnetti's class B (1972-3, 60, 62). This class is related to the Partira group, although shapes of this category are lacking at Phaistos. 765-768 may also belong to this class. This fabric could also be related to the grey Pyrgos ware (AD 4 (1918) 149 f.). Two examples from Pyrgos are similar in profile to 341 (ib. figs. 10:79; 12:9-14). Beycesultan 87, fig. P7:31 is also similar in profile but is finely burnished. Of exactly the same profile is Lasithi I, fig. 11:312 (EM II-III) but it is coarse unpolished ware. Even closer parallel to 341 and 800, both in profile and fabric, is Lasithi I, fig. 11:302=pl. 9 (EM II; cf. also Lasithi 1982, fig. 6:11,18, EM I-II?). They are also closely matched in profile by Poliochni pls. XXXIV:f,h; XXXV:g (evolved blue per.), Saliagos fig. 35:11 and Mykonos pl. 124, fig. 3:7,9. The latter are of exactly the same fabric as 800 and have the same colour and mottling.

801 most probably belonged to a straight-sided cup or to a small deep bowl. Despite its hard and gritty fabric it could possibly belong to the Partira type of ware. It is closely paralleled in profile with a handled cup from Partira, which appears to be the prototype for the EM I cup (Renfrew 1964, 118, pl. E4:2). An exactly similar cup was found in an LN context at Lasithi (Lasithi II, pl. V:N21=fig. 7) where the shape continues unchanged down to the EM III period, with painted and dark washed examples (Lasithi I, fig. 13:515-516 =pl. 10). The profile of 801 finds also exact counterparts at Phaistos (Vagnetti 1972-3, 67, fig. 66:5, burnished class C), Poliochni evolved blue period (Poliochni 237, pl. XXXV:a, with similar pellet), Ayio Gala lower cave (Furness 1956, 210, fig. 12:1. Chios I, fig. 5:5, burnished with pellet) and Kum Tepe IA (Kum Tepe fig. 10:128).

1497, along with a finer example from Poli (Hope Simpson-Lazenby 1970, 69-70), probably comes from a "cheese pot" like those from Mykonos (Mykonos 395, 398-399, pl. 127:9), Naxos and Phylakopi; it corresponds to Hood's type 3 (baking pan) which occurred at Emporio from period X, became abundant in IX-VIII and was less common in VII-V (Chios I, 172-174, 309, figs. 98, 119, 141). Such coarse pots with a row of piercings below the rim had a wide distribution in the later Aegean Neolithic as well as in the EBA (Renfrew 1972, 155; Chios I, 174). The type (straight-sided deep and shallow conical or rounded bowl) was already found in EN I fine burnished ware of Knossos (Evans 1964, fig. 23:11). Later in the LN period it enjoyed a greater popularity. It was found at Saliagos (Saliagos fig. 40:14,18), Aspripetra (Aspripetra 294-295, fig. 82), Ayio Gala upper cave (Furness 1956, pl. 22:19. Chios I, fig. 19:91-93), Elmali in south-west Anatolia (Elmali 10, fig. 2:14, Chalcolithic) and in the Troad (French 1961, 101-102, fig. 5:8a, LCh.). From LN-FN contexts it was commonly known at Magasa (Palaik, IV, 265), Phaistos (Vagnetti 1972-3, fig. 62:7, burnished class C) and Gortyna (Vagnetti 1973, fig. 2:4). It also turned up on Kea (Caskey 1972, pl. 76:A17-25, P5-7, S1-2; figs. 1:P3-4 and 2:A16) and Kum Tepe IB (Kum Tepe 335, fig. 15:553). It was widely used by the EB I cultures in the Aegean, e.g. on Naxos, Melos and Kos (Renfrew 1972, 155, fig. 10.2:5,11. Hope Simpson-Lazenby 1970, 58, fig. 7:8).

3. Jars

These can be divided into three categories, Hole-mouthed jars, constricted or everted-neck jars and cylindrical or short, straight-neck jars. Body fragments 331, 339, 790-792 and 817-823 may well belong to jars rather than to bowls.

3(a). Hole-mouthed Jars

1498 and 1555-1556 belonged to hole-mouthed jars and correspond to Vagnetti's type 3 of class A (1972-3, 56, figs. 51 and 57:17-18), Furness' type I (1953, 103, fig. 4:2, EN), and Hood's bowl-jar with undifferentiated neck that was common especially in the earliest periods X-VIII at Emporio (Chios I, 192-194, 268-272, figs. 100-101; 125:170; 127:179-191; 128:207, 109-210; 179:1192, the latter per. V). The form became widespread only from LN. Our examples appear to be of medium size. They find exact parallels, apart from Phaistos and Emporio, on Kea (Caskey 1972, fig. 2:A64), at Magasa (Palaik. IV, 264-265, fig. 3 and BM Cat. A404:1), Tigani (Furness 1956, figs. 3:F31 and 4:F33), Ayio Gala (Chios I, fig. 30:117) and Kizilbel (Elmali figs. 2:4-6, 18, 25). Beycesultan figs. P7 and P9:11 (LCh. 2-3), and the roughly contemporary Kum Tepe fig. 14:524 (IB) and French 1961, fig. 5:53-55 (from Belikesir in the Troad) provide fairly similar examples.

3(b). Constricted-neck Jars

The constricted-neck jars are either large (793, 796-797) or small in size (795). They roughly correspond to a version of Vagnetti's type 7 (1972-3, 58), Furness' types 6-7 from EN Knossos (1953, 105, fig. 5:10-13. cf. Evans 1964, figs. 22:20; 29:8 etc.) and Hood's types 31-33 and 19 of class AII-III, which are attested at Emporio mainly in periods IX-VIII and in VII-VI (Chios 192-194, figs. 101; 127:195-204; 128:215-228; 129:231-241; 155-156). All our examples were of globular shape and would have had ribbon handles from rim or shoulder.

797 is the simplest form and could easily be classified as a hole-mouthed jar rather than a constricted-neck jar, for the rim is very slightly everted. This is perhaps the commonest type of jar throughout the Neolithic. Our example has exact counterparts in EN burnished and MN-LN coarse ware of Knossos (Furness 1953, figs. 5:12-24 and 11:8). It is also closely paralleled by Rhodes fig. 11:5,10; Furness 1956, figs. 10:10; 12:11; 4:32, (from Kalymnos, lower cave Ayio Gala and Tigani); Lasithi I, fig. 7:T21=pl.7; Elmali fig. 3:17. P6,18 (burnished); Beycesultan fig. P7:17 (exact parallel with handle from rim); Chios I, figs. 127:200-201, 203 (per. IX); 128:212,215,221,228; 129:232,234,236,240; Chios II, fig. 226:2216,2218 (per. V-IV) and Kum Tepe fig. 11:233 (IA2).

793 represents a typical example of the constricted-neck type. This also seems to originate in the EN burnished ware of Knossos and continues in MN and LN coarse ware (Furness 1953, type 6-7, p.105, figs. 5:11; 11:11). In the FN times it becomes common in Lasithi where exact parallels to 793, both in profile and fabric, are found among the so-called Trapeza ware which is normally of coarse pale brown clay and has a typically mottled and encrusted surface (Lasithi I, fig. 7:T1; II, fig. 7:T33). Close parallels in similar

coarse and mottled but red slipped fabric were found in Ayio Gala (Furness 1956, 211, fig. 12:10. Chios I, figs. 6:13-14, 16-18; 33). Similar in profile is Palaikastro IV, fig. 3b (from Magasa) and Vagnetti 1973, fig. 1:12 (from Gortyna), whereas Poliochni pl. VI:h (Black period) and Saliagos fig. 40:12 provide two further exact parallels. This kind of jar appears at Kum Tepe from phase I A1 and during Kum Tepe IB it forms the most standard type both in fine and coarse ware (Kum Tepe 317, 319, 321, 328, 336, figs. 8:122; 9:224; 11:223; 12:306; 18:527). It also seems to be common at Emporio from periods V-III, when it is normally burnished. In period II it is much in evidence, but it is coarser now and has a poor burnish or polish (Chios II, 429 430, 481, figs. 196:1395,1393A,1396; 215:1886; 226:2217, 2221; 203:1602,1604).

796 has an externally thickened lip and is exactly paralleled by Kephala pl. 342 and Chios I, fig. 181:1222 (per. IV). It is also closely matched by Vagnetti 1973, fig. 1:10 (Gortyna), Saliagos fig. 40:13, Poliochni pl. VIII:3 and Troy I pl. 414:31 (from Troy II).

795 is a small version of 793 and is exactly matched by Caskey 1972, fig. 2:A64 (Ayia Irini, Kea), BM Cat. A404:2 (Magasa), Saliagos fig. 53:1, Kephala pl. 31:j, Kum Tepe fig. 11:234 (IA2) and Chios I, figs. 129:232 (per. VIII); 155:665-667 (per. VII); fig. 181:1223 (per.V). Similar examples are Rhodes fig. 11:11 and Lasithi I, fig. 7:T2,5=pl. 8 (cf. Lasithi 1982, fig. 6:7), whereas Vagnetti 1973, fig. 2:8 (Gortyna), Vagnetti 1972-3, fig. 63:2 (Phaistos, class C, type 2b) and Kum Tepe figs. 8:123 and 13:414 (IA and IB2) provide close parallels in fine burnished ware.

3(c). Cylindrical-neck Jars

Our cylindrical-neck jars roughly correspond to a version of Vagnetti's type 7 of class A. 1047 is a complete globular and round-bottomed jar, which corresponds with Hood's type 41 of class BI, that was common in the earlier levels at Emporio, but is not represented from period V onwards (Chios I, 194-196 with discussion of the distribution of the type, figs. 101, 126, 131). The rim of 1047 is turned up to form a low collar neck as in an EM I small tripod pot from Lasithi (Lasithi II, pl. IV:2). It lacks convincing parallels elsewhere, but has certain analogies both in shape and fabric with some of the "Trapeza" ware from Lasithi. Lasithi I, fig. 7:T5 is of coarse mottled fabric and has the handles attached to the rim as Poliochni pl. CXL:m (red per.), whereas in Lasithi I, fig. 7:T7 the handle is set as in ours. The same is true of Lasithi II, fig. 7:T34 whose neck is taller. Phaistos provides a fairly similar example, but it has a wider neck. Saliagos fig. 34:2=pl. XVIII:a right, is fairly close but somewhat angular in profile and with handles set lower down. A decorated rim fragment from Ayio Gala upper cave phase II (Furness 1956, fig. 14:13. See also Chios I, figs. 34:205,210)

and three rims from Poliochni black period, one coarse and two burnished (Poliochni 70, pl. V:o,g,w) afford some other parallels.

The type is common at Kusura A and Beycesultan LCh. IV where it becomes rarer in the following EB 1-2. At the end of the Chalcolithic and the beginning of the EBA it is well represented at Troy I, Thermi, Poliochni, Emporio, Samos, Kalymnos and south Anatolia (Poliochni 544-555 with refs. Troy I pl. 223:b,cl. Chios II, figs. 203:1590; 204:1608,1610, per. II). The form continues into EB 3 (cf. a jug from Kos, Morricone 1972-3, 269, figs. 220:2 and 223:3).

789 is a neck-and-shoulder fragment from a similar but larger vessel. It is best matched at Phaistos (Vagnetti 1972-3, fig. 59:4) and by Kephala pl. 33:134). Poliochni pl. V:g,w (from megaron 605, black per.) are similar but burnished.

340 may have come from a cylindrical-neck jar like 1047, but with an upright neck (Hood's type 47 which is characteristic of periods V-IV at Emporio. Chios I, 198, fig. 101). Palaikastro IV, fig. 3:a (Magasa) with handle from neck provides an exact but larger parallel, whereas Lasithi I, fig. 7:T9, Kum Tepe fig. 19:626 (burnished IB4), Vagnetti 1972-3, fig. 60:25 and Chios I, figs. 34:206,208; 35:215; 36:217 (Ayio Gala upper cave); 182:1233-1234; 183:1239; 184:1248; 186:1272 (Emporio V-IV) are close counterparts too. It is possible though that 340 belonged to a vertical-sided bowl like Kum Tepe fig. 10:132 (IA1).

3(d) Tripod Pots

1292-1293, 1313 and 1588 are apparently feet fragments from tripod vessels. They are of coarse and heavy orange brown fabric and recall those (Hood's type 27) commonly used at Emporio especially during period II and rarely in earlier levels, from VII onwards. The origin and distribution of the type has been discussed by Hood (Chios I, 189-190, figs. 99; 150:653; 178:1178-1179, 1182; pl. 71, per. V-IV. Chios II, 448-449, 473, 529, pls. 84:e; 91; 93 and figs. 202; 212:1844,1919-1920). Most of them were evidently cooking vessels, either bowl-like or jar-shaped. They are of a coarse and gritty fabric, reddish, grey or brown in colour and often burnished. The feet from Chios are normally pointed and a few are square-ended. Sections are usually oval or flattened, but triangular ones also occur, particularly in elegant feet swinging outwards (cf. Myrtos fig. 63:5-7), as well as some neatly semi-circular, which recall similar Minoan examples from Karpathos (214, 260, 447, 450, 1438). The latter also occur in the evolved blue period at Poliochni (Poliochni pl. LXXI). A diamond-sectioned and a ribbed foot from Emporio (Chios II, 448, II X 5, fig. 202:1584=pl. 84) recall analogous Minoan feet from Karpathos (nos. 444-446, 617-618, 1252, 1355, 1486). A couple of feet from the same site (Chios II, fig. 202:1585-1586) have their tops neatly differentiated like our 1588, which

appears to be exactly paralleled by Chios II, fig. 202:1585 and Poliochni pl. LXXII:f (evolved blue per.). These feet rather came from bowl-like cooking vessels.

Similar tripod feet are known from EM II Myrtos (Myrtos fig. 63 and pl. 45:B) and Troy Ia-c (Troy I pls. 223a:A17; 235:25-29; 237:33-35; 242:13-23; 245:34-37; 248:15,17-19; 249:39-40; 371:12-16; 406:36.1151; 412:25-26). The belly sherds 1298-1299 and 1304-1306 from Saros are identical in fabric to the feet fragments 1292-1293 etc., and most probably came from tripod pots too.

c. Handles

These all appear to be vertical and can be divided into three categories: (1) large flat or round-sectioned handles of storage jars; (2) strap-handles, simple or saddled, of deep bowls or jars; and (3) lug-handles (cf. Chios I, 203 f.).

785-786 belong to the large flat type of handle. Similar handles were found at Poli of Kasos by Hope Simpson and Lazenby (1970, 69-70). Our examples may be compared with fragments from Saliagos (Saliagos figs. 44:5 and 45:8) and Kalymnos (Furness 1956, pl. XVIII:58). 805-806 are round or oval in section and can be paralleled by Aspripetra fig. 83:2-3 and Furness 1956, 188, fig. 101 (Kalymnos). They were evidently set vertically on large jars or pithoi (cf. Chios I, pls. 38; 52; 72:1184,1194; 76:1283-1284,1292. Chios II, pl. 100, per. IV).

339, 804, 806-807 and 1557, as well as the handles of 1047, belong to a simple version of the second category. Normally it is impossible to tell precisely what kind of vessel they belonged to, for they are not found attached to adequately large sherds. It is almost certain, though, that most of them were placed at or near the widest part of the vase rather than on the rim. This thick ribbon-type of handle appears to be the most common throughout the LN and FN in the Aegean (cf. Mykonos, 395, 397. Aspripetra, figs. 83:1,4 and 84:2-3. Furness 1956, pl. XVIII:9. Vagnetti 1972-3, figs. 51 and 57:20. Vagnetti 1973, 2, fig. 1:18, pls. 1:2,12-13 and 11:2,9-10).

The saddle version of strap-handle is less common. Only two examples were found, 802-803. The type appears in burnished ware as early as EN I-II at Knossos and continues in coarse ware and rarely in burnished throughout MN and LN (Furness 1953, 129, pls. 19a:3; 32b:5, LN burnished, exact parallel to 802. Evans 1964, figs. 29:23; 24:19,20,23; 12:13,16,18,28,32; 31:17-22; 33:27; 36:23=pl. 52:9, LN ex. par. to 802). It is very common in LN Lasithi which provides close parallels to 802-803. Lasithi II, pl. V:16 comes from an incised burnished bowl. Lasithi III, pl. V:16 is coarse and exactly matches 802. At LN Saliagos a small proportion of the strap-handles is of the saddle version (Saliagos 39, fig. 44:11-13). The same appears to be the case on Rhodes where the saddle-handle is probably even rarer (Rhodes,

fig. 10). Final Neolithic examples are seen at Phaistos, normally from deep or shallow bowls of the coarse class A ware (Vagnetti 1972-3, figs. 57:16,21, 22; 59:2).

1201 is the only lug-handle recovered. It belongs to the horizontal unpierced version and is small in size, like those found on Saliagos, nine in number (Saliagos 38-39, pl. XXX top row; fig. 46:8,10-4,16-7; 10 is close par. to 1201). Similar examples come from Kephala (Kephala pls. 28:F=75:Z; 31:G=77:N; 34:A=81:A,G; 85:J-M) and Emporio (Chios I, 203 f., pl. 45:822). This kind of handle appears not to be very popular in this group of islands. The same was noticed in the Elmali plain on south-western Anatolia (Elmali 9).

d. Plastic Decoration

As in NL Crete, Late Chalcolithic Beycesultan, Elmali plain and other contemporary cultures plastic decoration is rare, and is almost entirely confined to large coarse vessels (Beycesultan 71. Furness 1956, 182). It consists of relief bands and knobs applied to the surface. They are arranged to make up simple patterns as in 785, which bears both raised bands meeting at an angle and half-knobs dropping from the horizontal band. On 787 a row of half-knobs runs along the rim outside. The single knob appears on the large strap handle 786 and one body sherd from Finiki bears an isolated knob. Future excavation will probably bring to light examples with rows of knobs below the rim (cf. Furness 1956, 182). The small pellet or button occurs on the cup 801, immediately below the rim.

Decoration with plastic ridges is already known from EN I Knossos, where several burnished examples can be paralleled with later and coarser fragments from Saliagos, the east Aegean islands and our 785. At Knossos they always occur on large open bowls and are often combined with scalloped rims enclosed within a curved moulding (Furness 1953, 114, pl. 29b:6-8. Evans 1964, pl. 49:2). Similar decoration is known from later contexts at Dimini and Sesklo (Tsountas 1908, 230-234, figs. 124-127) and from Emporio (Chios II, pl. 81:1564A,1564,1804-1807). These examples resemble analogous large sherds from Saliagos, which usually bear curvilinear and rarely straight plastic motifs with or without thumb impressions (Saliagos fig. 43:1-10). Yet this kind of decoration is very rare at Saliagos, whereas at Kephala on Kea it is most common (Kephala, 12-13, 99 n. 6, pl. 89:AW-BA). It occurs in burnished ware at MN Katsamba (BCH 81(1957)627, fig. 24) and at the Athenian Agora (Agora XIII, 26-27, 33-34, pl. 4:68). In the latter several coarse LN pithos fragments have plastic cordons arranged in higher and lower relief, more or less like our 785 (ib. 40-1, nos. 149-152, 155). Exact parallels to 785 but without knobs can be seen in Caskey 1972, pl. 76:P18 (FN from Paoura, Kea), in AJA 73 (1969)168, pl. 44a:3(LN Messenia), Furness 1956, pl. XXII:25-34

(upper cave Ayio Gala) and Tsountas 1908, 233-234, fig. 130 from Sesklo.

Plastic knob decoration also appears as early as EN I in Knossian fine burnished ware. Knobs are applied singly, in threes or in rows, often near the rim (Furness 1953, pl. 29b:7,9-10. Evans 1964, fig. 26:19; pl. 46:7). Some of these rims, still EN I, with scallops projecting horizontally and not above the rim (Furness 1953, pls. 29b:13-14; 30a:15) closely resemble our 787 with its scallop-like semi-knobs.

Knobs below the rim or lower down on the body of coarse pottery are seen at Magasa (Palaik. IV, 265), Poliochni black period (Poliochni, 70-71, pls. V:i and VI:v), Balikesir in the Troad (French 1961, 102, fig. 5:55,57), Emporio, periods X-III (Chios I, figs. 125:174; 127:186,180; 128:206; 162:841; 164:918,921; 166:971. II, 428, fig. 195:1368,1374,1384, all burnished) and Troy I (Troy I pls. 237:1-2,5 and 248:7-9).

Handle 786 with the plastic knob can be best paralleled at Emporio, where it occurred from period IX, became prominent in VIII and remained in evidence as late as V-IV (Chios I, 214-215 with refs., pl. 78:a). It is also closely matched on Kalymnos (Furness 1956, 189, pl. XVIII:5), at Agora (Agora XIII, 46, 205, pl. 13, coarse LN with a high horn-like knob), Paoura on Kea (Caskey 1972, pl. 76:P15) and on Saliagos (Saliagos fig. 45:8). This is the most usual way of decorating a coarse strap handle and is probably an adaptation of the horned type of handle (cf. Elmali 8).

801 is the only example with plastic pellet decoration. Its origin again may be sought in the EN I burnished ware of Knossos, usually large open pots decorated with rows of pellets below the rim. Their closest parallels are to be found in the central Anatolian Chalcolithic (Furness 1953, 114, pl. 29b:1-5). There is a similar decoration in Saliagos figs. 42:12-13 and 43:11-14. On Kephala pl. 89:AF-AH, AJ-AL, AM-AO there are rows of pellets on the pot's body. Kum Tepe fig. 18;531,556 (IB3) are cup rims like ours, with similar but more marked pellet. Even closer, with less protruding pellet, are rims from Poliochni evolved blue period (Poliochni pls. XXXIV:f,h; XXXV:a, elongated pellet horizontally placed) and Ayio Gala lower cave (Furness 1956, fig. 12:1).

With only one exception, the Neolithic and EBA pottery from Karpathos, Saros and Kasos is too fragmentary and insufficient for any conclusive interpretation to be made. Both the circumstances of its discovery and the bad state of preservation make it difficult to date this material or to establish its affinities with certainty.

From the preceding analysis, however, it becomes quite clear that the bulk of this pottery most likely belongs to the Final Neolithic period and is closely related particularly to contemporary material from Crete. There are also general similarities with relevant finds from the east Aegean islands, western Anatolia and the Cyclades.

Apart from the relatively few possibilities of comparing forms and other features with Aegean and Anatolian equivalents, the main criterion for assigning most of the material to the Final Neolithic is fabric; with only two exceptions (1553-1554), which may be Late Neolithic, no highly burnished sherds have been found in these islands. As a rule, the clay of the pottery is very coarse and gritty; and although it appears to have been baked in relatively high temperatures, it is almost invariably crumbly, rough-surfaced and generally badly finished. Most of the sherds seem to have been roughly smoothed, and brush marks as well as scorings and traces of a "scribble" burnish are visible on the surface. In Crete, the improvement of the firing techniques seems to have started from the Middle Neolithic, reaching a higher standard by the Final Neolithic; but the quality of the clay and manufacturing techniques degenerated somewhat, and the Cretan Final Neolithic ware mostly looks very much like that from the islands in question.

A second criterion are the pottery forms. With only one exception, no sherd has been discovered so far indicating that any of the pots had a flat base. This is very significant, for the Final Neolithic in Crete is characterized by rounded bases, in contrast to the earlier Neolithic periods when the flat base was most common, both in fine and coarse ware.

It is also worthy of note that narrow-mouthed forms, like our 1047, became widespread after the Final Neolithic, while open shapes were predominant during the previous periods.

I(B). MIDDLE AND LATE BRONZE AGE POTTERY

a. Summary of Pottery Characteristics

With few exceptions, this pottery is always made by wheel, and from the very beginning displays a strong and unmistakable Minoan character. The latter seems to imply an early Middle Minoan cultural, if not political, penetration to this island group, which evidently resulted in a general improvement in the living standard of the local population. The bulk of the pottery appears to have been locally made, but some Cretan imports are easily distinguishable. In this analysis imports will not be considered separately from the local products.

In contrast to the previous Neolithic and Early Bronze periods, the pottery now is much better made and more adequately baked. There is a greater care in the choice of the clay, which is normally well levigated especially in the small and decorated ware. The paste in the larger and usually unpainted pots is normally tempered with fine grits or small stones, which are either originally included in the clay and left there on purpose or are deliberately added.

The firing conditions seem to improve gradually along with the wheel-turning techniques. At the beginning of the Middle Bronze Age the pottery

appears to be still insufficiently fired, as shown by the occasional crumbly nature of the biscuit which often displays a dark-coloured core. This is normally accompanied by an incompletely finished and uneven surface, which indicates the use of a slow wheel often leaving irregular wheel-ridges. Sometimes the surface is so badly finished that it is difficult to decide whether the pot has been turned or not. However, a small proportion of the pottery was still made by hand, particularly some of the Middle Bronze Age household vessels.

At a later stage in the development of the pottery manufacture, which roughly coincided with the beginning of the Late Bronze Age a high technical quality has been achieved culminating in the Late Minoan period. With the exception of the cruder household ware, the clay is normally fine and well silted, often with a fine grit temper. It is usually fired hard to a colour ranging from light buff or pale yellow to reddish brown. As a rule, it gives a clear, sharp break. The core is normally grey or greenish in the larger or coarser pottery, while some examples display an overall silvery or greenish blue colour, which is the result of overbaking. Some fine pots, notably those from the Manolakaki's land at Pigadia, and several plain kylikes from Pigadia, Afiartis and Vonies, are of more porous clay, soft and chalky to the touch and light yellow or buff in colour. This is due to the different way of firing.

The surface is now better finished owing to the use of the faster wheel, which leaves more regular and finer wheel-marks. The latter are not showing in the finer and decorated pottery, for their surface is either polished, probably by wet-smoothing or burnishing or rubbing, or slipped by a dull light-coloured paint. The polished ware usually has a light buff or pale yellow finish on a buff or light brown clay ground. This finish is often shiny and less often looks like a thin slip, when sometimes it is not easy to decide whether it was applied or not. This fine, hard and polished or self-slipped fabric which is buff or greenish buff in colour, is typical of the imported Mycenaean and central Cretan pottery (PKU 23. Popham 1964, 14; 1974, 188). On the other hand the cream or yellowish slip normally goes with finely gritted red-brown or pink clay and easily flakes off. It is characteristic of east Cretan and particularly Palaikastrian ware (JHS 23 (1903) 248-9. PKU 23. Palaik. III, 226; IV, 281; VII, 216 n. 11. Kanta 1980, 289). It must be remembered, however, that buff or pale yellow and pink fabric is not lacking in Palaikastra, particularly in heavy coarse ware like the cooking pots.

In the MM-LM I period the painted pottery is very rare and the decoration, usually of matt purple or dark brown colour, has greatly suffered the action of the soil, weather conditions and ploughing. The range of motifs is very limited, and usually confined to simple bands and spirals or splash-and-trickle

patterns. The bulk of the pottery of this period is fragmentary, for it mainly comes from surface collection.

In contrast to the MM-LM I period which from the point of view of decoration appears to have ended in stagnation and decline (cf. PKU 74-76. Lasithi II, 28) the LM/LH III pottery, found almost exclusively in tombs, shows a high degree of technical perfection (cf. Gournia 46. Vrokastro 92. PKU 76. Popham 1965, 317). The paint is now better preserved and the colours used range widely from black to orange-red, with a lustrous shade of brown being the most popular colour. As we have seen, in most Cretan examples the paint is laid over a cream coating and easily flakes off. The Mycenaean examples are normally painted in red or orange. In both wares the decorative repertoire is rich and attractive,

As far as fabric is concerned the Middle and Late Bronze Age pottery can generally be divided into three categories: Fine ware which includes small and decorated vases of pure or slightly gritty clay. They are always light-faced and most often buff-coloured. Second comes a hard coarse pottery comprising medium and large-sized pots, mostly plain and less often decorated. They are also mainly light-faced and most often have a grey core, although dark-faced examples are not lacking. A very distinctive variant of this class of pottery is the so-called oatmeal fabric, which is applied to heavy, usually buff and often chalky, ware gritted with white, brown or grey stones. The third category is formed by heavy coarse and dark-faced ware, which is normally confined to cooking vessels and to a lesser extent to storage jars or basins. This fabric is always heavily gritted and rough-surfaced, occasionally with a black core.

b. Shapes

1. Conical cups (fig. 43)

As elsewhere in the Minoan world, conical cups of various types were the most common domestic vessels and form the great majority of the pottery found in this island group. These, like the MM-LM I carinated and rounded cups, are normally wheel-made of fine and well baked clay, which is usually buff in colour. The fabric is hard, with the exception of the cups from Manolakakis' land, which are mostly of porous and chalky clay. Occasionally the paste has a certain amount of grit or sand content and can even be heavily coarse. In the latter case the clay is red-brown or grey in colour, but the shapes are exactly the same as their more refined counterparts.

The clay has a wide variety of colour, ranging from creamy buff and pale yellow to pink and orange brown. Sometimes the core is light brown, greenish or grey.

The surface is usually uneven, with strong irregular wheel-marks both inside and out, which often form a distinct ridging. Sometimes these marked

ribs take the form of spiral flutings in the interior of the cup, probably produced by fingers during fashioning. This probably indicates the use of a comparatively fast wheel, which may turn out to have been introduced from MM IIIA, since it appears to be absent from MM IIB cups in Crete and particularly at Phaistos. After MM IIIB and particularly from LM I ribbing seems to become more irregular and more widely spaced (PM I, 589-590, figs. 433-434. PKU 10. Lasithi I, 69; II, 24-25, 28. Kythera 99 nos. 14-16, 230 nos. 6-8. Popham 1974, 186, 191 n. 8). However, the wheel-marks showing on the exterior gradually become neater and are more closely set (Popham 1965, 317).

Apart from the rough surface and irregularity of the wheel-marks, another indication of earliness for the conical and rounded cups are the straight marks left under the base by the cutting instrument, which was used to separate the cup from the wheel (nos. 270, 274-275, 279, 371, 373, 488, 490, 494-500; 840-847, 1489). It has been agreed that these straight striations suggest the use of a slow wheel. As they are almost never found in vases from later Minoan deposits, they may be regarded as a sign of an early date, perhaps MM I in Knossos and MM I-II in provincial workshops.

On the other hand, curved and more or less concentric or spiraliform striations made by the use of a string to separate the freshly made cup from the moving wheel, have been taken as a criterion for later dating (nos. 73, 284, 287, 326, 470-471, 1314, 1316, etc.). This kind of string-mark indicates that the wheel was now revolved faster. The fast wheel was probably introduced to Knossos from MM II, whereas in most provinces, including our island group, it was unknown before MM III.

It should be stressed, however, that string-marks do not offer absolute proof for dating. Concentric string-marks appear already in MM I contexts at Mallia, where straight and curved striations also occur in the same deposit. Moreover, the exact similarity of cups with straight and curved string-marks, as well as the occasional occurrence of straight striations in MM III and perhaps in even later contexts, suggests that the slow wheel was sometimes used even after the introduction of the fast one (Palaik. II, 301-302. PKU 10. PM I 89-90, fig. 434:b. Pendlebury 1928-30, 69. Lasithi I, 61-63; II, 25, 33. Sondages 56, 84-85).

The plastic knob inside the base normally goes with finely made conical cups, like most of those found in Manolakakis' land. This is another indication of lateness and of the use of the fast wheel (cf. Lasithi I, 63).

The great majority of the MM-LM I cups, the carinated and rounded ones included, are unpainted. Some of them have an overall dark wash on one or both sides (nos. 80, 85, 87-90, 210, 212, 215, 374, 1032, 1048, 1075). This paint is normally poor and thin and was carelessly applied, apparently by dipping the cup into the paint. It varies in colour from cherry red to mauvish brown. The dark wash appears to have been introduced to Crete from EM III, when some of the fine buff cups were coated outside by this wash, on top of

which a white decoration was usually applied. These cups are practically indistinguishable from their MM I counterparts. In the polychrome Kamares ware it appears in a more solid and metallic form, coexisting with a poorer red monochrome version in plain cups. The latter paint seems to revive in a degenerate form in MM IIIA, continuing into LM I (Palaik. II, 300, 303. Lasithi III, 23-24, 34. Catling et al. 1979, 19). It survives into LM III in a more compact form. Nos. 22, 368, 114, 118, 1027 and 1032-1037 are examples of this late use of the overall wash. 1026 has a thick, metallic black paint inside.

Decoration is very rare and is normally confined to horizontal stripes in added purple or reddish brown (cf. Kythera 98-99, 105-106, pls. 23:ε1-2,5; 25:ζ1-7, MM IIIB; fig. 54:ω21, LM I). These bands are applied either singly on the rim inside (nos. 80, 212, 215) or outside (254), or on the base outside, often combined with a rim band (86, 91, 114, 119-120, 136, 138, 216-217, 221-222). Rarely there are groups of horizontal bands, usually in threes, below the rim or round the base (83-84, 92, 1210). Even more rare are horizontal or diagonal stripes on the belly or splash-and-trickle decorations (82, 136, 138, 488, 490).

Unlike the rounded cups, most of the conical cups appear to be handleless. Nevertheless, several handled examples of the so-called Vaphio type, mostly fragmentary, and more handle fragments have been recovered (86, 118-135, 140-146, 212, 255, 265, 651, 960-961, 1074-1078). All handles appear to be of the raised above rim type. Their section varies from ribbon-shaped, which in Crete is normally seen in MM I cups, to rounded which are typical of the Cretan MM II-III and later. The first type of handle is normally joining the wall just outside the rim. The second type is set on at the rim and its lower attachment is carelessly modelled, unlike the first type which is perfectly welded into the wall. 651 has a metal-like boss on the strap-handle near the upper attachment (cf. Kythera pl. 22:δ57, MM IB-IIIA).

The conical cup had a long history both in Crete and on the islands under discussion. The shape goes back to LN and FN times (Lasithi II, pl. V:N21=fig. 7. Renfrew 1964, 118, pl. E4:2; also our 801). It continues without change into EM I and II-III (Lasithi I, fig. 13:515=pl. 10). By EM III the straight-sided cup with flat base is still hand-made and of the same fabric as before, but now a linear decoration is introduced in a yellowish white paint. When wheel-made at Knossos this kind of cup is dated to the MM IB, to which also belong the pedestalled and the tall tumbler-shaped cup. Some of the cups are still hand-made after the introduction of the wheel and this proves nothing, for so are many of the household vessels in Knossos, Lasithi and elsewhere even at MM III (PM II, 305, Lasithi II, 26). Our 1032 which is LM III is still hand-made.

In the following MM period the shape both in the fine Kamares and in

plain ware appears not to be very susceptible to change. There are a few variations conditioned by three main points: first, the profile which can be straight, concave, convex or convex-concave; second, the base which can be wide or narrow; and third, the depth which can be deep, medium or shallow (cf. Walberg 1976, 28-29). The shape also varies in the sharpness of the angle of the bottom. The earlier the cup, the sharper and neater the angle. A good deal of variation is also seen in the steepness and curve of the upper walls. On the other hand a remarkable depth points to an early date, whereas the shallow straight-walled cup is typical of the MM III period and is seldom found earlier (PM I, 588-589, fig. 432. Lasithi I, 63; II, 34. Palaik. IV, 288 n. 1).

By LM I the plain conical cup has become the hallmark of Minoan occupation both in Crete and elsewhere. It is most common in central Crete throughout LM I-IIIB, but did not have the same popularity at Palaikastro, where even in LM IB the handleless ogival cup or bowl was preferred (Palaik. VI, 283). The conical cup is now better proportioned and slightly higher than its MM III predecessors. Compared to the MM types, there is little difference in size and variation of shapes. There is a general tendency for the lip to be straight or to bend slightly inward (Palaik. VII, 221. Popham 1967, 339; 1977, 195). The depth tends to be moderate, although not reaching the shallowness of the MM III shallow type, and the base is rather narrow. This gives the great majority of the cups a strictly conical shape of medium size, contrasting with the rather taller and narrow-based or cylindrical medium-sized counterparts of the MM I-II period.

The extreme regularity of fabric and the typical curved string-mark in some cups of this period, best exemplified in the group from Manolakakis' land, make it certain that they were made on a really fast wheel. The latter was used in Crete from earlier times, definitely from MM III and perhaps even earlier (Lasithi I, 69. Hood 1961-2, 94).

During LM II-III the conical cup becomes progressively less common until it dies out probably by the end of LM IIIB. It is curiously rare in LM II-III tombs. Its survival into LM IIIC seems doubtful (Popham 1964, 17). There is a general trend from LM II onwards for the Minoan cup, like its Mycenaean counterpart (Analysis 52, type 204), to become larger and wider at the mouth in proportion to its height. It now usually has a rather more incurved rim than in LM I. Normally the walls tend to be thinner. Otherwise the fabric looks the same as before, although sometimes the manufacture would seem rather coarser than the LM I. Occasionally there is an overall wash of paint (Popham et al. 1974, 209. Palaik. VI, 283, 293; VII, 232. Broneer 1939, 381, fig. 63:b).

The conical cups found in the islands concerned can be grouped into four categories: (a) straight-sided, (b) concave-sided, (c) convex-sided, and

(d) convex-concave-sided. Since the bulk of the pottery is fragmentary, it is not always easy to be certain if a particular fragment belongs to a specific group or to another.

1(a). Straight-sided Conical Cups

This is the most common type of conical cup and occurs both in plain and handled form, the latter corresponding to the so-called Vaphio type of cup. Its walls are either strictly conical or very slightly curved. It is normally medium-sized, but a few examples with deeper or shallow profiles do occur.

1(a)a. Deep straight-sided Conical Cups

85-86, 97 and perhaps 951 belong to the rather deep, slightly curve-walled and broad-based type, which is often handled (85) and decorated with bands (86). They are exactly paralleled both in fabric and profile by Lasithi II, fig. 13:11 which is handled and dates from MM III.

74, 118, 215, 371, 953, 1387 and perhaps 655, 848 and 1074-1075 are fairly deep too, but strictly conical and rather narrow-based. Five examples are handled and their profile may correspond to a similar variety of Post-Kamarea straight-sided cups (Walberg 1976, 19, fig. 30, type 203, MM IIIB f. cf. similar stone cup in PKU pl. XXX;E1, LM IB.). Among these 215 has exact parallels from Kythera (Kythera figs. 54:ω29, MM IIIA and 39:ζ3, MM IIIB-LM IA) and Knossos (Popham 1977, pl. 31:g, LM IA). It also recalls other examples from the same islands and from Mallia (Kythera fig. 39:ζ1 and 3. Popham 1974, fig. 8:7, MM IIB. Sondages pl. XVI, 5:68 P1218 and 6:68 P2003, MM I).

74 and 1387 are closely matched by Forsdyke 1926-7, pl. XXIII:25; Popham 1974, figs. 6:10 and 8:4 (MM IIB) and Caskey 1972, fig. 11:F36. They also resemble Catling et al. fig. 17:18 which is MM IIIA.

371 is exactly paralleled by Catling et al. 1979, figs. 21:64 (MM IIIA) and 36:241,245-246 (LM IA). Papathanasopoulos 1961-2, pl. 63:d from Naxos looks similar too, both in fabric and profile.

1(a)b. Medium-height Straight-sided Conical Cups

80-82, 92, 210-12 and 263 are again narrow-based and strictly conical, but medium-sized. The handled version of this class corresponds to the Vaphio type (Analysis 52-53, type 224:1), which appears to fit in well with type 204 of the Post-Kamarea straight-sided cup (Walberg 1976, 29, figs. 21:246 and 30). 212 is handled and has exact counterparts from Mallia (Maisons III, pls. XIV:4 and XXXV:11, both LM IA), Palaikastro (Palaik. II, fig. 1:11, LM I) and Kythera (Kythera fig. 54:ω28, MM IIIA). 82, 92, 210 and 263 have a profile similar to 212, although their walls are straight and not slightly curved. They are closely paralleled by Maisons III, pl.

XXXVII:3 (MM IIIA); Palaikastro VII, fig. 13:NP133=pl. 61 (Sub-LM IA); Popham 1977, pl. 31:f and Kythera fig. 92:J13 which is LM I. 210 is hand-made and is coated with an overall brown wash. 80 is a finer, wheel-made version of 210 and is coated too with a similar wash outside. 82 and 92 are decorated by linear patterns (cf. Kythera pls. 23:ε1-2,5 and 25:ζ1-7).

83-84, 225, 373 and perhaps 957 belonged to deep and rather cylindrical cups of the Vaphio type. 83-84 are decorated with a group of three horizontals on clay ground. They are closely matched at Palaikastro and Knossos (PKU pl. XVI:c. Palaik. IV, 276, fig. 7, LM IA. Popham 1967, pl. 76:b). 225 with its bevelled base is exactly paralleled by Kythera fig. 38:δ15 (MM IB-III A) and by MM III Kamares ware from Phaistos (Levi 1976, pl. 220:i, 1,p,q).

93-96 are wall fragments which could well be from hole-mouthed jars rather than from cups. However, 93 compares well with Kythera pl. 23:ε11, which is decorated with brown diagonals, and 94 with Kythera pl. 23:ε13 which has similar adjacent stripes. 96 closely recalls 83-84.

1(a)c. Shallow Straight-sided Conical Cups

337-338, 492 and perhaps 493 belong to the shallow conical type. They are of the ordinary rough MM manufacture and shape, and bear the typical heavy ribbing inside. Under the base there are straight string-marks. 337-338 are closely matched by Catling et al. 1979, figs. 17:25 and 21:79 (MM IIIA); Kythera fig. 38:ε14-16=pl. 23, figs. 83:6,8; 84:21, all MM IIIB; Polinger Foster 1978, pls. 2 and 6:47-48 (MM IIB) and Lasithi 1982, fig. 8:34 (MM III). 492 belongs to an even shallower variety and is closely paralleled by Maisons III, pl. XXXVII: 2; Popham 1974, fig. 8:1 (MM IIIA) and Catling et al. 1979, figs. 21:86,147 and 23:176, all MM IIIA. 283, 688, 744, 1071, 1445, 1447 and 1451 are bases and base fragments from similar shallow cups, whereas 623, 689, 693, 1065-1066, 1216-1217, 1219, 1390, 1395, 1447 and 1450-1451 also come from cups and saucers of shallow conical profile. They could be compared with Catling et al. 1979, figs. 17:46 (MM IIIA) and 23:174 (MM IIIB), and Popham 1974, fig. 8:1.

This type of shallow cup was later made on a faster wheel, which gave the surface a better finish (Caskey 1972, 397, fig. 13:H25, LM IA-B. Kythera figs. 39:ζ32; 83:B10 and 84:C22, 24, MM III-LM IB). Our 19 and 1032 were found in LM IIIA-B tomb contexts. 19 looks very much like the earlier examples 92 and 210 and corresponds well with Kythera fig. 42:μ28 (LM IB) and FS 204 (LH I-IIIB). 1032 appears to be hand-made and is dark-washed. It compares well with FS 204 (LH I-III A); Popham 1964, figs. 1:b (LM IIIB), 9:4,1 (LM IIIA1) and Palaik. VII, fig. 22:11 which is LM IIIA2e.

1(b). Concave-sided Conical Cups

These are not very common and normally belong to the medium-sized and narrow-based type. Two versions can be distinguished: one straight or slightly curve-walled with splaying rim like 136, 139-140, 464-465, 489, 1321 and perhaps 274 and 490; and one more or less concave like 124, 138-139, 252, 264, 271, 327, 374, 826, 1400-1401 and perhaps 692, 694, 950, 954-955, 1050-1051, 1072 and 1452.

136 and 139-140 are similar in profile with Maisons III, pls. X:7 and XXXV:9 which is handled and dates from MM I-II. 464-465, 489 and 1321 have close parallels from Knossos (Catling et al. 1979, fig. 19:53,113,117, MM IIIA), Palaikastro (Palaik. VII, fig. 13=pl. 61:NP131-132, Sub-LM IA) and elsewhere (Polinger Foster 1978, pls. 2 and 6:43, MM III). 271 is very similar, both in manufacture and profile, to Lasithi 1982, fig. 7:31 (MM IB:IIIA) and Caskey 1972, fig. 8:D8. 374 has a very metallic appearance and is closely matched by BM Cat. A580 from Zakro, which is MM III. BM Cat. A578 is also very similar both in fabric and profile, as is Lasithi II, fig. 13:10 which is MM IIIA.

1(c). Convex-sided Conical Cups

These too are uncommon and occur either in small or in medium size. They can be deep cups like 98, 111, 274, 490, 627-629 and perhaps 841, 1054, 1062, 1189, 1325, or shallow cups and saucers like 624, 959, 1060, 1064, 1069-1070, 1073, 1213-1215, 1218, 1221, 1316, 1322, 1324-1326, 1389, 1391, 1489 and perhaps 493 and 497-498. 490 is decorated with a trickle pattern, which is exactly matched by Popham 1974, fig. 6:22 (MM IIB). 1070, 1218 and 1389 can be compared with Catling et al. 1979, figs. 17:25,37-38; 21:67,77,82, 145; 23:173,177, all MM IIIA. 1073 could be paralleled by Catling et al. 1979, fig. 17:44 which is also MM IIIA.

1(d). Convex-concave-sided Conical Cups

With this group are classified conical cups or saucers with a concave lower and convex upper body, with incurved rim. As a rule, they are of medium size but smaller versions do occur. Most of them roughly correspond to Walberg's type 181 of the Classical Kamares and Post-Kamares variety (1976, 28-29, MM IIB-III A). They can be divided into two groups, deep on one hand and open shallow on the other. The latter mainly consists of saucers.

1(d)a. Deep Convex-concave-sided Conical Cups

267, 488, 491, 651, 828, 838, 952, 1049, 1091, 1210, 1314, 1367, 1399, 1453-1454 and probably also bases 73, 116-117, 222, 266, 275, 280, 326, 623, 694-696, 746, 840, 844, 954-955, 1050-1051, 1072, 1172, 1190, 1211, 1315, 1391, 1393, 1397 and 1449 belong to the first category. 488, 491, 1210 and 1367 have roughly the same S-shaped profile which is closely paralleled by Lasithi I,

fig. 14:530 (MM I); Palaikastro II, fig. 14:1 (MM IB-II) and Polinger Foster 1978, pls. 2 and 6:46 which is MM IIB. 488 and 1210 are exactly matched in profile by Early Palatial cups from Mallia, which also bear splash decoration and rim bands (Mallia 4, pls. VI=XXXVIII:8638,8640-8641,8643-8644). 491 is similar to Lasithi 1982, fig. 7:30 (MM IB-IIIA), both in profile and manufacture. But 1210 - which however may have come from a small jar rather than from a cup - with its fine fabric may link up with the evidently later 267, 1049 and 1091 (cf. PM I, fig. 432:a3, MM IIIA. Palaik. VII, fig.13=pl. 61:NP136, Sub-LM IA. Popham 1977, pl. 31:b, LM IA. Polinger Foster 1978, pls. 2 and 6:44, MM III). 1454 has close MM III counterparts from Mallia (Maisons III, pl. XXXVII:6) and Palaikastro (Palaik. VII, fig. 13=pl. 61:NP134). 1314 compares well with Maisons III, pl. XXXVII:9 and Kythera fig. 55:ω97, both LM I.

1(d)b. Shallow and Broad-mouthed Convex-concave-sided Cups

To the second class are ascribed 829-834, 840, 842-6, 956, 1317-1320, 1393 and probably also bases 143, 622, 654, 690-691, 743, 745, 747, 779-780, 1063, 1067-1068, 1191, 1220, 1320, 1327, 1370, 1392, 1394, 1448. 829-832 with their corresponding bases 840 and 842-844 have an almost identical profile, which closely corresponds to internally smooth or ribbed examples from Knossos, Lasithi and elsewhere, mostly dating from MM IIIA-B (Catling et al. 1979, figs. 17:22; 21:82-83,85; 36:248. Lasithi I, fig. 14:550. Lasithi 1982, fig. 8:41, MM III- LM I. Polinger Foster 1978, pls. 2 and 6:45, MM IIB-III). Bases 780 and 1317-1320 are well paralleled by Catling et al. 1979, fig. 21:68,83 (MM IIIA) and Polinger Foster 1978, pls. 2 and 6:49 which is MM IIB. The plastic pellet on 651 is a sign of earliness. This class of convex-concave cup appears to survive down to the LM IB period (Kythera fig. 83:B11. Caskey 1072, fig. 13:H22).

2. Carinated Cups (fig. 43)

Only a few examples of carinated cups were found, all in a fragmentary state. They seem not to be very common in the islands concerned. The type has always been described as very metallic in character, But carination is a common feature even in hand-made pottery due to the technique of building up a pot (Analysis 54 and 58 with n.3. Walberg 1976, 36). As most of our examples show, the carinated cup probably developed out of the simple conical cup, especially the concave and convex-sided variants, although some inspiration from semiglobular EM III or from bell-shaped cups cannot be ruled out. Metallic influence seems very unlikely (Mochlos 1909, 292. Walberg 1976, 36).

This kind of cup is always made of fine clay and appears in Crete as early as EM III/MM IA with a strictly vertical lip and usually high upper and low lower part (Mochlos 1909, fig. 13:4. BM Cat. A472-473. Kythera 95 with

refs.). From MM IB its upper part assumes a definite concave form (Lasithi I, 62; II, fig. 13:5. Walberg 1976, 30. Levi 1976, 130:u). As a rule, the carination gradually moves a little higher until it reaches the middle of the vase by MM IIIB-LM I (cf. our 153, 213 and 223-224. Palaik. II, fig. 1:10. Levi 1976, pl. 212:n). Fine examples in the Kamares style have been abundantly produced by Palace workshops from MM IB-IIIB (Zois 1965, 72, pl. 83:8388. Walberg 1976, 30 f.).

Our examples are of the ordinary pure and mostly soft fabric used in domestic cups. The earliest is certainly 1333, whose profile appears to correspond to Walberg's type 213 of the Classical Kamares carinated cups dated to MM IIB-IIIA (1976, fig. 30). These cups are of medium height and have a low convex lower part, a high concave upper wall and a raised handle. 1333 could be paralleled by Maisons II, pl. XXV:4 (Early Palatial); Sondages pl. XVII:1 (MM I); Lasithi I, fig. 14:549 (MM I-III); Lasithi II, fig. 13:6; Lasithi 1982, fig. 7:27 (MM IB-IIIA), and Kythera figs. 38:δ1; 54:23-24; pl. 74:76 (MM IB-IIIA).

153, 213 and 223-224 have both lower and upper part more or less concave and the carination occurs at the middle of the profile. They belong to a late and degenerate version of the Classical Kamares carinated cup, which apparently was exclusively for domestic use (Walberg 1976, 30). These cups have a softer profile which gradually leads to an even softer carination as in our 254. The latter is nothing but an intermediate variety between the carinated and the bell-shaped cup. The carinated cup with soft outline is confined to MM IIIB-LM I.

153 has a thin groove along the carination outside, which may be an influence from metal prototypes. 213 has brown rim bands inside and out. 223 is dark-washed all over and 224 inside, whereas outside there is only a rim band. These cups have close counterparts from Knossos, Mallia and elsewhere (PM II, fig. 176:5, MM IIIB. Maisons III, pls. XXVIII:1b, XXXV:3 and XL:1h, MM III-LM IA. Palaik. II, fig. 1:10-11, MM IIIB-IA; VII, fig. 13:12= pl. 61:g, LM IA. Hood et al. 1964, fig. 20:A, LM IB. Caskey 1972, fig. 11:F38, MM III). 254 is dark-washed inside and has a rim band outside. Its profile looks more rounded than angular and it could be easily classified as convex-sided or bell-cup. It is exactly paralleled by Kythera figs. 39:ζ33 (MM IIIB-LM IA), 42:24 (LM IB), 54:ω21 (LM IB) and Caskey 1972, fig. 11:F37 (MM III).

3. Rounded Cups (fig. 43)

The round-bodied cup with a flat base was first introduced to Crete in EM II, (e.g. BM Cat. A422). It was originally hand-made and roughly finished, but often slightly polished or dark-washed. The type carries on afterwards throughout Minoan times. There is a general tendency to become shallower and more rounded, acquiring a splaying and later an out-turned rim.

Our examples can be divided into (a) semiglobular or rounded with straight vertical rim, (b) rounded with internally bevelled rim, (c) bell-shaped, (d) rounded with spreading rim and (e) rounded with everted rim.

3(a)a. MM III-LM I Semiglobular or Rounded Cups with Vertical Rims

With very few exceptions this type has its lower part concave and the upper part convex with a slightly in-turned rim. It is thus a more rounded version of the conical convex-concave-sided cup, from which it is often indistinguishable. When occurring in a deeper form it could also be relevant to the so-called ogival cup.

Only a few examples have a rounded lower body and a strictly vertical lip (nos. 277-278, 467, 1328 and probably bases 281, 284, 466 and 468). They are closely matched by Kythera fig. 41:λ4 (painted LM IA); Palaikastro II, fig. 1:5,5a (prob. MM III); Lasithi 1982, fig. 8:40 (MM III-LM I). They may correspond to the Helladic FS 236.

The normal variety has a slightly raised base and rounded upper walls with a slightly in-curved rim. This form probably started in MM IA with a shallow, coarse and hand-made variety displaying a marked base. In the following period MM IB it was usually still hand-made and gradually became deeper, although the shallower type persisted, particularly in the Kamares ware. It occurs both in the plain and the decorated form. In subsequent periods there was a tendency to become less rounded, although it seems not to be the case with provincial workshops (Levi 1976, pls. 35, 46, 144-145 and 216). During LM I the type occurs in two varieties: one shallow and one deeper. To the first appear to belong our 285, 470-471 and 469. These are closely paralleled at Knossos (Catling et al. 1979, fig. 17:22,23,43, MM IIIA), Kea (Caskey 1972, fig. 13:H22, LM I), and Kythera (Kythera figs. 41:016 and 86:42, shallow conical LM IA). 470 with its marked base can be compared with PM I, fig. 432:b which is deeper and dates from MM IIIB.

To the deeper version belong rims 1328-1331, belly fragment 1453 and bases 279, 282, 286-287, 463, 1223, 1323, 1396, 1444 and 1446 (cf. Buttler 1935-6, fig. 54, LM IA. Kythera figs. 42:30; 89:39, LM IB and 84:46, LM IA. Caskey 1972, fig. 13:H23, LM IA-B. Popham 1977, pl. 31:h, LM IA). Some of the base fragments, however, may have come from cups with flaring rather than straight rims (cf. Catling et al. 1979, fig. 37:254, LM IA). The rims are closely matched by Popham 1974, fig. 8:2 (MM IIB-IIIA) and Catling et al. 1979, fig. 18:99 which is MM IIIA. To these rims appear to correspond bases 1223, 1323, 1396, 1444 and 1446, which are closely paralleled by Maisons III, pl. XL:li (MM III-LM IA) and Catling et al. 1979, figs. 17:23,36,45; 18:103, which are MM IIIA. Bases 279, 282 and 286-287 may be slightly later in date (cf. Buttler 1935-6, fig. 54 and Caskey 1972, fig. 13:H23).

3(a)b. LM III Rounded Cups with Vertical Rims

The deep variety of semiglobular cup carries on into LM III with fine examples of various sizes, plain, monochrome or decorated, handleless or with handles. 66 and 368 are small handleless examples, which appear to be typical of east Crete and particularly of Palaikastro, from where they may have been imported. This type of cup seems to be a later version of the deeper ogival cup, which originated in LM I and at Palaikastro was more popular than the conical cup. The ogival cup was usually lipped and handleless, but handled examples and others with a straight rim, like our 66 and 368, are not lacking. From LM IIIA the form tends to become shallower and more rounded (PKU, 61-62, fig. 49. Palaik. VII, 221; cf. Furumark 1950, 173, fig. 10:183-184. Buttler 1935-6, pl. 67:4). Our examples are exactly paralleled at Palaikastro (Palaik. VII, fig. 22:NP144-146, 182, LM IIIA2e.) Mirsini and Farmakokefalo in Siteia (Kanta 1980, pl. 106:2. Hag. Nikol. Mus. 1949-50 and 7163).

The handled LM III version is represented by numerous plain and decorated examples, which are larger in proportion and have a more straight upper part. The latter feature remained in vogue until the end of LM III (cf. Analysis 51). These cups bear a little resemblance to FS 214, but are rather carinated in contrast to their Mycenaean equivalents (cf. Mee 1975, 327).

1025 and C59-64, all decorated, are more or less identical in fabric and profile. Fragment 1044 probably belonged to a similar cup. The shape of 1025 is closely paralleled by Popham 1979, figs. 3:6 (LM IIIA2) and 5:4 (LM IIIB), and Kanta 1980, pl. 13:1 (LM IIIB). The decoration consists of a chain of concave-sided and cross-hatched lozenges, which are reminiscent of the more elaborate and later in date FM 73:5-6 (LH IIIC1). Although this design may ultimately have been of Mycenaean derivation, it rarely occurs in a chain on Mainland cups or bowls. The lozenge chain appears to be a Cretan feature and occurs in various forms; hatched or cross-hatched, simple or with filling ornaments. It seems to be confined to the LM IIIB1 period, occurring chiefly on bowls and cups, although a few examples are known from the following LM IIIC period (Analysis 209 and 413. Popham 1965, 324, 326-327; 1967, pl. 88:a17; 1979, figs. 6:6 and 7:27-28. French 1967, figs. 6:36=pl. 82:b and 11:22, LH IIIB1. AD 25, B2 (1970) pl. 418:6). Our example is exactly matched by BM Cat. A728 (LM IIIB1) from Palaikastro, the only difference being that the lozenges on the latter are straight-sided. It is also closely matched by Kanta 1980, pls. 16:3 and 20:3 (LM IIIB/C). On C59-60 the linked whorl-shells (FM 24:d and 24:2-3) are without half rosettes, normally accompanying the Mycenaean variants. Both cups should be LM IIIA2 late or IIIB1 (Analysis fig. 311. AD 6 (1920-1) appendix, 158, fig. 5, LM IIIB. Popham 1965, fig. 4:16; 1967, fig. 6:7. Mee 1975, 327. Georgiou 1979, pl. 61:1-2, LM IIIB1. Kanta 1980, pls. 41:2, LM IIIA, and 144:3).

C61-63 are decorated by spirals with overlapping coils, which roughly correspond to FM 46:52 (LH IIIA1-B with a tangent touching the next spiral) and 46:53 (LH IIIB, spirals not linking). These motifs occur too on our 15, 48 and 1270. They were probably derived from the alternating scroll design of LM I, which later developed into a pattern consisting of identical but not alternating scrolls. The latter finally turned into simple tangent line spirals like our examples (Analysis 179-180. BM Cat. A729:2 from Palaikastro. Maisons II, pl. LXII:a. PKU pl. XVI:e. Popham 1965, 338, fig. 6:31-33; 1967, figs. 1:6; 5:4 and 6:3. Palaik. IV, fig. 12:b. Mee 1975, 327. Kanta 1980, pls. 29:8 and 144:1). The difference from the Mycenaean equivalents is that the external coils of the Minoan spiral are thicker with a tendency to become gradually thinner. These vases should be dated to LM IIIA2/B1 (transitional).

Finally, C64 is decorated with antithetic tongues slightly reminiscent of FM 19:32,34-35,37 (LH IIIA2). There is little doubt that this is Minoan too (cf. Kanta 1980, pl. 31:1, LM IIIB).

1028-1031 and C51-55 are handled cups identical in fabric and profile, which must be also LM IIIA2/B1. They all bear a small pinched-out pouring lip and their shape is closely matched by Popham 1979, figs. 3:6 and 6:1 (LM IIIA2-IIIB). 1028-1031 and C51 are decorated with three scallop-like blobs of paint on the rim inside and out, combined with trickle patterns. This sort of decoration goes back to MM I and II (Mochlos 1909, 283 and our 1405), but it became common in LM III, particularly at Palaikastro, where it mainly occurred on the so-called bath-bowls (PKU 61, 86, 111, fig. 68:2. Palaik. II, 315, fig. 14:2. Smee 1966, fig. 1:5=pl. 34:c, LM III2 or later). There is a similar blob decoration on our jug 46 and on goblet C50, whereas C54 appears to have a different pattern of blob decoration.

C52-6 are of similar profile, but their clay is slightly darker and all except C55-56 have an overall dull black paint. They may well be of local manufacture.

3(b). Rounded Cups with flat internally bevelled rims

This type of cup is represented by a small group of fragmentary specimens, which mainly come from Palio Mitato on Karpathos (complete profile and rims 494-495, 499-506, 839, 1369 and probably also bases 493, 496-498). They are either semiglobular or, more often, convex-concave-sided. The lip is normally broader on its top and usually splaying (494, 502-504) or everted (505, 839). These cups lack convincing parallels elsewhere, but there are some similarities with Cretan conical or rounded equivalents. Catling et al. 1979, figs. 17:20 and 21:73 (MM IIIA) have a lip similar to 495 but slightly broader, whereas fig. 37:256 (decorated LM IA) is fairly close to 494. Also similar to 495 is Kythera fig. 38:e8 (decorated MM IIIB), although it has a flat but not bevelled lip. 839 which is pretty close to 505 has a peculiar broad and

everted lip, which is slightly reminiscent of an early MBA jar rim from Ayia Irini (Caskey 1972, fig. 9:D48) and finds exact parallels in shallow conical cups from Knossos (Catling et al. 1979, figs. 17:46 and 21:141. both MM IIIA). A similar lip, but in-turned rather than out-turned, can be seen in Buttler 1935-6, fig. 5:3 (conical LM IA) and Catling et al. 1979, figs. 22:138 and 23:161 (MM IIB-IIIA lamps). 1561 has a flat lip and could be classified with this class of cup.

3(c). Bell-shaped cups

This small group could also be considered as a variant of the ogival type of cup (cf. PKU fig. 49. Analysis 49. Furumark 1950, 173, 200-201, fig. 10:183). It has a slightly splaying rim and is invariably handleless. Rims 72, 376, 738-740, 748, 835, 1402-1403, 1455-1456 and perhaps 70, 72, and base 747 which was found together with rims 738-740, belong to this class. Their shape appears to correspond to FS 284, which includes both cups and bowls. Rims 739-740 and 1403 find exact parallels at Knossos and Palaikastro (PM I, fig. 432:a, MM IIIA. Palaik. IV, fig. 7:a,b, decorated LM IA), as well as on Samos (Buttler 1935-6, pl. 67:4, LM IA) and Lasithi (Lasithi 1982, fig. 8:37 (MM III-LM I). Rims 70, 376, 738, 835, 1402 and 1455-1456 are exactly paralleled by Kythera figs. 38:18 and 55:38, both MM IIIA. They also resemble Lasithi 1982, fig. 9:47 (LM I).

21 apparently belonged to an LM/LH IIB version of the bell-cup, which reappears in Crete in the later stage of LM IIB probably due to Mainland influence (cf. Analysis 51). The profile corresponds well with FS 214 (LH IIB) and Popham 1970, fig. 1:3 (decorated LM IIB).

3(d)a. MM III-LM I Rounded Cups with Spreading Rims

As with the previous class, these cups are usually convex-concave-sided and always handled. The shape was already popular among the polychrome Kamares ware (e.g. PKU fig. 9, MM II), but became more common during MM III-LM I, both in fine decorated (e.g. PKU pl. XVI:a, LM IA and Palaik. II, fig. 13, LM IB) and plain form. Our MM III-LM I examples are normally unpainted and of crude fabric. Two versions of this class can be distinguished: first, a comparatively large one with vertical upper walls: and second, a more narrow-mouthed and deeper variant with an S-shaped upper part.

To the first category belong rims 377-378 and 1048. They are matched up with Kythera fig. 55:ω36 (decorated MM IIIA). With the second variant are classified profiles and rims 151, 379-382 and probably also wall fragments and bases 115, 147-152, 221, 253 and 383-392. 379-382 find exact parallels in fine decorated examples from Kythera (Kythera figs. 42:10, LM IB and 87:1, MM IIB). Rim 151 is of finer fabric and is decorated with a group of three horizontal stripes below the rim. It is exactly matched by Kythera fig. 42:8 (LM IB) whose base is exactly like 221, which may belong with 151. This

torus base is similar to our 115 and 147. All three are closely matched by Kythera fig. 83:C9 (LM IB). 152 has a band of paint round the handle attachment and may well have belonged to a cup like 151. The latter applies to 149 too. 148 appears to belong to a shallower cup similar to Maisons III, pl. XL:1b. Base 287 is closely matched by Palaik. VII, fig. 13:11,13 (Sub-LM IA) and may have belonged to an ogival cup.

Rims 506-507 should both be classified with the flaring type, although 507 appears to have an everted rather than a splaying lip. They are closely paralleled, both in profile and wall-ridging, by Catling et al. 1979 figs. 18:93 and 19:111(MM IIIA) and to a lesser extent by Lasithi I, fig. 14:538.

3(d)b. LM III Rounded Cups with Spreading Rims

As at Knossos and elsewhere in Crete (Popham 1970, 197), LM III rounded cups with splaying rims are more common than their straight-sided equivalents. Thirteen examples are known from Karpathos, namely five from Pigadia and six from Diafani. They have a handle of thin oval section and all appear to be Minoan. With the exception of 369, 1016 and 1020 they are deep-bellied. All the decorated examples, like those of the straight-sided version mentioned above and the bridge-spouted ones which are described below, are nearly identical in fabric, with buff or pinkish buff clay, fine yellowish surface and shaded brown paint which usually flakes off easily. They are also provided with encircling bands inside and occasionally with a bottom spiral or a single large dot. Most of these cups form a homogeneous group and were probably products of the same workshop, which would possibly be placed on east Crete.

1022, C65 and C66 seem to be identical in profile, although the latter which is undecorated and displays a pinched-out pouring lip, is a little more rounded at its lower part and its handle is set on the rim. The shape roughly corresponds to FS 213 (LH IIB-III A1), which has an everted lip, a low, slightly off-set base and the handle set on the rim. Our version is purely Cretan and appears to be a development of the LM I handleless ogival cup (cf. Palaik. II, fig. 1:12-13; VII, 232, fig. 22:8. PKU, 61-62, fig. 49). 1022 and C65 are both decorated with linked whorl-shells (FM 24:f, LM IIIA1 and 24:d, LM IIIA2 respectively). On 1022 there are papyrus derivatives as filling ornaments. They evidently derive from a voluted LM II version (FM 11:f), which gradually developed into a more degenerate form, often indistinguishable from the bivalve shell or flower motif (Popham 1965, 340. Palaik. VI, 291, figs. 8:k-1 and 9:h,i. Kanta 1980, figs. 130:2 and 140:1. cf. also our 985). All three examples date from LM IIIA1/2.

17, 1023 and 1272 have an almost vertical and slightly spreading upper body. 1023 is exceptionally deep and can be matched up with LM IIIB-C examples from Palaikastro (Palaik. VI, fig. 8:b-c), Knossos (Popham 1970, fig. 1:4),

Chania (AD 21, B2 (1966) pl. 465:a; AD 25, B2 (1970) pl. 411:b) and elsewhere in Crete (Popham 1965, fig. 6:37). It is decorated by multi-stemmed and tongue-shaped spirals alternately arranged (FM 19:35, IIIA2 late). This motif probably derived from Cycladic rather than Helladic antecedents (cf. Phylakopi pls. XIII:13 and XXIV:5). It always occurs on bowls and cups or kylikes, arranged in groups either vertically, pendent or standing (Palaik. VI, fig. 9:w, LM IIIB/C. Popham 1967, fig. 7:6, LM IIIC) or horizontally (Popham 1967, fig. 6:6, pls. 87:e and 88:d, LM IIIB; 1970, figs. 1:3 and 2:21; 1979, figs. 6:1,3 and 7:20-21). The profile of 1272 is exactly paralleled by Popham 1979, fig. 5:3-4 (LM IIIB from Cyprus) and to a lesser extent by Popham 1965, pl. 83:d. It is painted with a Minoan version of adder mark FM 69 (Mee 1975, 329).

17 has a profile similar to 1272 and is decorated with concentric arcs (FM 44:2, LH IIIA2e.). The motif is of LM II derivation and occurs on LM III pottery too (Analysis 44. AD 3 (1917) fig. 123:b, probably LM IIIA). Fragment 52 comes from a cup which is very similar to 1272, both in profile and decoration.

1024, 1027 and C57-58 appear to be identical in profile, which in contrast to the straight-sided cups previously described, is more rounded and has a more spreading rim. The shape corresponds to FS 214:d (LH IIIB). 1024 and C57 are decorated with an identical wavy line slightly reminiscent of FM 53:5-6 (LH IIIA2). The filling ornament on 1024 is FM 10A:c (LM II-III A). This is most common in LM Crete (e.g. Popham 1979, fig. 4:1, LM IIIA2). On C57 the filling ornament consists of a papyrus derivative, which also occurs on 987 and 1013. C58 is decorated with linked whorl-shells of Minoan type (cf. FM 24:d, LM IIIA2) exactly like those on goblet C49. In Minoan terms they would be classified as alternating arcs forming a degenerate variant of papyrus derivatives. Their internal set of concentric arcs is surmounted by a sacral ivy-like arc (cf. FM 12). This cup seems to be LM IIIA2 late too. 1027 is made of light brown clay and is monochrome. It is probably of local manufacture and dates from LM IIIA2 late-B1.

369, 1016 and 1020 belong to a shallow type corresponding to FS 220 (rather LH IIIA2/B, see Analysis 50), although 1016 is also close to FS 219 (LH IIIA1). The latter may be Mycenaean, but the other two are definitely Minoan as their fabric and overall coating suggest. The possibility remains that all three are local products made under both Minoan and Mycenaean influence.

3(e). Rounded Cups with Everted Rims

These cups too are either semiglobular or more often convex-concave-sided. They are characterized by a marked out-turned lip. As with the rest of our early rounded cups, the handles of the MM-LM I specimens are normally flat

and always stuck on the wall, not welded in. The MM-LM I specimens can be divided into three groups: first, those with a short everted lip; second, cups with longer out-and-up turned lip; and third, cups with an off-set, almost horizontal lip which can be short or longer.

3(e)a. Rounded Cups with Short Everted Lips

To the first category belong rims 508-510 and 512. They all appear to fall within the rather deep type of cup and are perhaps assignable to LM I rather than to MM III. Lasithi 1982 fig. 9:43 (LM I) is very similar to these rims in profile.

3(e)b. Rounded Cups with long out-and-up turned Lips

With this group are classified rims 71, 270, 288, 513-518, 521, 838, 1332 and 1404. These can be sub-divided into two groups. One group consists of a few well made specimens (71, 270, 513-514, 838), which are deeper and more globular than the rest. Their lips are more clearly and sharply everted and this may be a sign of lateness, attributing our examples to LM I (cf. Kythera 107). There is an overall dark wash on 71, whereas 270 has a straight string-mark. These cups are closely matched by Lasithi 1982, fig. 9:45 (LM I); Catling et al. 1979, fig. 19:111 (MM IIIA) and Kythera figs. 38:δ12 and 55:ω39, 74 (MM IB-IIIA). Kythera figs. 40:η21 and 41:λ3 (decorated LM I) are also alike in profile. To the second sub-group are ascribed nos. 288, 515-518, 521, 1332 and 1404. These are less carefully made and slightly shallower, while their profile is convex-concave rather than semi-globular. The shape corresponds to Mallia types A and B (Maisons III, 83-84), which are always fine and decorated. Cruder and plain examples like ours probably date from MM III or even earlier (cf. the profile of BM Cat. A514-517, MM II), as confirmed by the straight string mark on most of the bases and perhaps by the occasional dark wash. 515 has a plastic rim pellet exactly like 651. Our specimens have many close parallels from Crete and elsewhere, all decorated. 517-518, 1332 and 1404 have a little deeper profile and a more or less rounded lower part. They link fairly closely with PM I, fig. 186:c (MM II polychrome Kamares); Maisons III, pls. XV:1,5=XXXV:4,6 (LM IA); Lasithi 1982, fig. 9:44,46 (LM I); Caskey 1972, fig. 11:F47 (MM III); Forsdyke 1926-7, fig. 23 (LM IA); Kythera figs. 39:ζ24; 44:ξ16 and 56:102-103, 122 which are LM I. 288, 515-516 and 521 have a shallower profile and are closely paralleled by Maisons III, pls. XV:2=XXXV:5 (type B, LM IA); Kythera fig. 39:ζ30; 41:θ7; 42:1,3 and 43:1-2, 12 (all LM I) and Popham 1977, fig. 1:A (MM IIIB).

3(e)c. Rounded Cups with Off-set, almost Horizontal Lips

The rest of the cups with everted rim belong to the third class consisting of specimens with an off-set, almost horizontal lip, which is probably due to imitation of metal prototypes (Analysis 49). 511, 523, 525-526 and 837 are

short-lipped cups. They all appear to be deep-bellied and are exactly paralleled, particularly no. 523, by Kythera fig. 44:ξ1 (decorated LM IB). 519-520, 522, 524, 527 and 836 are rather long-lipped, but have a deep profile identical to the previous ones. 836 has an extremely thin wall. Ring-base 537 would have belonged with one of the cups mentioned above.

3(e)d. LM III Rounded Cups with Everted Lips

Seven LM III cups and perhaps fragments 686-687 belong to the rounded and everted-rimmed type. 18 and 1026, both fragmentary, are deeper than the rest and have an almost straight lower belly tapering toward a flat base. There are LM bowls with such a profile as well. They have a diameter more than 145 mms. as opposed to the cups, which are normally 110-130 mms. wide (Popham 1965, fig. 1:D). Our examples, however, seem to be certainly cups, as confirmed by the markedly everted lip (cf. Popham 1970, 197), the decorative motifs and the pulled-out pouring lip on 1026. The shape is typically Minoan, recalling the earlier Mycenaean type FS 213 (LH IIIA1), which is deeper and has a slightly raised base. Of exactly similar profile is AD 25, B2 (1970) pl. 408, which bears a festoon zone not unlike that on 1026, but with different filling ornaments. 18 is monochrome with an overall reddish brown paint inside and out. A similar coating, black in colour, covers the inside of 1026. The latter is of typical Palaikastrian fabric, as both clay and creamy slip suggest. The festoon pattern which occurs too on piriform jar C12 and on 1267, is closely matched at Episkopi in Ierapetra (Kanta 1980, pl. 121:1, LM IIIB, without chevrons). Examples from Gournia, Mallia and elsewhere lack the internal concentric arcs, and occasionally have different filling ornaments such as U-shaped patterns, cross-hatched triangles and trefoils (Gournia, pl. X:5, Maisons II, pl. LXV:b. Popham 1967, figs. 5:14, LM IIIA and 6:13, LM IIIB. Borda 1946, pl. XXXIII). Both cups appear to date from LM IIIA2 late.

C67-70 and 1021 are side-spouted cups, which all appear to be Minoan, although the general shape, particularly the shallow one of C67-68 and 1021, has Mycenaean parallels which go back to LH IIB and may have been inspired from metal prototypes (FS 237, 249-250 and 253. Analysis 46. AD 3 (1917) fig. 138:2,3 from Thebes. Charitonidis 1961-2, 58). Unlike our examples which are provided with a bridge-spout, the Mycenaean types normally display a trough-shaped spout which, however, is sometimes seen on Cretan cups from as early as LM IA (Gournia pl. D:2). Another feature of the Mycenaean specimens is the marked upward sweep of handle which is noted on C67-70, and may be due to Mycenaean influence (cf. Hood et al. 1958-9, 246-247). All the Karpathian examples seem to have a ringed base, although we are not absolutely certain about C67-68. This is a Minoan feature too (cf. Catling 1968, 127, 129). Four specimens and most probably the fifth one too, C68,

bear strokes of paint across the lip flange, which is another Minoan characteristic.

C69-70 belong to a deeper and straight-sided variety, not unlike the previously mentioned type of simple cup with vertical rim (3a). Their profile compares well with FS 245 (LM IIIA2) which is spoutless, and with Gournia X:29 which is trough-spouted. C69 is monochrome with bars in added white on the lip. C70 has a band of multiple-stem tongues outside, which are exactly matched by our 1023 (FM 19:35, LM IIIA2 late and 19:53, LM IIIC1), but in a different arrangement. Inside, besides the encircling bands, there is a stylised octopus not unlike those on the amphoroid craters 988-989 from Vonies, although the former has only four tentacles, evidently due to the limited space. This motif appears to be a later version of FM 21:4 (IIIA2e.). Both cups are to be attributed to the transitional stage LM IIIA2/B.

C67-68 and 1021 belong to a shallower variety roughly corresponding to FS 253 (LM IIIB). In Crete the type of the simple shallow cup with an everted rim, tapering lower body and raised base goes back at least to LM I (cf. BM Cat. A634=FS 218). The shape of our examples links quite closely with Minoan cups such as PKU fig. 69:3 (early LM III); Gournia pl. X:38; AD 6 (1920-1) appendix 156, fig. 3:d (LM IIIB1); Hood et al. 1958-9, fig. 28:VI,1 and VII, 10; pl. 56:a,f (plain LM IIIB1); Catling 1968, fig. 9=pl. 29:f (LM IIIB) and Popham 1970, pl. 51:f (LM IIIB) which is identical with 1021 in fabric, profile and decoration, but has a trough-like spout and a raised handle. They also match fairly closely examples from Rhodes and Chalkis, which are most probably of Mycenaean manufacture (Maiuri 1923-4, fig. 13. Jacopi 1930-1, fig. 50. CVA 2, Copenh. 2, pl. 56:1. Hankey 1952, pl. 19:467).

C67, in addition to the decoration with bands inside and out which is nearly identical with that on 1021, has a chain of bivalve shells roughly corresponding to FM 25:18 (LM IIIA2). In general this motif is difficult to date with precision, for it has a long life from LM IIIA down to IIIC (Kanta 1980, 110). It certainly developed out of the Minoan papyrus motif, and is closely related to the Minoan golden necklaces found at Knossos (PTK figs. 85 and 119, LM IIIA. Analysis fig. 53). The shells on C67 are exactly matched by the papyrus flowers on our 985, and also by Kanta 1980, pl. 47:9, 48:7, 51:5 and 76:5. A similar spouted cup from Knossos is decorated in the same way by an adder mark FM 69:a (PTK fig. 117:21a). C68 is monochrome. All three cups appear to be dated to a late stage of LM IIIA2 or to LM IIIB1.

A total of 43 complete and fragmentary LB 3 cups of all varieties are known from Karpathos so far, including two conical ones (19 and 1032). With one possible exception (1016), all specimens appear to be Minoan. At least 12 of them are probably east Cretan imports, including a Palaikastrian product.

Four examples may be local (369, 1016, 1020, 1027).

4. Saucers and Shallow Plates

4(a). Saucers

Only a few examples can definitely be classified as saucers rather than small bowls or shallow cups, from which they are often indistinguishable. They are larger than cups but their fabric and manufacture is usually identical with that of the former. Two varieties can be distinguished: one rounded and one straight-sided or slightly convex-sided with a slightly raised base. With the first group can be classed 229 which has an encircling brown band inside on the bottom, 741 and 1059 which have a flat lip (cf. Catling et al. 1979, fig. 19:109, MM IIIA, Kythera fig. 38:ε8, MM IIIB, and Caskey 1972, fig. 10:D74). 699, 978, 1334 and 1388 could also be included in this class, but they may be bowls rather than saucers.

To the second class can be attributed 697 (cf. Catling et al. 1979, fig. 17:26, MM IIIA; Lasithi 1982, fig. 8:35 (MM III)), 847 and 1459. 289 probably belongs to this group too (cf. Caskey 1972, fig. 12:F34, MM III), although it could have come from a deep conical cup like Popham 1977, pl. 31:1 (LM IA); Maisons III, pl. XXXVII:5 (MM III) and Caskey 1972, fig. 11:f39 (MM III). It has a markedly out-splaying lip and compares well with BM Cat. A631-2 (LM I).

4(b). Shallow Plates

The type of shallow plate or dish is represented by only four fragments. 165-166 and 698 belong to a form with short vertical walls, which appears to have had a long history in Crete and elsewhere. It is closely paralleled by Kythera figs. 37:γ32 (MM IA), 83:C11-14, 84:C27, 36 (MM IIIB) and Caskey 1972, fig. 10:D89 (Ayia Irini, early MBA). 165-166 have a brown band round the base outside. 698 is of coarser fabric and could possibly be a pot lid rather than a dish. However, it links quite closely with shallow plates from Crete, such as Palaikastro VI, fig. 16:P13 (LM IIIB/C) and Gournia pl. II:62 (LM IB). 234 belongs to a footed version of the shallow plate. No parallels to this specimen are known to us.

5. Bowls and Basins

These can be classed in four groups: (a) straight-sided (conical or cylindrical), (b) concave-sided, (c) rounded, and (d) coarse basins with cross-incisions inside.

5(a). Straight-sided Bowls and Basins

5(a)a. Small Conical Bowls

226-228, 1050, 1055-1056, 1406-1410, 1457-1458 and 1460 belonged to small conical bowls, apparently all handleless. Some of them, however, may come from small jars rather than from bowls. Their fabric is either the type

used for cups, i.e. pure and buff or light brown in colour, or harder and slightly gritty with occasionally grey core. 226-228 have a brown band round the base outside, while 1410 displays a thin encircling groove inside. The latter may belong with rim 1406, which exactly links with Lasithi II, fig. 10:7 which is handled and dates from MM IIIB, and Kythera figs. 84:25 and 85:28-29 (LM IA). Rim 1457 comes from a similar small bowl with a flat, slightly everted rim. It compares well with Trianda pl. XII:3 and Kythera fig. 38:δ47 (MM IB-III A).

5(a)b. Larger and Deeper Conical Bowls and Basins

393, 415, 476, 1080, and probably also base fragments 394, 398-399, 474-475 and 1336, belong to a larger and deeper version of the conical bowl. They are of harder and coarser fabric than the previous group. 393 has an externally bevelled rim and two horizontal handles immediately below the rim, and is closely matched by Kythera figs. 84:C26 (shallower and handleless MM III) and 89:34 (handleless LM I). 415 has a flat, slightly everted lip and is closely paralleled by BM Cat. A595 (MM III), Tylissos 1912, fig. 12 (handled LM IA) and Trianda pl. XIII:3-5. Rim 1080 has a nearly identical flat lip which is not everted but thickened inside. Its profile compares well with Levi 1976, pl. 185:e (MM III).

290 is a heavy version of the deep conical bowl. Its profile is fairly close to a decorated "flower pot" from Kythera (Kythera fig. 84:C35, MM IIIB). Our basin C92 is of similar heavily coarse but hand-made fabric and is classified too as a "flower pot" due to its shape and the bottom hole (cf. Tylissos 1912, 206-207, fig. 12:1,0, both handled). This shape is attested at Palaikastro from LM IB (Palaik. VI, 298, fig. 16:P18) and carried on down to LM IIIC. During LM II the straight-sided basins continued to be normally handleless and comparatively small in size, whereas in LM III they had a tendency to become broader and shallower, more like modern wash-basins (PKU 65).

5(a)c. Conical Basins

We now come to the conical basins which are fairly numerous and occur in a variety of forms depending on the shape of the rim. Their fabric is usually of the "oatmeal" type. They can be handleless or handled. 291-292, 565 and 567-568 are complete profiles or rim fragments from identical small, strictly conical basins. They have rather shallow profiles not unlike those of the corresponding cups, which they resemble also in the manufacture. Their date must be MM IIIB (cf. Kythera fig. 86:D31-36, MM IIIB. Levi 1976, pl. 18:g, MM III). This is perhaps confirmed by the splash decoration on 565.

Rim and wall fragments 167-171, 1246 and probably also bases 156, 396-397, 473, 1081 and 1335 belong to larger and deeper basins like C90-91. The rims display a flat or internally (171) and externally (C90-91) bevelled

lip. The latter can be thickened or slightly splayed on one or both sides (167, 169, 171, 233, 1246) or everted (C90-91). 167, 169-170 and C90-91 have rolled horizontal handles below the rim. 167 has a rim band inside and out, as well as strokes of paint across the flange. There are similar bars of paint on the lip and bands inside the rim and outside C91. 170 is wholly dark-washed, and 1246 has an encircling incision which may indicate that it belonged to an internally incised basin. Base 156 has a peculiar horizontal handle attachment on the interior. This is paralleled at Palaikastro, where a clay lamp bears a vertical internal handle. "Perhaps the tendency of the outside handle to get broken off suggested to some ingenious potter the idea of putting it where it would be safe, inside the bowl" (Palaik. II, 328, fig. 27:4). The general shape of these basins, as well as their fabric and decoration, rather suggest an MM IIIB-LM I date (cf. e.g. Hag. Nikol. Mus. 2105 from Zakro. Kythera fig. 84:C25, LM IA. Forsdyke 1926-7, pl. XXIII:V17, IXB13, MM III conical cups identical in profile with C90-91). 167 in particular is closely matched by Lasithi II, fig. 10:6 and PM II, fig. 176:F (MM IIIB).

569 and 701-703 are rims from deep basins similar to the previous ones. They also exhibit a flat lip which, however, extends outwards forming a marked external thickening. On 569 which is slightly concave-sided, the lip is externally bevelled. 701-702 may be compared with Gournia pl. I:23 (handled MM III-LM I), Maisons III, pls. XII:6 and XXXVIII:9, and Palaikastro VII, fig. 17:NP89 (Sub-LM IA).

To the cylindrical type of basin belong rims 173, 417-419, 735, 1079 and probably, too, bases 154 and 172 which, however, could have come from MM III tall jars. 173 has a flat lip and an inner ledge to receive a lid. It links closely with similarly-profiled spotted jars from Lasithi (Lasithi II, figs. 1:6 and 3:4-5, MM III). 418-419 have a flat lip too, slightly thickened outside. They are closely paralleled by Trianda pl. XII:4. Rim 732 may have belonged to a deep jar rather than to a basin. Its lip is flat and markedly everted. Rim 1079 has an externally bevelled lip, identical with 393.

Rim 758 probably belonged to a large cylindrical basin similar to Hood and Warren 1966, fig. 12:18 (LM IIIA-IIIB) and Van Effentere 1980, pl. XXI, right.

5(b). Concave-sided Bowls and Basins

As in the case of conical cups, the concave-sided bowl and basin are represented by only a few examples. 566, 652, 962, 1405 and 1462 belonged to bowls, while 155 and 231 probably come from small deep basins. 962 is a widely spreading rim from a deep bowl and is closely matched by Kythera fig. 45:ξ153 (LM IB) and pl. 57:291.

1405 is handleless and its profile corresponds to the shallow version of the convex-concave-sided conical cup. The shape is exactly matched by Mochlos 1909, figs. 8 and 13:7, EM III; Mochlos 1912, fig. 7:II,L, EMII;

Maisons II, pl. XI:1-2 (similar fabric and straight string mark, MM I); Maisons III, pl. XXV:1 (MM I-II); Forsdyke 1926-7, pl. XXIII:23 (MM IIB); Levi 1976, pls. 36:b-c,e-n (MM IA) and 142-143:b (MM IB); Kythera fig. 38:846 (MM IB-IIIA) and Warren 1969, 100 no. P568 (MM I stone vessel from Mallia). The shape goes back to EM III when it is shallower and wider, usually accompanied by dark linear decoration. By MM I it grows smaller and deeper. The decoration is now often limited to a narrow rim band (Mochlos 1909, 291). The bowl is decorated with blob and trickle patterns inside and out. Blob decoration was very popular in east Crete and particularly at Palaikastro where it occurs especially on handleless bowls (Mochlos 1909, 283. PKU 86, 111-112. Kanta 1980, 148). It also occurs on a number of pots from Karpathos, both Middle and Late Minoan (nos. 46, 66, 239, 1004, 1028-1031 and C24, C50-51, C54).

5(c). Rounded Bowls and Basins

5(c)a. MM-LM I Rounded Bowls and Basins

The early bowls can be divided into semi-globular with straight rim and rounded with spreading rim. To the first group are assigned rims 230, 261, 1058 and probably also bases 268, 472 and 1339. 230 is internally bevelled and closely links with Trianda pl. XII:2 which is handled. The profile of 261 links closely with Kythera fig. 88:E25 (LM I), while that of 1058 which has a flat lip, compares well with Trianda pl. XII:3, again handled. Base 268 may have belonged to a high-footed bowl or basin with hemispherical profile and two horizontal handles (cf. Maisons IV, pl. XII:H) or to another stemmed variety with a widely spreading rim like Maisons I, pls. IX:8545,8547 and XLIII:1, both MM I-II. Base 472 compares well with Hood and De Jong 1958-9, fig. 6:9 (probably LM I-II), while base 1339 is closely paralleled by Kythera fig. 88:ε26 (LM I).

Rims 293, 395 and 650, all handled, belong to the second type which carries on into LM II-IIIA with smaller dimensions and a narrower base (Kanta 1980, 258). The first two are identical in profile. The latter roughly corresponds to FS 284 applying to small bell-shaped and ring-based LH IIIA2 bowls. The Minoan version is normally flat-based (Maisons III, pls. XVII:1-3 and XXXVI:1, decorated LM IIIA2). 293 has a vertical handle and is exactly matched by Maisons I, pl. XXX:1 right, MM III-LM I) and Trianda pl. XII:5. 395 has a rolled horizontal handle and can be paralleled by Trianda pl. XII:11, Tylissos 1912, fig. 12:c,e,n (with band decoration similar to ours, probably LM IA; cf. PM IV, fig. 965:c,d, LM IIIA1 and Palaik. VI, figs. 15:KP34 and 16:KP11, both LM IIIC). The general shape and decoration of these bowls and basins, both conical and rounded, remains practically unchanged throughout the LM period, although different in fabric and wall thickness (cf. Palaik. VI, 285, 298). 650 closely corresponds to

Trianda pl. XII:4,7,10 which are handleless or have a vertical handle.

Rims 477, 570, 1352 and base 657 belonged to rounded basins. 477 has a flat everted rim and is exactly matched by Kythera fig. 40:ϰ134 (MM III-LM IA). 570 has a broad flat lip and closely resembles Trianda pl. XII:6.

5(c)b. LM/LH III Bowls and Basins

Eighteen complete and fragmentary rounded bowls are dated to LM III. As with rounded cups during this period, the deep semiglobular bowl (like e.g. our 293, 395 and 650) was transformed into a more straight-sided shape with a more or less cylindrical upper body. Mainland influence in the development of the type cannot be ruled out, but its evolution from Cretan originals seems more likely. The Minoan examples are shallower and rarely have a ringed foot, which is a Mycenaean feature. They are normally painted all over, but occasionally are left plain inside, where there is often band decoration and concentric circles or a spiral on the bottom. When exterior decoration occurs, it is framed between a rim band and, as a rule, two wall bands (Analysis 51. Popham 1970, 196. Kanta 1980, 258).

C71-75 and our 1037 are one-handled bowls of identical profile and fabric. Their clay is pure, very hard and buff or light brown in colour. When dropped on a hard surface, they make a ringing sound. All six have a pair of thin grooves along the rim outside and a slightly raised base, although this seems uncertain for C75 and our 1037. Four similar grooves can be seen on a monochrome and handleless Rhodo-Mycenaean bowl which seems to be of the same fabric as our examples (CVA Denmark 2, pl. 55:4). The profile roughly corresponds to the more rounded Mycenaean version FS 242 (LH IIIB; cf. also CVA Denmark 2, pl. 55:1 from Rhodes and an LM IIIB version in Popham 1965, pl. 85:c,e).

C71 is the only decorated example. The main zone bears alternating arcs roughly corresponding to FM 24:d (LM IIIA2). There is a similar decoration on goblet C49 and cups C58-59 (cf. also Popham 1965, pl. 86:b top right, LM IIIA2). Cup C59 is identical with C71 in fabric and profile. Inside the latter there is a pair of stripes below the rim (cf. cup 1023) and three more stripes further down, whereas on the bottom there is a dot of paint. The rest of the bowls are painted all over with a streaky dark wash easily flaking off. Only C72 is unpainted inside. All bowls must fall within LM IIIA2-IIIB1.

370 and 1033-1036 belong to a shallower variety of the one-handled bowl. 1033-1036 are identical both in fabric and profile. Their manufacture suggests that they certainly came from the same workshop as C72-75 and 1037, from which they only differ in the size and rim grooves. They have a slightly raised foot too and are similarly painted all over. They should therefore be LM IIIA2-IIIB1. 370 is slightly larger and more rounded. The clay is fine buff and there are oblique strokes of paint below the rim outside and similar bars across the handle. The lip is thickened and flat recalling that

of kylix 367, which was found together with 370. This bowl is LM IIIA2-IIIB1.

Rim 1579, body fragments 1569-1570, 1573-1574, 1580-1581 and probably also handle 1230 belonged to deep bell-shaped bowls, although 1569-1570 and 1579 seem more likely to have come from larger bowls or craters. The general shape of these bowls must correspond to FS 284 (LH IIIA2-IIIC), which appears in Crete at a later stage of LM IIIB2, obviously borrowed from the Mainland (Analysis 51). All these specimens except 1579, which is dark-washed, bear decoration with stripes or single wavy lines (FM 53:20,25, LH IIIC1). 1569-1570, 1574 and 1580 are coated inside with a dark paint, which is characteristic of the LM IIIB-C and LH IIIC bowls. Its practical purpose was to make the pots impermeable to liquids (Popham 1965, 318, 320, figs. 1:A-B. Palaik. VI, 283, figs. 8-9 and 15), 1569-1570 are definitely LM III, for they display the typical LM III Palaikastrian fabric with the dull slip. 1579 could be either Minoan or Mycenaean. The rest probably belonged to LH IIIC1 bowls, although the wavy line is found in identical use on LM IIIC pottery (Popham 1965, 324). Our 21 and 72 could have come from similar but smaller bowls like FS 284 (IIIA2 late) and Palaikastro VI, fig. 15:KP27 (cf. cup with identical profile in Popham 1970, fig. 1:3, LM IIIB). It seems, however, more likely that they belonged to low-stemmed goblets like our 20, 22 and 70 which have a similar but less convex profile and are of fabric identical to 21 and 72

In a total of 22 complete and fragmentary LB 3 bowls and basins, 8 seem to be Cretan, including 2 Palaikastrian imports, 6 look rather Mycenaean and 8 are probably local Minoan products.

5(d). Cross-incised Basins

Fragments from this kind of basins or open jars occur on most of our MM-LM I sites. The bulk of the material consists of wall pieces, but a few base fragments (1118, 1244-1248) do occur as well, and one belly piece with a horizontal handle attachment (485) has been recovered. The general shape of the vessel appears to be either strictly conical or slightly convex. As a rule, the clay is hard and gritty, buff or brown in colour, and occasionally displays a grey or green core. Apart from the above mentioned specimens the following wall fragments belong to this category: 419-427, 485, 665-667, 757, 778, 967-970, 983, 1117-1127, 1246-1248, 1350-1351, 1378-1382, 1432-1435 and 1484-1485. This type of vessel is common in most EM-MM III sites (e.g. Lasithi 1982, pl. 19e:D). Similar incised basins are reported from MM I levels at Mallia (Sondages 55, 79, nos. 68P1096=pl. XXIX, 68P1129 and 68P27-49). Identical cross-incised decoration is also seen on the neck of the so-called Chamaizi pots (e.g. Lasithi I, 76-77, MM I).

Rim fragments 730 and 1251 probably come from incised basins. They are closely paralleled by Maisons III pl. XXXVIII:10 (MM I-II) and Hood-Warren 1966, fig. 12:6 (MM II/III-LM I).

6. Goblets and Kylikes

These can be unpainted, monochrome or decorated, and their rim is either flaring or slightly everted. They can be classed in four groups: (a) goblets with a low stem, which is concave-sided and undifferentiated from the bowl and foot, the outline of bowl and stem forming a distinct curve; (b) kylikes of medium height with deep rounded or conical profile; (c) tall-stemmed kylikes with deep and rounded or more or less angular profile, and (d) plain kylikes of medium height with shallow profile and spreading rim.

A total of 26 complete or fragmentary goblets and kylikes are known from Karpathos and Kasos. Of these seven appear to be Mycenaean, including 2 probable Argolid imports, and three Rhodian or local Mycenaean products. The rest are apparently Minoan, including 4 probably local or east Cretan examples.

6(a). Goblets

1015 is a low-stemmed goblet with a sharply out-turned rim and ribbon handles. It roughly corresponds to FS 255 (LH IIIA1). Its Cretan manufacture is suggested by the hollowed foot and the execution of the decoration, which consists of a band of running spirals arranged in groups of four. The shape goes back to LH I (FS 254) and LM II. In Crete it appears not to continue after LM IIIA1. Although it bears a marked similarity to the Ephyraean goblet, the Minoan version frequently has a more conical lower part. Both appear to have evolved from LH I-IIA goblets rather than from the LM IB ogival cup (PM IV, fig. 965:f-i, LM II-III A1. Popham 1969, 299-300 and fig. 2). In the Mainland the type has a more rounded body and in some provincial areas it appears to be a favourite shape even in LH IIIB (e.g. at Pelikata on Ithaka, BSA 35 (1934-5) fig. 27).

1014 and C45-50 are smaller and later versions of the goblet described above. All seven have strap-handles and are of the same hard light brown or buff fabric, which is similar to that of cups 1028-1031 and C51-54, of the bowls 1033-1037 and C72-74, as well as of the kylix 1018. Only C49-50 are decorated, while the others are painted all over with a dark metallic wash. With the exception of C45 and C47, which have a spreading rim, C45-50 have an everted rim and are invariably deeper than 1014. They exhibit a more or less conical lower body. Goblets C45-50 are earlier in date and roughly correspond to the Ephyraean type FS 254-255 and 263 (LH IIB-III A1). The shape was popular in Crete in LM II and continued in LM IIIA-IIIB, although

it was very rare (Kanta 1980, 263). The type appears to be Minoan, although short-stemmed goblets, common in LH II, recurred on the Mainland in LH IIIC and were popular on Rhodes in LH IIIA-B (Mee 1982, pls 16:1-3 and 22:5). The profile of the Karpathian specimens seems to link exactly with Kanta fig. 126:2 and 4, which are LM IIIA. There are identical Rhodian examples, but they appear to be of different fabric, viz. yellowish clay and lustrous reddish paint (BM Cat. A858-859. CVA Danmark 2, pl. 53:10-12. Maiuri 1923-4, fig. 127). It seems likely that they may be Cretan imports or close imitations of Minoan originals. The Cretan-Rhodian connections at this time, and perhaps not only from LM IIIB onwards, should not be underestimated (cf. Popham 1979, 190. Mee 1975, 325).

C49 is decorated with a version of linked whorl-shells FM 24:d (LM IIIA2; cf. Mee 1975, 325) filled with a kind of half-sacral ivy FM 12. All these goblets should probably be LM IIIA2e.

C50 has a lower stem and its profile exactly corresponds to Kanta 1980, fig. 126:3. It is decorated with semi-circular rim blobs inside and out, exactly like the cups C51 and 1028-1031. Elsewhere blob decoration on goblets is only attested at Palaikastro (Palaik. VI, pl. 73:i=fig. 15:KP22, LM IIIB/C one-handled goblet or champagne glass). Our example is dated by Popham to LM IIIB (Palaik. VI, 283 n. 74).

The profile of 1014 is very close to the last example, although slightly shallower. Its form with the almost straight upper part and the low disc-shaped foot would probably date it to the LM IIIB1 period, although the handle which is neither rolled nor strap would point to a LM IIIA2 late date (Popham 1964, fig. 1:c=pl. 9; 1969, 301, fig. 7. Kanta 1980, 265, figs. 53:3 and 126:7). This shallow type of goblet finds better parallels among the Cretan champagne glasses. The latter is a central Cretan shape first appearing in LM IIIA2 as a new and purely Cretan form, which evidently evolved from the standard LM IIIA goblet, although it may originally have been an imitation of a Cretan metal prototype. Its use was probably connected with some sort of religious practice, and it is often found as an article of tomb furniture. According to Popham (1964, 16) "its occurrence at Karpathos is presumably another indication of Cretan influence on the island".

At the beginning, this one-handled or two-handled shallow goblet had a rather rounded profile, everted rim, strap-handle and hollow base. At a later stage the lip became less marked and the handle thickened until it acquired a circular section by LM IIIB (Popham 1964, 8-9, 16-17; 1969, 301; 1970, 197 n. 14).

21 and probably also 22, 70 and 72 would be classified with the low-stemmed goblet. 21 is of chalky buff fabric like that of kylix 1019 which, as well as the decorated 1017, has an identical profile with 20, 22 and 70. 22 and 72 are monochrome, exactly like kylixes 1018 and 1560. 21-22, 70 and

72 were either two-handled or of the one-handled champagne glass type. Their deep and rounded profile with a spreading rim, corresponding to FS 264 (LH IIIA2e), points to an LM IIIA2 date (cf. Popham 1969, 301). Good parallels can be cited from Kritsa and Skamnioi (Hag. Nikol. Mus. 161, plain one-handled of similar fabric. PAE 1952, 628, fig. 8. Kanta 1980, fig. 126:3-4).

6(b). Low-stemmed and Medium-sized Kylikes

Under this heading are classified kylikes less than 16.5 cms. in height (C34, C41, 1017-1018 and probably also 20, 22 and 70). As already stated, the last two are identical in profile with 1017 and 1019, although smaller in size. C34 and 1017-1018 are low-stemmed kylikes and appear to be the earliest in the group. The type belongs to an early stage of LM IIIA2 and approaches the corresponding contemporary Mycenaean shape (Analysis 64, FS 256 and 264. Popham 1969, 301). The profile of the first two appears to be identical, corresponding to FS 256-257 which are IIIA2 (cf. BM Cat. A864, 867-869. PM IV, fig. 309:a, LM IIIA2. CVA Danemark 2, pl. 52:2,5. Popham 1969, 301, fig. 4, LM IIIA2). The shape was probably an imitation of Mycenaean forms which continued the tradition of the LH II-IIIAl goblets, such as FS 254-255 and 263.

C34 is decorated with two double-bordered and cross-hatched loops antithetically arranged on either side (cf. FM 63:6 and 8, LH IIA and IIIA2). They flank a pendent degenerated version of the whorl-shell. There is an identical composition, but with the whorl-shell in a more degenerated form, on an LM IIIB1 rhyton fragment from Palaikastro (PKU fig. 89). The loop motif is exactly paralleled by our 1013 (evidently imported from Palaikastro), the only difference being that the loops on the latter are dotted. The petaloid loop is one of the most characteristic motifs in the Kamares ware, and is fairly popular still in the LM IA period (Analysis 394). A partially preserved cross-hatched loop can be seen on our 240, which is an LM I jar fragment. The kylix has also internal decoration with an encircling band and a dot of paint on the bottom. This is a characteristic of the LM III cups from Karpathos (cf. especially our 1272). The two bands running along the edges on the outside of the handle are also seen on kylikes 1270-1271 and on BM Cat. A868 from Rhodes.

1017 is decorated with curve-stemmed spirals FM 49:11 (LH IIIA1-2) and parallel chevrons FM 58:11 (LH IIIA2). The curve-stemmed spiral which also occurs on our piriform jar 34 and jug 1003, was a Mycenaean invention occasionally adopted by the Minoans (Popham et al. 1974, 209, pl. 34:c and fig. 48:j). Fabric, shape and decoration of 1017 (but without the chevrons) are best paralleled by BM Cat. A864; CVA Danemark 2, pl. 52:9, Deutschland 3, pl. 98:8; Boysal 1969, pl. XXVII:5 and Morricone 1972-3, figs. 355:a, 343:e.

PKU fig. 68:1 seems to be identical in fabric and profile and has been considered as an import from Ialysos (cf. BM Cat. A866).

1018 is monochrome, similar in fabric to goblets C46, C48 and kylikes C38-39, as are cups 1028-1031 and bowls 1033-1037. However, traces of two encircling bands are visible on the domed foot, and similar decoration may have existed further up on the stem. The profile corresponds to FS 256 (LH IIIA2e) and is exactly matched by decorated Cretan examples, such as PTK fig. 118:66h (IIIA2); BM Cat. A719; Popham 1969, fig. 4 and Kanta 1980, fig. 126:2.

C41 is the last in the series of medium-sized kylikes. It seems to be of the same date as C36 and C42-3. It has a less rounded profile which is close to our 1270-1271 and corresponds to FS 259 (LH IIIA2 late. cf. Kanta 1980, fig. 126:1, LM IIIA2). The decoration consists of spiral coils with overlapping ends FM 46:53 (IIIB1). This motif is a later version of the alternating scroll variant (BM Cat. A729:2, LM IIIA2), which consists of identical but not alternating coils (Analysis 180 with n. 5). Exactly the same design occurs on our cups C61-63 and on kylikes C40 and 1271. This group of pottery, along with 1267, 1272 and probably also kylikes C35-39, goblets C45-51, cups C51-70 and bowls C71-75, seem to be products of the same Minoan workshop, which is probably to be placed either on Karpathos itself or somewhere on east Crete. The clay of these pots is fairly similar to that of kylikes C42-43 and 1017. However, the profile and decoration of the latter rather points to a purely Mycenaean workshop, although the Mycenaean element on the LM IIIB pottery in general is so strong that it is often difficult to say what is Mycenaean and what is Minoan (cf. Analysis 178). This is particularly true in the provincial centres, where great numbers of Mycenaean imports had a considerable influence on the Minoan ceramic repertory, especially on decoration (cf. Popham 1967, 347; 1979, 190. Kanta 1980, 154, 178, 222-223). Karpathos, lying at the cross-roads, where Cretan and Mycenaean fashions and interests undoubtedly met at this late stage, was perhaps even more susceptible to such a cultural synthesis (cf. Charitonidis 1961-2, 75-76. Mee 1975, 326).

6(c). Tall Kylikes

C35-40, C42-43 and 1270-1271 belong to the tall variety of kylikes, the height of which ranges from 17.1 to 20.2 cms. They are tall-stemmed and their bowl is still deep, but now it is sharply differentiated from the stem and has a rather carinated outline, not unlike cups C59-64 and 1272. The lip of this kind of kylix is out-turned but undifferentiated, and the rolled handles are set on the rim, whereas at a later stage they can be raised well above it. This shape is a characteristic Cretan development, which appeared at a late stage of LM IIIA2 together with the usual deep and straight-sided cup. It

resembles the LH III B FS 258, to which probably corresponds our monochrome rim 1560, but has a more angular profile. It carries on into LM III B-C, assuming a more marked carination and a more clearly defined stalk. It now grows taller, whereas the bowl, whose outline is even more angular, becomes shallower and the foot flatter (Analysis 64. Popham 1965, 318, fig. 1:63; 1969, 302; 1970, 197). There is an LH III A2-III B1 version with angular profile, but the carination normally occurs higher on the body. The latter feature, however, is not completely unknown among the Cretan examples (French 1965, 168, fig. 2:8. Wardle 1969, figs. 10:96 and 11:106, 109. Popham 1969, 302. cf. our 1560).

C35 is a little shorter than the rest, and its shape could correspond to FS 259 and 265 (LH III A2 late) rather than to 258. The decoration consists of palm derivatives FM 15:7,9 (LH III A2 late) horizontally set. This is a Mycenaean element appearing on LM III vases (Analysis 178).

C37-40 and 1270-1271 are identical in profile and their base displays an everted edge. The latter is a very rare feature which is also known from Palaikastro (PKU fig. 68:1, LM III A2) and Knossos (Popham 1969, fig. 11); This group was evidently made in the same workshop and probably by the same potter. The shape roughly corresponds to the more convex FS 258 (LH III B. cf. Analysis 64 n. 4 and Wardle 1969, fig. 11:110, LH III B1). Identical bands decorate the foot and stem of all six examples. C37 is decorated with a stylised cuttlefish, which is unparalleled elsewhere but slightly resembles FM 21:8 (III B) and 18:45-6 (III B Mycenaean flower).

C38-39 are painted all over with a streaky dark wash exactly like goblets C45-48 and 1014 and 1018. The stem and foot of C38 are reserved and decorated with bands in the same paint as the rest of the pot. On the handle zone the decoration consists of running spirals FM 46:54 (LH III A2-III C1e. cf. Popham 1965, fig. 6:32) in added white. There is a similar decoration in fugitive white on C39, which also has white strokes on the rim flange (like cup C69), traces of spirals and encircling bands on the stem and perhaps bands also on the foot.

C40 and 1270-1271 are very closely related in fabric and profile. There is little doubt that they were made by the same hand. C40 and 1271 in particular, which are slightly deeper than 1270, also bear identical decoration. The latter consists of spiral coils FM 46:53 exactly similar to those on Kylix C41 and cups C61-63. These two kylikes are dated to LM III A2 late-III B. Our 1270 is decorated with pendent whorl-shells FM 23:7 (LH III B) like kylikes C42-43, and also sea anemones or dotted circles FM 27:19 (III A2-B). The Mycenaean III B whorl-shell was adopted and slightly changed by the Minoans. It usually occurs on the conical type of kylix (Popham 1970, 199, pl. 48:d). The profile of 1270 is a little shallower than 1271 and closely corresponds to Popham 1965, fig. 1:63=pl. 83:b (LM III B), which

is identical in fabric and has a similar decoration with pendent whorl-shells. Wardle 1969, fig. 11:109; 1973, fig. 17:145 (both LH III B1. cf. Zygouries pls. XVII-III) and French 1965, fig. 2:8 (IIIA2) have a similar profile but the carination occurs higher on the wall, as is the rule in the case of the Mycenaean examples. The decoration on the latter again includes pendent whorl-shells and dotted circles not unlike those on our example. The combination of whorl-shell motif and sea anemone is a common feature both in Mycenaean and LM III B kylikes (Analysis 309, French 1965, 179. Morricone 1972-3, fig. 33:d).

C36 and C42-43 are very similar in fabric, profile and decoration. Their bowl is fairly deep in relation to the stem and recalls that of C34, 1017 and 1018. The profile of the bowl is now more tapering, corresponding to FS 257 and 265 (IIIA2 late). Approximately the same evolution from LM IIIA2e. to IIIA2 late affects the Minoan decorated kylix. It now also displays a more conical bowl, everted rim, rolled handles projecting like ears somewhat above the rim, and a still considerably arched foot-disc. However, the outline of the bowl and stem still forms one gentle curve, and it is difficult to say where the former ends and the latter begins (Analysis 64. Popham 1969, 301. Kanta 1980, 263, fig. 126:1). Nonetheless, our examples are LH IIIA2 late or III B1 (cf. Mee 1982, pl. 22:1-2) rather than Minoan, as their fabric and decoration shows.

C36 and C42-43 are nearly identical in profile, although C43 is slightly shallower and closer to FS 258 (LH III B 1). All three are closely matched in fabric, profile and decoration, by several examples from Ialysos, Vati and Apolakia on Rhodes, all decorated with a zone of whorl-shells diagonally (like C36) or vertically arranged (BM Cat. A867, 869. Jacopi 1930-31, fig. 48. CVA Denmark 2, pls 50:8-11 and 51:1-2). Fragments of identical fabric and decoration with whorl-shells pendent from a rim band (like C42-43 and 1270) were found on Kos (Morricone 1965-6 fig. 45:382; 1972-3, fig. 336:a-g). There is a similar decoration on a kylix from Múskebi (Boysal 1969, pl. XXIX:1).

The whorl-shells on C36 are FM 23:2-9 (LH IIIA2 late - III B), on C42 FM 23:5 (LH IIIA2 late) and on C43 FM 23:5-9 (LH IIIA2 late - III B). The motif had originally been a Minoan invention, but it was later (IIIA2-III B) borrowed (evidently from LM IIIA derivatives) and simplified by the Mycenaean. It is very rare in the LM III decoration, which re-adopted the motif from the Mycenaean repertory in the LM III B period (Analysis 308-309. Popham 1965, 341, fig. 1:e, pl. 83:b; 1967, 347, fig. 14:12. Kanta 1980, 264). The vertical arrangement of the whorl-shells is characteristic of LH IIIA2 late, although it is still common in LM III B (French 1965, 178 with n. 82). The attachment of the upper extremity of the design to the field border is a sign of comparative lateness, as is probably the lack of filling ornaments (Analysis 309).

It is thus difficult to decide on the exact date and provenance of the kylikes in question. Certainly they must fall within the LH IIIA2 late-B1 range. The greenish buff fabric of C36, as well as of C44, rather suggests an Argolic manufacture (cf. Mee 1975, 326). The others are of a fabric similar to C41, 1017, 1270-1271, which is heavier and ranges in colour from buff to orange buff or pinkish buff and light brown. The surface is finely self-slipped and creamy or yellowish in colour. These kylikes may be local or Rhodian products.

6(d). Plain Kylikes

C44, 367 and 1019 belong to the plain variety of kylikes. They are unpainted and their buff and chalky fabric is identical with that of our goblets 20-22 and 70. 367 and 1019 are medium-sized and their bowl is rather shallow. Their profile roughly corresponds to the decorated FS 259 (LH IIIA2 late ; cf. Popham 1969, 301 referring to an LM IIIA2 version with rather deep rounded bowl and medium-sized stem). 367 has a more straight-sided bowl and the rim is internally bevelled. This feature which is also noticed in a group of MM III cups from Palio Mitato on Karpathos (nos. 494-495, 499-506), and the formation of the edge of the foot have no parallels elsewhere, and may point to a local Minoan manufacture. The shape has only Cretan parallels, both plain and decorated (Popham 1964, fig. 1:a=pl. 9 and 1978, fig. 1:c, both LM IIIB).

1019 has a more open rim which is flaring. This example is more closely related to FS 259 and could be Mycenaean rather than Minoan. The shape closely links with Popham 1969, fig. 10 which is decorated LM IIIB1. Both kylikes must be assigned to IIIA2 late - IIIB1. In Crete, plain kylikes were probably in use from as early as LM II and persisted into LM III, normally following the shapes of their decorated counterparts. In central Crete they are much more common than the decorated ones (Popham 1969, 299 f.).

7. Crater and Amphoroid Craters

7(a). Crater

C82 is a fragmentary crater, the only example known from the island group under discussion. Its precise shape is not clear since the lower part is missing, but it probably had a piriform or conical-piriform profile corresponding to FS 7 (IIIA2e.). This shape is common particularly in Cyprus (cf. especially BM Cat. C391 and Vermeule-Karageorghis 1982, pls. III.12-13 and VIII.14-15). The type is certainly Mycenaean but the manufacture of C82 seems to be Minoan, as its decoration suggests.

The lip is spread and there are two opposite perpendicular flat handles set on the rim. The handles were decorated with antithetic vertical bands of wave pattern, exactly as on a similar crater from Kos (Morricone 1972-3, fig. 327).

On the left side of the preserved handle half of a large spiral has survived. It recalls an octopus tentacle, for it consists of a thick coil, the inner side of which has wavy indentations resembling octopus suckers. On the right side of the handle there is a series of designs, including a symbolic rod-shaped object which probably also had a religious significance.

First comes the "sceptre" which has its identical counterpart on the Episkopi sarcophagus, where it is carried by male figures on two occasions (Kanta 1980, fig. 63:1). Next to the sceptre is depicted a wheel pattern roughly corresponding to FM 17:11 (IIA late). It is identical with two wheels which appear on the same sarcophagus in association with a chariot (ib. fig. 63:1). A similar motif appears on a mould from Palaikastro in a religious context, since it is associated with a female figure standing on the left and raising her hands (AE 1900, pl. 3:A). The wheel here has a series of triangles along its periphery, allegedly representing sunbeams and thus implying that the motif is perhaps to be identified with the sun's disc.

There follow two decorated pilgrim flasks, which have two small superimposed kylikes between them. The flasks are FS 188-189 (IIIA2). They are certainly Minoan and can be paralleled by Tzethakis 1971, pl. 63:b (IIIA2 late) and to a lesser extent by PKU fig. 67. The kylikes have high-swung handles and seem to be FS 273 (IIIA2 late). On the Mainland this type of kylix is always plain, whereas in Crete it appears in decorated variants like Popham 1969, fig. 11=pl. 64:e (IIIB1). Again a kylix is held by one of the men on the Episkopi larnax. "A possible explanation of the whole composition is that it is an abbreviation of a funeral scene, taken either from life or from a sarcophagus, an earlier version of the Episkopi one. In this case the wheel probably stands for a chariot" (Kanta 1980, 302).

Decoration and perhaps fabric might suggest that the crater was an import from Episkopi, as also probably were our stirrup jars 997-998. This of course presupposes the existence of a pottery workshop in this area, which is difficult to prove on the present evidence (Kanta 1980, 289-290).

7(b), Amphoroid Craters

The shape carries on the Palace Style tradition of the tall piriform jar, and may have derived from a bronze variety of an LM I amphora (PM IV, 310, fig. 245) whose forerunners go back to MM II (Analysis 19. Kanta 1980, 273). According to Mackeprang (1938, 549) and Popham (1967, 345) the type was an LM III creation. It appears to have been fairly popular on Karpathos and had a wide distribution over the island. All examples are finely and gaily decorated and seem to be Cretan imports. The earlier the pot the more conical the profile, which gradually becomes very piriform with a concave and splaying base. The IIIA1 version is normally conical-piriform and more rarely conical (Analysis 36). The handles are perpendicular and never very prominent.

The neck is low and normally straight or slightly concave. The lower body is narrower and - except for the concave base - more or less straight-sided (e.g. Tylissos 1934, pl. XXV:a. Popham 1967, pl. 84:a. Our C2-3). By LM IIIA2 the shape became more piriform, with a tendency for a taller and wider neck and markedly arched handles (e.g. PM IV, fig. 965:k. BCH 1907, 119, figs. 3-4. Kanta 1980, fig. 95:6,8-9).

The LM IIIB amphoroid crater has these features somewhat more pronounced. The shape has become heavier and unbalanced, the neck is even taller and concave-splaying, the upper body has a broader globular outline and the handles spread outwards becoming prominently arched. There are indications, however, that this kind of disproportionate amphoroid crater, with the broad globular body resting on a short, narrow and strongly concave stem, was introduced already from the end of LM IIIA2 (Analysis 26 with N. 8. Kanta 1980, 273-274, figs. 6:9 and 65:7. BCH 1907, 119, fig. 1). The same may be true of a conical type with exceptionally high neck and spreading handles, which belongs either to LM IIIA2e. or to IIIB1 (PKU fig. 90. Kanta 1980, 274. Analysis 26 n. 9).

The Mycenaean version of the amphoroid crater tends to follow the Minoan development in its general features. It belongs to the same series as the big Mycenaean pithoid jars (Analysis 26. FS 52-53, IIIA2e.; 54, IIIA2 late; 55, IIIB). The conical variant is practically absent from the Mycenaean repertory and in the later stages there is a predilection for the advanced piriform type, which is never so heavy as to become like a globe set on a short and narrow foot, as is the case with its Minoan equivalent. The LM IIIB1 - IIIB2 class of the conical-piriform amphoroid crater is represented in the Mycenaean repertory (FS 56-57) by several examples (Analysis 26-27).

The Mycenaean and Minoan versions of amphoroid crater form completely independent series, which diverge more and more. Apart from the differences already stated, there is a tendency for the Mycenaean variants to preserve the perpendicular form of the neck and handles, a characteristic of the LM IIIA1 version too. As a rule, the Mycenaean specimens lack the neck moulding and other elaborations and decorative elements like socket and moulding ring bases, wave or flame patterns round the neck, etc. They also differ in the fabric, which is pure and finely baked as opposed to the coarse Minoan ware.

C2 has a low concave and exceptionally wide neck, which has a ledge moulding at the base. The lip is horizontal and the slightly arched handles are a continuation of it. The base is slightly splaying and ends in a torus foot. The shape closely corresponds to FS 52 (IIIA1 - IIIA2) and also to Popham 1967, pl. 84:a (Knossian IIIA1), Syria 9 (1928) pl. 18:110 from Quatna, and Tylissos 1934, pl. XXV:a (IIIA1). The latter is decorated

All over with antithetic horizontal zones of wave patterns, like that on the neck of C2. This motif is apparently used in analogy with the adder mark pattern, and represents the waves and the continuous rocks of the sea. It is a characteristic of the LM III amphoroid crater and occurs, too, on our 985 and 989, as well as on piriform jar C12 (cf. Analysis 184). Immediately below the neck there is a narrow foliate band bordered by a wavy line (FM 64:8,10, IIA-IIIAl; cf. Analysis 180 and PM IV, fig. 306:h). On the main shoulder zone there is a festoon pattern, the arches of which are linked by parallel curves and contain dots and dotted circles as filling ornaments. The curves are nothing but another reduction of the papyrus derivatives, which replaced the LM I-II festoon pendants (Analysis 181). There are similar festoon designs on PTK fig. 14 and PKU fig. 63, both LM IIIAl (cf. Gournia pl. X:19-20). This pot has been considered an east Cretan import (Kanta 1980, 273, 275).

C3 has a somewhat higher and narrower neck, which is again slightly concave and has a ledge moulding at the base. The lip is horizontal and the handle rather perpendicular, whereas the base is more concave and terminates in a torus-disc base. The shape is rather conical-piriform to piriform and corresponds to FS 53. It can be paralleled by later (IIIA2) examples like our 362; BCH 1907, 119, fig. 4; Catling-Karageorgis 1960, pl. 27:a and Kanta 1980, fig. 95:6,8-9. The decoration is almost identical with that of C2. The wave pattern on the neck is now doubled into a symmetrical band as on Tylissos 1934, pl. XXV:a. The reserved wavy zone between the two wave bands has a wavy line along its centre, exactly like BCH 1907, 119, fig. 3 (IIIA2). The foliate band below roughly corresponds to FM 64:11 (IIIA1; cf. PKU fig. 61 and PM IV, fig. 261). It consists of a series of loops enclosing the leaf-shaped strokes. The pattern originated in the Palace Style and its execution has now become coarser, and as a rule the intervals between the loops are greater (Analysis 180). As on the previous pot, a wavy line borders the composition. The place of the beads in the festoon chain has been taken here by irises FM 10A:c (LM II-III A). In other instances, instead of iris an angular papyrus derivative occupies the angular space (Analysis 181). The fabric of this pot is typically Palaikastrian and its importation from the east Cretan centre cannot be doubted.

10, 362, 986 and 988 have a conical-piriform or piriform profile roughly corresponding to FS 53 (IIIA2e. cf. BM Cat. C377 and C387 from Cyprus). They all appear to have a more or less horizontal lip and arched handles which are grooved. The grooved handle was first introduced in LM IIIA and continued into IIIB. The neck is either straight (362, 986, 988) or splaying concave (10). All four must have been imports from Palaikastro, as their fabric suggests.

The first two have a less piriform body and a lower neck. They are certainly a little earlier than the other two. 10 has a slightly sloping

lip and a splaying torus-disc base. Its shape is closely paralleled by BCH 1907, 119, fig. 3; Catling-Karageorgis 1960, pl. 27:a and Kanta 1980, fig. 95:6,8-9, all LM IIIA2. The shoulder is again decorated by a festoon pattern, which is a degenerate version of that on C2 (cf. 1026 and C12). Within each arc there is an iris FM 10A:c (II-III A) pendent from the band encircling the neck base. This vase should probably be attributed to LM IIIA2e.

The profile of 362 is very similar to 10, the only difference being that its wider diameter is slightly higher up, the neck is straight and perpendicular with a ledge moulding at its base and the handles are rather perpendicular. It has a splaying torus base like our 987. Apart from the parallels cited above in connection with 10, an example from Lachish is fairly close to 362, although it may be a little later in date (Hankey 1979, fig. 3). There is a wavy line FM 53:10 (IIB) round the neck, not unlike that on C3 and 987. A degenerate and carelessly executed version of this pattern occurs on our 986 and on Catling-Karageorgis 1960, pl. 27:a, both of which are apparently a little later in date than ours. This is a characteristic of the Minoan amphoroid craters, as also is the flame (adder mark) or wave pattern. These too were common on the Mycenaean Palace Style jars, but disappeared after this period. The neck of the Mycenaean amphoroid craters is either painted solid or bears a single band of paint (Catling-Karageorgis 1960, 113). The main decoration consists of two panels, one on each side between the handles. The one is hardly recognizable, for only one fragment has been preserved, the decoration of which has all but vanished. It appears from the traces of pendent semicircles visible on the sherd that there was a kind of festoon decoration.

On the other panel (Melas 1981, drawing 2) there is a central loop, hatched with parallel chevrons or herringbone pattern like that on C13. This loop recalls analogous designs on C4 and C13. An identical pattern is formed by an argonaut tentacle on a Rhodian piriform jar (Jacopi 1930-1, fig. 94. Also Mee 1982, pl. 4:1). Two papyrus plants flank this motif. They look very much like those on our 985, but lack the central, voluted bract. They are closer to those on a clay coffin from Palaikastro (PKU pl. XXXIV and PM IV, fig. 272:a) which belong to an early stage of the LM IIIA period, and still preserve the central anther dividing the flower into two parts and flanked by parallel curves and chevrons exactly like those on 362. The whole composition of the panel recalls that on the above mentioned larnax. Our hatched loop corresponds to the central papyrus-shoot of the larnax, which has a papyrus flower on either side and is flanked by incurving coils. According to Evans, this design has an Egyptian religious context and was taken over from amuletic scarabs of the XII-XIIIth dynasty. It reappears on the kilt of a Keftiu in the Rekhmara tomb (PM IV, 329, fig. 272). The whole panel is framed between vertical wavy lines bordered by coils with overlapping ends (cf. PKU

fig. 85:a and pl. XXXIV, both IIIA2e.). These spirals are earlier versions of FM 46:53, which also occur on our kylix 1270 and on C40-41 and C61-63. The panel on the other side seems to have been framed by columns of parallel curves bordered by a thicker line, which terminates in a coil. A later version of this pattern, without the coil, is seen below one of the handles on our 985. 362 must also belong to LM IIIA2e, and seems to be slightly earlier than 10.

986 and 988 have very similar profiles, although the former is more piriform and more broad-based and has a taller neck with a ledge moulding at its base. Both roughly correspond to the Mycenaean type FS 53 (IIIA2e.). 988 has a ring neck moulding and this, as well as other features, may assign it to a slightly earlier date than 986, although both seem to be LM IIIA2 late (cf. Analysis fig. 22). 986 has a bevelled disc base, while 988 displays a socket base. The latter type of base occurs from MM III and is common on the Minoan pithoi (Analysis 97).

The profile of 986 is very similar to Catling-Karageorgis 1960, pl. 27:a, which bears an identical wavy line round the neck and two rows of interlocking spirals on the shoulder recalling those on our example. The latter is also very close to Palaikastro II, fig. 18; Kanta 1980, fig. 95:6 and to a lesser extent to BCH 1907, 119, fig. 4. The main decoration on the one side of 986 consists of three rows of spirals, interlocked vertically and in part horizontally, since only the spirals of the upper row run horizontally. The only difference from Catling-Karageorgis 1960, pl. 27:a is that they are not multi-stemmed and the vertically set ones have their ends overlapping exactly like our 1270 and C40-41, C61-63. Cross-hatched lozenges like those on our cup 1025 fill the interstices. The detached cross-hatched lozenge appears to be very common in east Crete, occurring particularly on the shoulders of stirrup jars (Kanta 1980, figs. 45:1-6 and 62:8). On the other side there is a tricurved arch net. The parallel curves which connect the arches are what has remained from the papyrus used as fillings in LM II (Analysis 202. cf. FM 62:10, IIIA1). The design is closely paralleled by BSA 9 (1902-3) 153, fig. 22:g; Palaik. II, fig. 18; Tyliossos 1912, fig. 46; Morricone 1972-3, figs. 326-327 and Kanta 1980, figs. 67:2, 122:6, all IIIA2 in date. AD 6 (1920-1) 158, fig. 5; PKU fig. 90 and Georgiou 1979, pl. 61:1-2 are fairly close too, but are more likely of a slightly later date (IIIB1). There are small panels with antithetic spirals below the handles (cf. FM 49:24-27. Mochlos 1909, pl. VII. BM Cat. A724:3. Popham 1967, fig. 5:2. Kanta 1980, 114:1. AD 6 (1920-1) 158, fig. 5.)

988 is conical piriform closely resembling BCH 1907, 119, fig. 3 and Kanta 1980, fig. 95:8-9, both of which are IIIA2 in date. The neck is blank and round the top of the shoulder there is a double zone of N-pattern FM 60:1 (IIIA1 - IIIA2; cf. Popham 1967, fig. 5:4, IIIA2. Kanta 1980, fig. 139:2.

French 1967, fig. 7:53-812. Wardle 1969, pl. 62:5, IIIB1). The main decoration consists of one octopus design on each side of the vase. After the overthrow of the Palace Style "the octopus for the most part finds its place on what now appears to have been the largest kind of vessel in general use", the amphoroid crater (PM IV, 310. cf. Kanta 1980, 275). Our examples, being LM IIIA2 late, still retain some of the liveliness of the earlier tradition and are somewhat removed from the LM IIIB stiffness, which is particularly exemplified by the standardization and ultimate degeneration of the motif decorating the clay larnakes of the period (e.g. Gournia pl. X:45-46. Kanta 1980, figs. 35:1,3,6; 55:9; 56:2,5; 63:2,3,6; 65:3,6; 73:9). The same sense of complete stylization is conveyed by the contemporary stirrup jars and amphoroid craters decorated with octopi (e.g. Gournia pl. X:2. Palaik. IV, 284, fig. 15:KP24. Popham 1964, pls. 3-4a-c. Hankey 1979, 3. Kanta 1980, figs. 55:1-2; 57:9. PTK fig. 105:A, AD 6 (1920-1) 160, fig. 8:2=pl. 1:3).

The tentacles of the octopus at this late stage (LM IIIB) never exceed six and sometimes they are reduced to a single undulating line. They are evenly balanced, arranged in strictly horizontal piers and symmetrically displayed without any overlapping. The quality of the drawing is much below the LM IIIA standards and the natural details are entirely lost or geometrized. Later, these degenerate patterns develop into the LM/LH IIIC close style, which was imitated and further developed in Rhodes, Kos, Naxos and Perati (PM IV, 312-313, figs. 249:a-b. Analysis 304, FM 21:22-29. Palaik. III, 207. Popham 1967, 347).

During IIIA-IIIB the efforts of Mainland artists to imitate Minoan originals resulted only in poor and childish executions (Analysis 302-305. French 1965, fig. 4:13 and CVA Danem. 2, pl. 49:1, both IIIA2).

The motif was very popular in east Crete and particularly at Palaikastro (e.g. Kanta 1980, figs. 78:1,6; 79:10; 80:2; 81:8). It appears that Palaikastrian octopus pots, especially amphoroid craters and stirrup jars, were widely exported (cf. our 985, 988-989, C26 and Phylakopi pl. XXXII:2). The east Cretan type, to which our specimens belong, has a heavy and usually small body, huge eyes and thick tentacles coiling to the back of the vase. The two arms which flank the body are always smaller and run along its outline. The body elements become gradually discrete and are separately treated (Pinset 1978, 172-173).

The octopi on our 988-989 belong to an eight and ten-armed version of Furumark's type B (cf. FM 21:5,7) with tentacles "continuing horizontally in the form of thin regular wavy lines ... and thus the greater part of the design has the character of a circumcurrent zonal composition" (Analysis 192; cf. PKU figs. 66:b and 88:b). This type is dated to LM IIIA2 late. Our examples on 988 are handsomely executed with eight lively waving arms. They

are best paralleled by PM IV, fig. 965;K=Pendlebury 1939, pl. XL:3; Mackeprang 1938, fig. 3; PKU figs. 88:b and 89, and Palaikastro III, fig. 5:b, all IIIA2 in date. Below the handles of this amphoroid crater there are vertical metopes with wavy patterns roughly corresponding to FM 65. A vertical row of dots runs between the two wavy borders which face inwards. There are similar metopes on our 989 and on a crater from Kos (Morricone 1972-3, fig. 327). These motifs certainly have the same origin and function as the neck wave or rock patterns on our 985, 989 and C12. There is no doubt that both motifs represent the marine surroundings, with which the early representations of the octopus were always associated.

C1 and C4 are high-necked amphoroid craters, and their handles are markedly spreading. C1 has an advanced piriform shape roughly corresponding to FS 54 (IIIA2 late). The profile is very close to our 989; PM IV, fig. 246; BM Cat. C341; BCH 1907, 119, fig. 4; Catling-Karageorgis 1960, pl. 27:a and Maiuri 1923-4, fig. 149, all IIIA2 in date.

The neck of C1 is tall and slightly concave, terminating in a ledge-moulding. The handles are grooved. Along the rim flange there is a wave pattern or adder mark, not unlike that on the neck of our 985, 989, C2 and C12. The wavy line on the neck is a later version of that on C3 and closely resembles our 986 and Catling-Karageorgis 1960, pl. 27:a. The two sides are decorated in an antithetic manner with a central narrow panel, on either side of which two broad panels bear an identical design; the compositions are symmetrically arranged. The central metope on the one side consists of a scale pattern formed by vertical repetition of festoons, not unlike C12. The difference is that here the filling ornament or angle filling comprises a pendent spiral instead of parallel chevrons or papyrus derivatives (Analysis 181, 202. PKU fig. 63:2). An earlier version of this pattern, with the spirals stemming from the right side of the scale and not from the top angle, can be seen on our jug 57 which is LM IIIA1. The festoon chain containing a spiral coil is reminiscent of similar LM IIIA2 designs with a hook as filling ornament (Gournia pl. X:19-20). Both hook and spiral are remnants of the papyrus derivatives formerly associated with the festoon pattern (Analysis 181). The scale pattern is flanked on either side by a papyrus flower identical with those on C21. The motif is very much in the Palace Style tradition. It is voluted and still preserves the central bract with the radiating bars, which are a usual feature of LM IIIA2 (Analysis 188). The papyrus has lost the fringing ornaments and its arch is very similar to our 362 and 985 (cf. PM IV, fig. 270; PTK pl. CI=FM 11:e and fig. 102:b. cf. FM 11:32,36-37, IIIA2; AD 6 (1920-1) 157, fig. 4, PM IV, fig. 281, IIIA very similar to ours). This motif corresponds to Furumark's type III:b (Analysis 187) which probably developed from the Palace Style type B (ib. 185-186, 190). The latter, at the end of LM II, became voluted, in analogy

with the palm tree and sacral ivy motif. The leaves that spring from each side of the stem have evidently the sense of side bracts, the stem itself serving as the central anther. The half ivy-leaf between the central panel and the papyrus is actually a disintegrated spiral design with antecedents going back to MM II. It appears in the Minoan decorative repertoire as early as LM II.

The central metope on the other side consists of a double wave pattern or wavy border similar to that below the handles of our 988-989, the only difference being that on the former continuous semi-circles bridge the waves. On either side of this vertical panel there is an argonaut with five tentacles roughly corresponding to FM 22:11,13 (IIIA2). No close parallel to this version can be cited, but the general scheme belongs to LM IIIA2 and its character agrees with that of the LM IB variant. The only difference is that the arms have become multiplied and end in spiral coils. During LM IIIB1, the motif develops into a lifeless, schematized design (Analysis 192-193, fig. 50. PM II, 511-512; IV, 277-281, figs. 210, 212-214. BM Cat. A 171-178). Below the handles there are decorative metopes; one bears two quadrefoils roughly corresponding to FM 54:4 (cross, IIA) and 55:4 (diagonal pattern, IIIC1). There is an identical design on the top of our 1012 which is certainly a Palaikastrian import, as is C1 (cf. PKU fig. 65:8). Similar but more degenerate motifs are seen on our rhyton 1268 and on Popham 1964, pl. 8:a, both LM IIIB1. The motif goes back to MM and LM I and the Mycenaean IIA variants FM 54:3-5 were apparently taken from this source (Analysis 375-376. Furumark 1950, fig. 2:33). On the other metope there are similar but more schematised cross-shaped motifs forming six triangles, which bear traces of hatching, and a lozenge in the centre. This lozenge contains a rosette with small lozenges as angle fillings. The rosette roughly corresponds to FM 17:18 (IIB-III A1) but is executed in a purely Minoan way (cf. C13 and PM IV, fig. 250). Identical rosettes with the same fillings but with a circle in the centre can be seen on PKU fig. 91.

C4 has a rather heavy piriform profile and its neck and base are narrower than those of C1. The shape is closely matched by BCH 1907, 119, fig. 4 (IIIA2) and to a lesser extent by Hankey 1979, fig. 3. The lip is horizontal and its flange bears thin strokes of paint framed between thicker bars. As with C12-15, the handles are grooved and rather S-curved. They are more markedly arched than those of C1. The neck is concave-splaying and bears a double wavy line corresponding to FM 53:9 and 53:11. The main decorative zone consists of linked whorl-shells roughly corresponding to FM 24:d-e (LM IIIA2). There are similar motifs on C29, C49, C58-59 and on 992, 1022. The interstices between the whorl-shells are filled with schematized shells alternately arranged. They are outlined by a loop-shaped line terminating in coils and recalling similar motifs on C14. These shells are fairly close

to those on piriform jar C13 and probably derived from a fusion of the argonaut body (e.g. FM 22:5,7-8 and PM II, fig. 314:b) with the linked whorl-shell FM 24:f-g. Stylistically and chronologically they probably stand between the two latter motifs and must therefore be LM IIIA2e. An argonaut variant, which has the loop of one of its arms hatched with parallel curves (Jacopi 1930-1, fig. 94. FM 22:13), may have contributed to the formation of this motif. This vessel must also be a Minoan import, probably from central Crete, as suggested by its fine greenish buff fabric.

987 and 989 were Palaikastrian imports too, and have a very similar piriform profile, although 989 is less plump, its lower part tapering more than 987. Both have a relatively low and straight neck, horizontal lip and markedly arched handles which are grooved. The neck of 987 is a continuation of the body without any differentiation or moulding. It has a torus moulding base. 989 has a ledge neck moulding and a socket base. Higher up on the stem the latter has a double moulding or double ridge, which forms an encircling groove.

The profile of both 987 and 989 is closely matched by PM IV, fig. 965:k; BCH 1907, 119, fig. 1 and Maiuri 1923-4, figs. 74-75, all IIIA2 in date. They are also very close to LM IIIB1 examples, such as Popham 1967, pl. 87:a=Kanta 1980, fig. 103:7; AD 6 (1920-1) 160, fig. 8:2. To a lesser extent they resemble a later IIIB version exemplified by PTK fig. 15;a; AD 26, B2 (1971) pl. 523:e and Kanta 1980, figs. 6:9, 57:9, 58:5.

987 has a wavy line round the neck, not unlike that on C3. As on C4, the main zone consists of an elaborate and later version of linked whorl-shells FM 24:a=PM IV, fig. 254;a (LM IIIA1). The body of the shells has become broader and its apex, formerly represented by a mere hook, has now developed into a spiral (cf. Tzedhakis 1968, pl. 135:b and Kanta 1980, fig. 37:3). The narrow hatched bands, once filling the body, have been reduced to groups of diminishing parallel curves, characteristic of the LM IIIA2 period. They also occur on C4, C21 and on 15, 365. On a sarcophagus from Phaistos this motif occurs in association with running spirals, very much the way that they appear on our pot (Kanta 1980, fig. 35:2, IIIA2 late). When tapering towards their periphery, as on our 365 and C4, these parallel curves usually represent the body of the argonaut or, less often, they fill the spaces between the argonaut arms, as on C21. When tapering towards their centre, they normally represent papyrus derivatives, usually used as festoon angle fillings (our 15. PM IV, fig. 280:a. Kanta 1980, fig. 121:1; cf. Analysis 212). Cross-hatched triangles have replaced the scale pattern of FM 24;a as angle filling. FM 24:g (LM IIIA2) and Gournia pl. X:10 (IIIB1) are schematized and apparently later versions of our design, and so is an LM IIIB/C Close Style design on a crater from Palaikastro (Palaik. VI, fig. 13). There is a double spiral FM 47:3 below each handle. The concave-sided cross-hatched triangles were

executed in a purely Minoan manner and are far removed from their stiff Mycenaean equivalents, as seen on our piriform jar 58. As in the case of the cross-hatched lozenges, this motif was very popular in east Crete, also occurring mostly on the shoulders of stirrup jars (Kanta 1980, figs. 25:4,6,7; 27:3,7; 34:1-2; 36:7,8; 70:3; 118:3; 120:4; 121:5; cf. Hood et al. 1964, pl. 13:b3 and FM 71, elaborate triangle).

989 has a neck wave pattern identical with that on 985 and C12. Below the handles there are vertical metopes with wave patterns or wavy borders as on our 988, but lacking the central row of dots (cf. PTK fig. 102:b, IIIA2 and PKU pl. XXXIV). The octopus on either side of the vase is very similar to those on 988, the only difference being that the former has ten arms and was probably meant to represent a haledon rather than an octopus. However, as already stressed, the comparatively thick tentacles of these late polypi seem to be incompatible with the nature of the haledon. It may be that we have here an octopus-haledon hybrid. The top two tentacles are towering above and on either side of the apex, rather like the antithetic spiral pattern FM 50:1 (IIIA2e.). Similarly formed top arms can be seen on TDoAx fig. 63; BCH 1907, 119, fig. 3; BM Cat. C501 and C603, IIIA2; C1.Rh. I (1928) fig. 42=CVA Rhodi 2, pl. 14:1, IIIA2; Catling-Karageorgis 1960, pl. 28:a-b. The whole octopus design on the Rhodian vase is identical to ours. The dots bordering the two top arms are an LM IIIA2 feature and represent the rows of suckers (cf. PM IV fig. 965:k). They are one of the last remnants of the LM IB tradition (Analysis 192).

Fragments C81 come from an amphoroid crater, which seems to have had a wide-mouthed profile similar to C2. It has a neck moulding too and its neck is decorated with quirk pattern (cf. FM 48:5) which looks so similar to that on our jug 1267 that their common provenance seems very likely. There is a similar neck decoration on Syria 9 (1928) pl. 18:110, already referred to in connection with C2. Below the neck moulding there are traces of undiagnostic floral designs. This amphoroid crater, too, is to be dated to LM IIIA1.

Fragment 990 and probably also 710-712, 720-723, 782-783 and 1241-1242 belonged to amphoroid craters. Rim 990 is a Palaikastrian import, as its typical fabric and dull slip suggest. It has a long horizontal lip and a rather tall, splaying neck. There are regular strokes across the rim flange, whereas the neck was decorated by wave pattern like our 985 and 989. It should be dated to LM IIIA2,

720-721 most probably come from an amphoroid crater too. The fringed arcs which fill the angle formed by double tricurved stripes (also occurring in other sherds not illustrated here) are probably part of a tricurve arch net like that on our 986. On a crater fragment from Kos there is an identical net pattern, with fringed parallel curves representing a papyrus derivative, which is earlier than our 986 (Morricone 1972-3, figs. 326-327). This version

of papyrus derivative evidently derived from the type with many unconnected stamens, which also inspired some variants of the LM III flower (PM IV, fig. 278. AM 38 (1913) 46, figs. 3-5. Analysis 187, types III:c-d. Palaik. VI, fig. 9:u. Popham 1964, pl. 5:f; 1970, fig. 3:35. Mackeprang 1938, pls. XXVI:6 and XXVII:8. Kanta 1980, figs. 3:3; 17:5; 54:7-8 and 97:4,6-8). Another fragment of the same pot, which is not illustrated, probably comes from a panel below the handle and has two vertical rows of parallel curves side by side. They are evidently a derivative of the double foliate band FM 64:23-24 (cf. PTK figs. 67 and 73, both IIIA1). There are similar but single horizontal bands on our 363 and on Kanta 1980, fig. 11:2.

782-783 have traces of painted strokes on the rim flange, like our 990. This is probably a Minoan feature, although the fine buff and light-weighted fabric of the pots might suggest a Mycenaean manufacture,

1241-1242 seem to have come from amphoroid craters, although their shape and fabric, as well as the decoration of 1241, rather point to a date later than Minoan.

A total of 14 complete and fragmentary amphoroid craters are known from Karpathos. Without exception, they are all Cretan products, including 9 Palaikastrian imports.

8. Three-handled Piriform Jars

The shape appears not to have had a wide distribution on Karpathos. It is interesting to note that it only occurs in the area of Pigadia, where Mycenaean influence is certainly stronger than anywhere else on the island. One example from Vonies has obviously no relation to the standard type of Mycenaean piriform jar and should be considered a purely Minoan variety of the pithoid jar.

The general shape originated in LM IA. By LM IB it became more refined and the same shapes carried on into LM II-III A1, with their particular features even more marked. During LM II the shape finds its best expression in the Palace Style amphorae (Stubbings 1951, 14-15). The Mycenaean equivalents are for the most part close imitations of Minoan prototypes, but some types are the result of an assimilation of both Helladic and Cretan versions. In later Mycenaean times these types underwent a further development which took them further away from the Palace Style tradition, as also did the new decorative motifs and syntax (Analysis 21 and 24 f.).

The known examples can be classed in five types: (a) a tall variety with a rather heavy piriform shape and broad base (985); (b) a broad-mouthed, crater-shaped piriform jar (C21); (c) an elongated, high-necked and narrow-based variety, comprising C12-15, 11 and 58; (d) the standard Mycenaean type of piriform jar, to which belong C5-6; and (e) the small version of the

standard Mycenaean type, including C7-11 and 12, 23, 34 and 68.

8(a). Three-handled Pithoid Jar

985 corresponds to a late version of the Palace Style amphora, evidently a survival from earlier periods (Mochlos 1909, fig. 19, LM IA. Popham 1967, pl. 83:a,b). "The shape of the Palace Style jars survives in some big pithoid jars, rather coarse in fabric but decorated in a bold and ornate style with motifs that are usual in the period" (Kanta 1980, 276). The general shape roughly corresponds to FS 18 (LH IIB, cf, Karo 1930, pl. CLXXII:856, with hor. handles). The type has a tendency to preserve early features, such as the prominent horizontal lip, and decorative motifs such as the wave pattern on our jar and on PKU fig. 66:a,b (which are rather LM IIIA2 late) as well as the running spiral on the latter. Our example was certainly imported from Palaikastro, where this kind of jar appears to have been very popular, PKU fig. 91 is painted in a more negligent way and may be slightly later in date. PKU fig. 92 is taller and slimmer. It is decorated with an octopus (cf. FM 21:8, LM IIIB) displayed in two tiers, exactly like that on our jar and on PKU fig. 66:b, which is dated by Furumark to IIIA2 (Analysis 181 n. 11); on BM Cat. A741, also from Palaikastro; and on a clay larnax from Episkopi in Ierapetra (AD 6 (1920-1) 159, fig. 7).

Apart from the octopus panel, there are two other decorative panels on our jar; one consists of unvoluted papyrus flowers which are exactly paralleled on two amphoroid craters and on a piriform jar from Episkopi, Farmakokefalo and elsewhere on east Crete (Kanta 1980, figs. 58:5=140:9; 75:1-3 and 95:8-9). All these are dated to LM IIIB, and they seem more degenerate than ours, which seems to be earlier. The origins of the papyrus motif are to be found on the wall paintings of the "House of the Frescoes" at Knossos (PM IV, 323, fig. 264:A-C). These unvoluted fresco designs were copied by LM I potters (ib. 324-325, fig. 264:F), who usually transformed the original motif into composite plants by fusing it with palm-tree types, reeds and lilies (ib. fig. 264:D,E). During the Palace Style period the tradition of the fresco prototype (PM IV, fig. 264:C) was revived, but now the two circular flowers are normally enclosed in coils shown on either side of the stem, evidently influenced by the palm and the lily (ib. 324, figs. 264:G-H, 262, 268-273. PKT pl. CI, fig. 143. Popham 1967, pls. 82:a and 83:a. Analysis 184-185, types A:I-II, FM 11:e). The unvoluted fresco variety still occurs in LM II (PM IV, fig. 262. Analysis 185, type B, FM 11:23-28). At a late stage of the Palace Style the coils which flanked the central bract gradually disappeared. At first they took the form of detached rosettes on either side of the stem (PM IV, fig. 273) and later there was a tendency to omit them completely (ib. fig. 272). However, they survived into LM IIIA-IIIB, particularly on simple voluted papyrus derivatives, continuing the LM II tradition

of the "beaded" variant like BM Cat. A701:1 and PM IV, fig. 264:H (cf. our C21, BM Cat. A726:2 and Kanta 1980, fig. 75:2-3,5, LM IIIB). The concentric curves which usually flank the central bract of the LM II papyrus (e.g. PM IV, fig. 270) were first replaced by hatched concentric bands, which in their turn gave way to parallel chevrons at the end of the period and the beginning of LM IIIA (ib. fig. 272-273; cf. Analysis 188, type IV:c,d). However, the concentric curves, apparently representing multiple stamens, were not unknown in the LM IIIA period (PM IV, fig. 281). The hatched band which occasionally joined the front of radiating concentric curves of the LM II papyrus (ib. fig. 270) still occurred at the end of the Palace Style period (ib. fig. 272:a). By LM III this element either disappeared altogether (our 362 and BM Cat. A762:2) or is represented by mere transverse strokes (our 985). The dots along the border of the LM IA-B type (PM IV, fig. 264:D, Analysis fig. 33) later assumed a cordiform shape and became connected with the upper margin of the tuft by means of short stems. They gradually disintegrated (PM IV, figs. 264:F,G, 270, 273) until they disappeared by LM III, when the papyrus was normally bridged over by arcs (Analysis 188, type IV:d. Our 362 and 985).

In LM IIIA2-III B1 an east Cretan version of the papyrus, to which our 985 belongs, had its central bract reduced to a double-voluted projection or a single diamond or iris flower occupying the middle of the plant. This element appears to be nothing but an extension of the thickened top angle of the parallel chevrons, which had replaced the radiating curves once stemming from the central bract (cf. Kanta 1980, figs. 58:5, 75:1-3, 95:8-9, 140:9, all LM III B). In other cases the bract was wholly omitted and a column of parallel chevrons took the place of the double chevron design, which formerly flanked the bract (our 362. BM Cat. A726:2. Kanta 1980, fig. 75:5).

The decoration of the third shoulder panel of 985 consists of LM III B1 festoons, which form a scale pattern through vertical repetition (Analysis 181, 202). They are of the usual LM III form, with parallel semicircles and parallel curves connecting them (cf. Kanta 1980, fig. 65:2).

The wave pattern round the neck, which is also seen on our amphoroid crater 989 and as a wavy border FM 65 on 988, was frequent in the LM IB style and recurred in LM IIIA1 (Analysis 184, 211. PM IV, fig. 300. Kanta 1980, fig. 140:1). Here we have a survival of the design into LM IIIA2-III B1 (cf. Pendlebury 1939, pl. XL:3).

The ornament below one of the handles consists of concentric arcs FM 44:10,14 (LH III C1). This motif was of Minoan inspiration (Analysis 348-350). The stemmed spirals on the rim flange correspond to FM 46:18-19 (III A/III B).

985 should be dated to LM IIIA2 late.

8(b). Broad-mouthed Piriform Jar

C21 is a three-handled piriform jar, the shape of which, as well as its fabric and to a large extent the decoration, is identical with the amphoroid crater C1. There is little doubt that both are products of the same Palaikastrian workshop. The only difference is in the number of handles, which are grooved in both cases. Those of C21 are identical with our 989, both in section and decoration with horizontal bars of paint.

This type of three-handled crater was an east Cretan invention and brought the piriform jars near to the amphoroid craters of LM III (Kanta 1980, 277). A similar pot from Myrsini is illustrated in BCH 1960, 820, fig. 2. The decoration of C21 "is fascinating for its variation and combination of motifs" (Kanta 1980, 277). The neck bears a single encircling band exactly like our amphoroid crater 10, which has a similar profile and is undoubtedly a product of the same workshop. As with the rest of the piriform jars and amphoroid craters, the antithetic composition is very prominent and reflects the marked LM III tendency for such arrangement of the decorative patterns. Below each handle there is a metope with antithetic wave bands or borders, analogous to those on our 988-989. This is another confirmation of the assumption that these elements normally occur on pots decorated with marine motifs and represent the sea surroundings. These motifs divide the vase into three decorative panels as follows:

(A) papyrus plants antithetically arranged on either side of a curve-stemmed flower, on top of which there is a bird. The papyrus flowers are identical with those on C1, although the former have a rather cordiform outline, implying a fusion of the papyrus with the sacral ivy FM 12 (cf. especially FM:12:w and Analysis fig. 36:LM IIIA1 main ornament). This fusion occurs already on Palace Style amphorae (Analysis 190. FM IV, fig. 262:a and also figs. 260-261. BCH 58 (1934) 272, fig. 40, IIIA2.). The bird is long-bodied and both body and raised wing are outlined and casually barred. It corresponds to FM 7:d which is transitional from LM II to III. Apparently it represents a wild duck seated amidst papyrus thickets (cf. FM IV, 336-337, figs. 280-281. Analysis 195 f.).

(B) two curve-stemmed flowers on either side of a papyrus. They are identical to those on side A.

(C) two fish on either side of an argonaut. The latter is very similar to those on C1, the only difference being that it has only three arms, the interstices of which are filled with diminishing parallel curves. The latter feature plays a very important role in the LM III style (Analysis 212). The argonaut is closer to the standard LM IIIA2 version, which follows more closely the LM IB tradition (Analysis 192-193, FM II, fig. 390. Forsdyke 1926-7, fig. 26). BM Cat. A729:1 from Palaikastro is an exact parallel to ours and roughly corresponds to FM 22:13 (III A2 late). The fish with their

long noses evidently represent dolphins and roughly correspond to FM 20:2 (IIIA1; cf. PKU fig. 66:b, IIIA2; BM Cat., A716, IIIB1; JHS 23 (1903) 198-199, fig. 14:1-3, IIIA1/2). The dolphin on the right has an oval outline giving the animal an ordinary fish-like appearance and this is a sign of lateness (Analysis 193-194). The motif derives from the LM IB Marine Style, which carries on into LM II-III (Analysis 193, PM IV, 305, fig. 239. BM Cat. A706). The combination of fish, birds and papyrus derivatives belongs to the so-called Nilotic Cycle (Analysis 194, PM IV, 303 f.) and is common in certain workshops of LM IIIA1-III2 (Vermeule-Karageorghis 1982, 159).

8(c). High-necked and Narrow-based Piriform Jars

Six examples are ascribed to the third class of piriform jar. The profile of the first four (C12-15) is identical and corresponds to the piriform-conical FS 36 (cf. Analysis 26). 58 has a very similar profile which rather corresponds to FS 37. Both these shapes, like FS 35, are characteristic of the Levanto-Mycenaean style and occur only from LH IIIB (Stubbings 1951, 41 and fig. 8:i). The jars C12-15, however, are certainly earlier in date and their origin should be sought in Crete where this tall-and-narrow-necked type appeared in LM IIIA2 and continued into LM IIIB. It usually has, like our specimens, a moulding ring base and a neck moulding. The raised base appears very often in Minoan piriform jars. It seems likely that this particular type of jar is derived from east Crete, more particularly from Farmakokefalo (Kanta 1980, 183-184, 276-277, fig. 76:5-6). All four bear strokes of paint on the rim flange, enclosed between thicker bars.

The main decoration on C12 consists of LM IIIA2 festoons forming a scale pattern through vertical repetition, not unlike our 985 which, however, is of a later date. These festoons with their filling accessories apparently correspond to a papyrus motif, whose origin may be related to an original papyrus plant seen on a piriform jar from Myrsini (Kanta 1980, 277. BCH 1960, 820, fig. 2). There is a similar festoon decoration, with parallel chevrons bridging the semicircles but with dissimilar fillings, on PKU fig. 65:3. There are also filling ornaments of rosettes formed by U-shaped FM 29:8 (IIIA1-IIIA2). They are of Minoan derivation (PM IV, 314-315, fig. 250. Analysis 206) and occur also on craters from Cyprus (BM Cat. C414. CVA Gr.Br.I, pls. 7 (19):10; 9 (21):10 and 10 (22):3

The parallel zigzag lines on the panels below the handles are common in the LM IIIA2 style (Analysis 203). They correspond to the later Mycenaean version FM 53:27 (IIIB). A similar panel occurs also on our pyxis 1014 and on another from Palaikastro (PKU fig. 99, cf. PM IV, fig. 280:c and PTK fig. 114:25a, both LM IIIA2). Rosettes formed by four U or radiating spokes around a dot decorate a zone between the upper handle attachments. The first version is apparently a Minoan antecedent of FM 27:46-47 (IIIB-IIIC1) closely linked with the already mentioned trefoil FM 29:8 (cf. PKU fig. 66:a,

LM IIIA2). The second variant, too, is a Minoan variety of FM 27:1-12 (IIB-III A1) which appears in Crete as early as LM IB and carries on into LM IIIA-III B (Analysis 209. PM IV, figs. 214, LM IB and 280:b, LM IIIA2). The wave pattern round the neck is also a Minoan feature and occurs on our 985 and 989 as well (cf. Kanta 1980, fig. 140:1, pir. jar from Episkopi in Ierapetra).

On the shoulder zone of C13 there are three decorative patterns on the corresponding spaces between the handles. The first consists of two peculiar versions of the argonaut motif, antithetically set and springing from the upper attachments of the handles. The motif appears to be a fusion between the Minoan antecedent of the multiple stem and tongue pattern FM 19:52-53 (cf. our 1023 and C70) and an LM IIIA2 version of the argonaut, apparently related to a spiraliform variety like PM II, fig. 390 (Analysis 192-193; cf. FM 22:16, LH IIIA1).

The second panel consists of linked whorl-shells roughly corresponding to FM 24:d (LM IIIA2; cf. our 992, 1022 and C49, C58-59, C71). The interstices are filled with ornaments in the form of a degenerate version of the argonaut motif, the arms of which are rendered by a single loop bordering the body and terminating in two out-looking hooks. There is a similar pattern on our miniature jug 365 (cf. PM II, fig. 390. FM 22:5,7-8). The whole composition recalls that on the amphoroid craters C4 and 987. This is obviously a transitional variety of the linked whorl-shell motif, to be placed between FM 24:a (LM IIIA1) and FM 24:g (IIIA2).

The third panel consists of a spiraliform motif, perhaps another schematized rendering of the argonaut, hybridized with an elaborate version of the double foliate band, the prototype of which appears to be a fine LM IB floral coil terminating in a papyrus flower (PKU fig. 35). On the belly zone there are groups of concave-sided chevrons or herringbone patterns which occur, too, on C85. The motif seems to be derived from the double foliate band and was particularly popular at Palaikastro (Analysis 213. FM 58:32, IIIA2. BM Cat. A711, 723:1 and 744. PM IV, fig. 280:a,b). This jar may be LM IIIA2e. in date (cf. Kanta 1980, 278).

C14 is decorated all round its shoulder with a zone of double spiraliform designs vertically set. The main line, which is thick, is framed between two thinner lines (cf. Kanta 1980, fig. 51:2). They may be slightly related to FM 50, antithetic spiral pattern. A similar motif occurs on our LM IIIA1 stirrup jar 43. Below each handle there are concentric arcs flanking its lower attachment.

The shoulder of C15 is decorated with parallel chevrons FM 58:27 (IIIA2 late).

Our 11 and 58 should rather be classed within the tall-necked piriform type of jar than with the standard Mycenaean variety. As already stated, 58

corresponds to FS 37 (IIIB-IIICle. cf. Analysis 25). The shape rather belongs to the LH IIIB period, because the broadest part of the body is placed somewhat higher up than the LH IIIC version. Apart from the profile, it has nothing in common with the four Minoan examples already referred to. This is a purely Rhodo-Mycenaean type, as its fabric and decoration also suggest. The shoulder decorative zone consists of two superimposed rows of cross-hatched triangles FM 61A:5,7 (LH IIIA2-IIIB). Similar patterns occur on basket vase C87 and on similar, as well as on various other, Rhodian and Koan pots (Analysis 390. Mee 1982, tables 2-4, 7-8, pl. 13:5. Maiuri 1923-4, fig. 40. Jacopi 1930-1, figs. 30 and 35. CVA Danem. 2, pl. 62:4. Morricone 1965-6, figs. 23, 89 and 142). Similar jars were found on Rhodes and Kos and some of them have a decoration identical to ours (Jacopi 1930-1, fig. 85. Morricone 1965-6, figs. 142, 190, 208, 248, 290, 311; 1972-3, fig. 253). There is little doubt that this pot was a Rhodian or a Koan import.

The lip of 11 is strictly horizontal, not sloping as in the standard Mycenaean type. As in the case of C12-13, there were three decorative panels on the shoulder. Of these only two have been preserved. One consists of three rows of interlocked diamonds or lozenges with a dot in their centre (cf. the iris chain FM 10A:8, IIIA1). By their vertical repetition they form a kind of net pattern. The motif was very popular in east Crete, particularly at Palaikastro, Farmakokefalo and Episkopi, but it also occurred at Knossos, Phylakopi and elsewhere (BM Cat. A722. PM IV, fig. 965:0, IIIA2. Georgiou 1979, pls. 61:3-4, IIIB and 62:27. Kanta 1980, figs. 61:11 and 74:6=104:2, IIIA2. Hag. Nikol. Mus. 1943. Phylakopi pl. XXXI:21).

The other panel contains single scale pattern with central dots. The design is lively, formed by vertical repetition of wavy lines, and is certainly an LM IIIA2 version of FM 70:2 (IIIA1, cf. Furumark 1950, 171, fig. 9:152. French 1964, pl. 70:a6,c7. PKU figs. 65:9 and 79. TDoAx fig. 28. Kanta 1980, figs. 28:6 and 53:1. But cf. AD 26, B2 (1971) pl. 523:5 and Catling 1968, fig. 6:30, both IIIB).

It is not clear whether fragments C16-20 belonged to the class under discussion or to the standard Mycenaean type to which we now turn.

8(d). Piriform Jars of the Standard Mycenaean Type

Only two specimens belong to our fourth class of piriform jar. As in the case of the Cretan examples described above, they both have a ring moulding base, neck moulding and ridged handles. Their fine greenish buff fabric, as well as their profiles, seems to indicate an Argolic origin, although their decoration does not point in the same direction. It may be that they were made in Rhodes by Mycenaean craftsmen, inspired by Minoan decorative traditions (cf. Stubbings 1951, 14-15, 17).

C5 belongs to the standard piriform type, exactly corresponding to

FS 34 (LH IIIA2e.). The shape was particularly popular in Rhodes (BM Cat. A828. Maiuri 1923-4, figs. 9:26 and 136. Jacopi 1930-1, figs. 9 and 94. Mee 1982, pls. 4-6). The shoulder decoration consists of tricurved arch net filled with chevrons, single angles and crosses (FM 62:13, IIIA2). The motif derives from a Minoan antecedent with papyrus derivatives as angle fillings (Analysis 202). The triple outline of the arches seems to be a survival of a Minoan antecedent, which goes back to LM IB and continued into the LM/LH II Palace Style and LM IIIA (Furumark 1950, fig. 19:D. Popham 1967 fig. 5:13. Maiuri 1923-4, fig. 87. Mee 1982, pl. 4:3. Boysal 1969, pl. II:2).

C6 corresponds to a conical-piriform and broad-based version of FS 34 (cf. Analysis 589). The shoulder zone is decorated with a simple scale pattern consisting of double scales. This pattern may be considered an earlier version of FM 70:8 (IIIB) which probably had its origins in the Minoan festoon-scale pattern, as seen on our 985 and on Hag. Nikol. Mus. 1124 (from Farmakokefalo, cf. Analysis 202). Similar decoration occurs on piriform jars from Rhodes and Cyprus, but with circles or dots of paint as filling ornaments (BM Cat. A827 and C472). This jar appears to be later than C5 and may be even LH IIIB (cf. Stubbings 1951, 19 and Mee 1982, pl. 20:1).

8(e). Small Piriform Jars

Nine specimens are classed within the fifth category of the piriform jar, which comprises the small version of the normal Mycenaean type. When occurring in Crete this kind of jar is considered to be a Mycenaean novelty (Popham 1967, 344). C7-C11 and 12 correspond to the conical and conical-piriform FS 31 and 44 (IIIA1/IIIA2). C8 is FS 31 and is the only example with vertical handles, which also appear on a jar of identical profile from Ialysos (BM Cat. A823). It has a splaying base and a rather horizontal lip. The three panels between the handles are filled with running spirals FM 46:52 (IIIA1-IIIB).

C11 is decorated with stemmed spirals FM 49 and must be also IIIA1/IIIA2 (Mee 1975, 322). C7, C9-10 and 12 seem to be identical in profile, corresponding to FS 44. The shoulder of C7 is decorated with a foliate band FM 64:21 (IIIA2) and is exactly paralleled, both in profile and decoration, by BM Cat. C457 (Cyprus), Wace 1932, pl. XLV:7 (Mycenae) and PTK fig. 117:12a (Knossos). C9 is decorated with simple scale pattern FM 70:1 (IIA-IIIB). BM Cat. 825 and C452, from Ialysos and Enkomi respectively, are very similar to C9, both in profile and decoration. C10 was decorated with a foliate band FM 64 (Mee 1975, 322) and is probably IIIA2e. in date.

Our 12 is decorated with a foliate band FM 64:13-14 (IIIA1-IIIA2, cf. Analysis 180) on the handle zone. This is bordered below by a band consisting of a wavy line, the alternating angles of which are filled by A-type iris FM 10A:g (cf. Analysis 182). The origin of this combination of foliate band

and iris patterns may be sought in the decoration of Cretan metal work. The ornament is of LM II origin and enjoyed a great popularity in LM IIIA2 Crete. It was particularly common at Palaikastro, Farmakokefalo and elsewhere in east Crete (Catling 1968, 109-111, fig. 4:14-15. Kanta 1980, 184, fig. 47:9. PTK fig. 117:6a and 76 f. Popham 1967, figs. 3:1 and 5:1,4,12. Hood et al. 1958-9, fig. 26:II,1). Prosymna fig. 764 and Buchholz-Karageorgis 1973, pl. 321:949 are similar jars with fairly similar decoration. CVA Danem. 2, pl. 61:5, a stirrup jar from Rhodes, has a similar decoration, evidently inspired from Minoan originals. Both fabric and decoration point to the Cretan manufacture of our 12.

34 is the only real piriform shape in the whole group of small jars. It has a splaying base and corresponds to FS 45 (IIIA2e.). On the shoulder zone there are three pairs of curve-stemmed spirals FM 49:10 (IIIA1-2) between the handles. Below each of the latter there is a multiple stem and tongue pattern FM 19:34 (IIIA2e.).

Belly fragment 23 and rim fragment 68 are difficult to classify, but they must have belonged to small LH IIIA1-IIIA2 jars like those described above. 23 is decorated with diaper net FM 57:2 (IIIA1-IIIC1). Great numbers of small piriform jars with such decoration are known from the Mainland of Greece and from the islands, especially the east Aegean ones (BM Cat. C458 from Cyprus. CVA Danem. 2, pl. 63:6. Mee 1982, pl. 5:3. Morricone 1965-6, figs. 37:366, 40:367 and 53:389. Kanta 1980, fig. 76:2. Wace 1932, pl. 48:12. Hankey 1952, pl. 22:479B).

In a total of 25 complete and fragmentary piriform jars from Karpathos, 16 are Mycenaean. Some of them may be Argolic products, but the majority seem rather to be of Rhodian manufacture. No. 58 almost certainly was made in Rhodes. The other 9 are Minoan, including 3 Palaikastrian imports and 4 which almost certainly were made in East Crete, probably in the area of Farmakokefalo.

9. Stirrup Jars

The stirrup or false-necked jar developed from the MM III-LM I amphoroid jar and became common from LM II onwards (Analysis 85. Maisons III, fig. 21, MM III-LM I. Gournia pl. VII:18, PKU fig. 33). In Mainland Greece it was practically unknown before LH III (Stubbings 1951, 16). As is generally the case with most of the Minoan cemeteries, the stirrup jar is one of the commonest articles in the LM III graves of Karpathos (cf. PKU 160. Kanta 1980, 244). The known specimens can be classed in five groups: (a) tall storage stirrup jars of ovoid-conical shape (C26-8); (b) medium-sized stirrup jars of advanced or heavy piriform shape (C31, C94-5 and 27, 44, 992, 998); (c) small piriform and depressed piriform (45, 60-3, 1001); (d) large, medium and small-sized stirrup jars of globular-conical shape (C32 and 13, 43), and (e) depressed and squat globular of medium or small size (C29-30, C33 and 993-5

997, 999, 1000, 1002, 1266).

9(a). Storage Stirrup Jars

The three jars of this class have roughly the same profile, which recalls the Mycenaean FS 164 (cf. BM Cat., C501, LM IIIA2). C28, though, is more ovoid than the other two, which are clearly ovoid-conical. The sloping handles are a common feature of all three. C26 "is the earliest in the long line of coarse octopus stirrup jars" (Popham 1964, 18; cf. Kanta 1980, 249 with n. 2). These jars "must have been designed as receptacles of liquid exports from Crete to the east Mediterranean" (Hooker 1969, 67). Their distribution in space and time was remarkably wide. They were current throughout the LM III period and have been found as far as Cyprus, the Levant, Egypt and the Greek Mainland. The typical octopus decoration has been considered a kind of trade-mark (Catling-Karageorgis 1960, 121-122. Benson 1961. Kanta 1980, 252-4).

The top disc of C26 is decorated with three filled quadrants. These are probably nothing but a contracted version of the wavy or rock pattern, which is always associated with the polypus design (cf. Kanta 1980, 250). On the handles outside there are chevron or herringbone patterns reminiscent of those on C13 and C85. The main decoration consists of one octopus on each side. It has small bar-like tentacles between the arms and is very similar to TDoAx fig. 63; PTK pl. C; PM IV, fig. 244:a and Kanta 1980, fig. 56:4. The design is well within the naturalism of the Palace Style tradition. The marine environment is here represented by the following elements: sea anemones identical with those on PM II, fig. 121:c (LM IA) which correspond to the stiffer Mycenaean Palace Style version FM 27:8 (=Wace 1932, pl. III:2, LH II). They appear to swim amidst the octopus arms. There are also tassel patterns FM 72:1 (IIB) hanging from the handle attachment or stemming from the top encircling band on the lower body (cf. TDoAx fig. 63. Benson 1961, 50, fig. 5). The tassel pattern here seems to represent marine background, i.e., rockwork and seaweed. The vase has been dated by Popham to LM II/III A1 (1964, 18; cf. Analysis 192 with n. 1 and PM IV, fig. 244:a, IIIA1). Its fabric, with the dull slip, rather points to a Palaikastrian manufacture, although the buff clay colour is not the typical one for Palaikastro.

C27 was evidently an import from Palaikastro, as its fabric suggests. BM Cat. A715 (=Benson 1961, pl. XVIII:4) and A891 seem to be identical to C27, both in fabric and profile. The first comes from Palaikastro, the second from Rhodes but was undoubtedly a Palaikastrian import. Our example has three handles and this is a Minoan feature occurring chiefly on early specimens and reviving during LM IIIB, especially in some provincial Cretan workshops (Kanta 1980, 254, figs. 44:7-8; 90:8 and 94:1-2. Analysis fig. 23:a. Gournia pl. VII:18. PKU fig. 33. Zakros figs. on pp.118 and 121. Asine

fig. 249:5-7.

Very few of the later Mycenaean stirrup jars appear to be of the three-handled type (e.g. CVA Danem. 2, pl. 62:1). There is a painted cross FM 41:21 (IIIA-IIIB) on the handle disc of C27. This element only occurs on large storage stirrup jars. The shoulder is decorated with five groups of two or three leaf-shaped angles or grasses FM 16:4 (LH IIB) placed in an antithetic and slanting arrangement very much in the sub-LM IA and the Palace Style tradition (cf. Gournia pl. VII:24, Benson 1961, fig. 5. Tylissos 1912, figs. 7-8, IIIA1). This jar is evidently contemporary with the last one.

C28 appears also to be an import from Palaikastro. It is much damaged and nothing has remained of its decoration. Both profile and fabric appear to be identical with BM Cat. A714=Benson 1961, pl. XVIII:5, from Palaikastro. There are two small perforations in the handle disc and two small tooth-like projections on either side of the spout (cf. PKU fig. 33 and Gournia pl. VII:24). Both these elements were used for affixing the "seal" which covered the mouth of the pot. There is thus little doubt that this jar was imported to Karpathos filled with some kind of liquid commodity.

9(b). Medium-sized Piriform Stirrup Jars

The first three specimens of this category, C31 and C94-5, appear to be of LM IIIA1-IIIA2e. date. C31 and C95 have a piriform to heavy piriform shape roughly corresponding to FS 165 (IIIA1) but being of comparatively depressed form (cf. Mee 1982, pl. 8:1). The neck and handles correspond to Analysis fig. 23:b (IIIA1). This shape is closely paralleled by PTK fig. 14, IIIA1; Kanta 1980, figs. 8:1,4 (IIIA1), 8:2 (IIIA2e.), 23:2 and 124:5,7,9. There is a spiral on the top disc of C31 and this is a late feature (Analysis 370. FM 52:4, IIIB-IIIC). On the shoulder zone there is an elaborate triangle FM 71:c (LM IIIA1) on either side of the spout. The triangles are of the curved type, which occurs on IIIA1 vases (Analysis 211). Similar motifs decorate the shoulder of C30 (cf. IIIA1; PM IV, fig. 235; Hood-De Jong 1952, fig. 9:I.5; Forsdyke 1926-7, fig. 28). This motif carries on into LM IIIA2 late-IIIB1 in a degenerate and pointed variety with the bottom triangle or arc open rather than filled (cf. our 992 and 1266. AD 6 (1920-1) 161, fig. 10:3, IIIB1. Kanta 1980, figs. 117:6; 119; 120:6). On the other side of the shoulder there is a central metope with parallel zig-zag lines (cf. our C12 and 1013), on either side of which there are Minoan double-leaved flowers like those on C30 (cf. Mackeprang 1938, pl. XXVI:6. Kanta 1980, figs. 8:5-6; 97:4-6 and 117:5). Three LM IIIA2 late-IIIB1 stirrup jars from Ayia Pelayia, Kalokhorafitis and Kritsa have a very similar shoulder decoration with zig-zag metope and elaborate triangles (Kanta 1980, figs. 9:1, 119:5 and 120:6). This kind of antithetic compositions with a central metope on the shoulder of stirrup jars seems to have been very popular on east Crete

(cf. also Gournia pl. X:32).

C95 is much damaged and its decoration is difficult to distinguish. Fabric and slip indicate a Palaikastrian provenance. It is probably dated to LM IIIA2e.

C94 which is probably LM IIIA1 has an advanced piriform shape, approaching FS 165 (IIIA1). The neck and handles again correspond to Analysis fig. 23:b (IIIA1). This profile is closely paralleled by Asine fig. 249:5 (three-handled jug) and Kanta 1980, figs. 8:3, 103:9, both IIIA1, and 23:11 (IIIA2). There is a small hole through the handle disc. The shoulder zone is decorated with four elaborate triangles FM 71:c, very similar to those on C30 and C31. The hatched arcs on the top of the triangles, as well as the lines bordering them on the outside, are linking and thus form a kind of wavy bands encircling the shoulder. Further down, on the upper body, there is a broad zone decorated with linked whorl-shells FM 24:b-c (IIIA1) which is an earlier version of that on C29, C49, C59-60, C64, C71 and on 992 and 1022. There is an identical pattern on BM Cat. A726:1 and PM III, fig. 258.

The heavy piriform profiles of 992 and 998 appear to be identical with C31 and C95. Their base is markedly splaying. The neck and handles of 992 rather correspond to Analysis fig. 23 (IIIA2e.) and the spout to Analysis fig. 22 (IIIA2). The shoulder zone is decorated on one side with LM IIIA2 elaborate triangles on either side of the spout. These triangles are a degenerate version of FM 71:c and are closely paralleled by Kanta 1980, figs. 69:5, 97:1-6, 119:1,3-6 and 120:6. On the other side, across the false neck, there are another two elaborate triangles slightly reminiscent of FM 71:i, which is later in date (IIIB2). They generally resemble those on the other side, but a zone of diaper net is intervening between the internal arcs and the bordering hatched band. In addition to that, the bands of paint which run along the hatched bands form a kind of festoon pattern with parallel curves as angle fillings. Further down the shoulder there is a narrow zone decorated with linked whorl-shells, which closely correspond to FM 24:d (LM IIIA2; cf. Analysis 182 with n. 8). There is an identical decoration on our cup 1022, on the stirrup jar C29 and on Kanta 1980, fig. 49:2 (LM IIIA). 992 is a fine product, made of well levigated buff clay. It may have been an import from central Crete, possibly from Knossos. Its date is probably LM IIIA2e.

The top of 998 is missing and we do not know what its shoulder decoration looked like. Only part of a zone with horizontal dashes has been preserved. There is a similar zone on our 997, the fabric of which is identical to 998.

27 and 44 have an identical advanced piriform profile corresponding to FS 166(IIIA2(-B)). The shape is closely paralleled by PTK fig. 114:64b, 76d,1b,25a; BM Cat. C509; CVA Gr. Br. I, 15, pls. 2:16-18 and 3:15-16,19; Hood et al. 1958-9, fig. 29:XI.1=pl. 57:c; Kanta 1980, fig. 97:4-5. As in the case of our 992 and 998, their top corresponds to Analysis figs. 23 (IIIA2e.)

and 22 (IIIA2 spout). Both pots should be dated to LM IIIA2e.

27 is a medium-sized stirrup jar on a slightly splaying torus-disc base. The shoulder zone is decorated with a degenerate version of the single LM IIIA foliate band consisting of thin parallel curving strokes (cf. Analysis 180. PTK fig. 117:64a. Popham 1967, fig. 5:7. Kanta 1980, fig. 107:2). The foliate band is a very common feature on the Minoan Pottery of Karpathos, particularly occurring on the shoulder of stirrup jars and jugs. This emphasizes the close contacts of the island with east Crete, where this motif was also very popular (e.g. Palaikastro: Palaik. III, 225; fig. 8:a,c. PKU figs. 61, 63, 67, 80:b, 85:a,c. Farmakokefalo: Kanta 1980, 184).

44 has, too, a slightly splaying but flat foot. The shoulder zone is decorated with simple cross-hatching (FM 57:2, diaper net). Such horizontal zones of network are sometimes found on LM II-III A vases (Analysis 203. PKU fig. 63:2, IIIA1). On the shoulder zone below the handles there is a zig-zag line with parallel chevrons of the same structure in the angles. The motif is evidently a simplified version of the A-type iris chain FM 10A:g and 9, and roughly corresponds to FM 61:10 (Analysis 182, 385, 387-388). This pattern is exactly paralleled by PM IV, fig. 961:a (IIIA1); PTK figs. 23 and 117:76g (IIIA1); TDoAx fig. 28 (IIIA2) and Kanta 1980, fig. 139:5,10-11. There is a similar pattern on our 997, whereas that on our 12 and 45 has A-type irises as angle filling (FM 10A:g).

9(c). Small Piriform Stirrup Jars

Under this heading are classed stirrup jars up to 11 cms. in height. Six specimens belong to this class. They all appear to correspond to the larger and later Mycenaean version FS 167 (IIIB). They are either piriform (60), heavy piriform (45, 61-63) or depressed piriform (1001). Their fabric is typical Palaikastrian and their importation from this Cretan town seems pretty certain.

The shoulder zone of 45 is decorated with a foliate band identical with that on our 47, 61, 995 and C23, C33. The motif belongs to the same type as that on our 27, which is rather S-shaped and executed in a more lively fashion. Its ends are more markedly thickened and do not join the encircling band, which borders the motif below (cf. FM 64:12-13). The foliate band motif is perhaps the commonest decorative element of LM IIIA stirrup jars (Kanta 1980, 250). Below the foliate band there is an A-type iris zone alternately arranged in the angles of a zig-zag line (cf. Kanta 1980, fig. 23:3=141:2, IIIA2). The same combination of similar motifs are seen on our 12, 44 and 997 (cf. TDoAx fig. 28. Catling 1968, fig. 4:15, IIIA2). Both motifs appear to be LM IIIA2 and 45 should belong to LM IIIA2e., although its shape might indicate a later date (cf. Analysis 180, PKU fig. 67:85a and 88:a, Gournia pl. X:13,21. Palaik. VII, fig. 23).

The shoulder decoration of 60 seems to be unique and no close parallel to the whole design can be cited. On one side there are two groups of isolated semicircles flanked by horizontal dashes and dots (FM 43:9, IIIA2 late) and thus forming a kind of festoon pattern, which is a later version of C29 and PKU fig. 76. The motif is exactly matched by Kanta 1980, fig. 110:3 (IIIA2 late). On either side it is bordered by an isolated pendent spiral roughly corresponding to FM 52:1, which has been inspired by Cretan models (Analysis 180, 370; cf. FM 51). On the other side there is a corrupted version of the double foliate band seen on C23 (cf. Boysal 1969, pl. XIV:2). The whole shoulder decorative zone of 60 is bordered below by a band of wave or rock pattern identical to that on the neck of C12.

On the shoulder zone of 61, across the false neck, there is a similar double foliate band. In contrast to that on 60, which has its lines almost straight, the present band still retains the S-type form of the original version (cf. Analysis 180. Gournia pl. X:33. AD 6 (1920-1) 161, fig. 11:5. Kanta 1980, fig. 69:8, all IIIA2 late-IIIB1). On the other half of the shoulder, on either side of the spout, the quadrants are also filled by degenerate foliate bands of the S-type. Both these stirrup jars are probably dated to LM IIIA2 late, and so are our 62-63 and 1001, the surface of which is badly worn and no shoulder decoration is preserved except for some traces on 62, probably belonging to foliate bands.

9(d). Globular-conical Stirrup Jars

All three specimens of this category are Palaikastrian imports. 43 corresponds to FS 170 (IIIA1-IIIB; cf. PTK fig. 114:55d and Popham et al. 1974, pl. 34:a, both rather ovoid IIIA1). The false neck is relatively low, concave and tapering upwards. The top part corresponds to Analysis fig. 23:b (IIIA1), with sloping handles, flat disc and marked ledge neck moulding. The spout is concave with roll lip. The top of 43 is exactly matched by PTK figs. 73=114:d and 83=114:68b=115, both IIIA1. The latter has a low plastic wart on the shoulder, identical with that on our example. The shoulder decoration consists of four double spirals. One of them is S-type and roughly corresponds to FM 47:1 and 3 (cf. Analysis 358 and PM IV, fig. 302:2, IIIA1). The other three are of a different type, exclusively used on stirrup jars. This consists of two spirals occupying the angles formed by the handles and the spout, as well as the corresponding sections on the other side. These are linked by a U-shaped line which is a continuation of the spiral coil and runs along the outer sides of the two necks' bases. There are very similar but more elaborate spirals on PTK figs. 73=114:55d (IIIA1). There are similar motifs on the shoulder of C14. 43 should be LM IIIA1.

C32 is a medium-sized globular-biconical stirrup jar roughly corresponding to FS 172:4 (IIIB). No close parallels to this specimen can be cited.

The false neck is narrow and concave, the top disc broad and flat, and the handles sloping (cf. Analysis fig. 23:IIIA1 late and IIIA2e.). The surface is worn and the decoration cannot easily be recognized. In the quadrants on either side of the spout there are elaborate triangles which seem to be FM 71:b (IIIA1, cf. PTK fig. 67), but they might perhaps be a later version, with the bottom arc not filled (cf. our 1266 and Kanta 1980, figs. 31:4=117:3). On the other side, across the false neck, there are two similar groups of parallel arcs, which link up so as to form wavy lines exactly as on our stirrup jar 999. The pot should be LM IIIA2.

The profile of 13 is similar to C32, but is smaller in size. Its shoulder decoration consists of foliate bands as on our 61, but they are single and are bordered by a zig-zag pattern (cf. our 997) on one side and by two isolated semicircles (cf. our 60) on the other. The decoration of the quadrants on either side of the spout is identical to that on our 61. 13 is rather LM IIIA2 late in date.

9(e). Depressed or Squat Globular Stirrup Jars

The various types of depressed globular stirrup jars appear to be typical of the LM IIIB period, but examples which belong to a late stage of LM IIIA2 are not lacking (Popham 1965, 320, Kanta 1980, 248). The specimens from Karpathos can be divided into (a) squat globular (C29-30, 993, 1000, 1002, 1266), (b) weighed-down globular (995-996), (c) perked-up globular (994, 997, 999) and (d) globular biconical (C33).

9(e)a. Squat Globular Stirrup Jars

C29 has a ring base and roughly corresponds to FS 178 (cf. BM Cat. A924, IIIA2e.; C554-555, IIIA2/B. Kanta 1980, fig. 125:4). The shoulder zone is decorated with a later version of elaborate triangles FM 71:b (cf. C32). Those filling the spout quadrants are identical with those on Kanta 1980, fig. 69:8. The angles between the triangles are filled with diminishing parallel curves which also occur on C2, C21, C57 and on 15, 48, 987. These elements give the design, which lies across the false neck, a festoon effect recalling that on our 1266; PKU figs. 63:2 (IIIA1), 79 (IIIA2) and Gournia pl. 10:19-20 (IIIA2). The encircling decorative zone below the handles consists of linked whorl-shells very similar to those on our 992 and 1022 and exactly corresponding to FM 24:d (IIIA2). The sign painted on the base, most probably a potter's mark, is very similar to Stubbings no. 5 (1951, 46) and to that on BM Cat. C555, both from Cyprus. These pot-marks are peculiar to the Mycenaean pottery of the Levant and most of them appear to belong to the linear A and to the Cypro-Minoan script (Stubbings 1951, 45 f.).

C30 has a similar profile (FS 178) but is flat-based (cf. Kanta 1980, fig. 125:7). The decoration is identical to that on C31, the only difference being that the former lacks the central metope on the semicircular section

across the false neck. Both C29 and C30 are LM IIIA2e. Palaikastrian imports.

The profile of 993 is identical to C29 (FS 178, cf. Kanta 1980, 125:4), although its ring base is lower than that of the latter. Fabric and decoration are identical with 994. On the shoulder zone there are five groups of parallel chevrons FM 58:17 (IIIB-Cle.). From the many stirrup jars with identical decoration we only cite Wardle 1969, fig. 2:2 from Mycenae; BM Cat. A898 from Rhodes; Boysal 1969, pls. XIII:3 and XVI:1 from Múskebi and Kanta 1980, fig. 59:2-3 from Episkopi Ierapetras. The latter is identical to 994 in all respects, including fabric and has been considered a Mycenaean import (Kanta 1980, 149). Indeed, fabric, paint and decoration all show 993-994 to be of Mycenaean manufacture. The sheer resemblance of their clay and manufacture, as well as of decorative elements such as encircling lines bordered between thicker bands, with our stirrup jar 992, might suggest that 993-994 were made by Mycenaean in central Crete, perhaps in the area of Knossos.

1000 and 1002 have an identical profile which is slightly perked-up and corresponds to FS 178 (cf. BM Cat., C554). Both seem to be LM IIIB in date. 1000 is flat-based and its fabric is very similar to that of 1016 and 1021. Its main decoration is not very diagnostic chronologically, for it consists of three panels of painted strokes on one side of the shoulder across the neck. 1002 was a Palaikastrian import and its main decoration is difficult to establish, since the surface is very worn. Only a few traces of chevrons or elaborate triangles (cf. our 1266) have survived.

1266 is also an import from Palaikastro and has an excessively squat globular or globular-rounded biconical shape roughly corresponding to FS 185:10 (cf. also FS 179). A stirrup jar from Palaikastro in the Fitzwilliam Museum, Cambridge (no. 138,1907) is identical to ours in all respects, including decoration. There is little doubt that both came from the same workshop. This shape seems to be a Minoan feature (cf. Popham 1964, 15 and pl. 6:a) and is closely matched by Nécropoles II, pl. XLVIII:B; PKU fig. 85:b; Smee 1966, fig. 1:1; Kanta 1980, figs. 20:6,8 and 31:2,4=117:3; Catling 1968, fig. 6:25=pl. 25:a. The last two vases bear a decoration very similar to ours, with an LM IIIB1 degenerate and pointed version of elaborate triangles FM 71:b, which have become groups of parallel chevrons (Analysis 211. Tzethakis 1968, pl. 137:δ). The triangles on 1266 are linked with diminishing parallel curves and thus create a festoon effect. On either side of the spout there are similar triangles. The whole composition of the shoulder decoration is very similar to that on C29, but more degenerate and later in date.

9(e)b. Weighed-down Globular Stirrup Jars

995-996 are medium-sized stirrup jars of depressed and squat shape FS 178 (IIIA2 late, cf. Kanta 1980, 248, fig. 45:3,4). They both appear to be Palaikastrian imports. They have a low ring foot and their handles are

perpendicular and sloping respectively. The shoulder decoration of 995 consists of a degenerate version of the adder mark FM 69:a (LM II-III A). The waves of the motif are filled with parallel curves and the reciprocal spaces by detached diminishing curves and strokes (cf. Analysis 181). The motif is closely matched by PTK fig. 117:21a; Gournia pl. X:21; PKU fig. 66:b and BM Cat. A726:1, all LM IIIA2. On a narrow zone further down the shoulder there is an S-type foliate band identical to that on our 45. 995 should be LM IIIA2 late.

The main decoration of 996 is difficult to establish, for the shoulder is very fragmentary. However, traces of four stemmed spirals are preserved on the corresponding quadrants of the shoulder zone. They recall the isolated spirals on our 60 and roughly correspond to FM 51:15 (IIIB). 996 is probably LM IIIB1 in date.

9(e)c. Perked-up Globular Stirrup Jars

994, 997 and 999 belong to this class which is FS 180 (IIIB, cf. Hood et al. 1958-9, fig. 19:XI,2=pl. 57:c, French 1967, fig. 2:52.213, Popham 1967, pl. 89:a,c. Kanta 1980, figs. 9:2, 97:1-3 and 122:2-3). 994 and 997 have a low ring foot, whereas 999 has a flat, slightly hollowed base. 994 is identical with 993 in fabric and decoration and is exactly paralleled in all respects by Boysal 1969, pl. XIII:3 and Mee 1982, pl. 10:2, both IIIA2 late-IIIB1,

The shoulder of 997 is decorated on one side by foliate band and iris chain alternately arranged in the angles of a zig-zag line (cf. FM 61:10, IIIB-IIIC1. Kanta 1980, fig. 60:10=139:11 from Episkopi Ierapetras). The motif occurs, too, on our 44-45 and C12, but in earlier and better executed versions. On the spout side there are elaborate triangles slightly recalling FM 71:b (IIIA1) and 71:g (IIIB1). The whole design is close to Kanta 1980, fig. 69:8. Further down on the shoulder there is a narrow zone with three rows of horizontal strokes, exactly the same as those on 998. 997 should be dated to LM IIIB1. The decorative style and perhaps the fabric might suggest that 997-998 were possibly made in the same workshop as some similar vases found at Episkopi in Ierapetra (cf. Kanta 1980, 289-290).

The main decoration of 999 as a whole is unparalleled elsewhere. On the spout side there are two joining elaborate triangles which correspond to FM 71:b (IIIA1) and are exactly paralleled by C32. On the other side there are four spiral coils with overlapping ends bordered by wavy lines and a wave or rock band. This kind of spiral design appears to have originated in the LM IB period (Zakros figs. on pp. 108 and 118 top right). There is an identical design on our amphoroid crater 362 (cf. Gournia pl. VII:5. PKU figs. 65:6, 85:a and pl. XXXIV, all LM IIIA2). 999 must be LM IIIA2.

9(e)d. Globular Biconical Stirrup Jars

Only C33 belongs to this class of stirrup jar. It is FS 179 (IIIB) and is closely matched by Zygouries fig. 167:406 which bears a similar decoration with stylized flower. CVA Gr. Br. I, 15, pl. 3:30 and 35 from Cyprus are close parallels, too, and so are Kanta 1980, fig. 125:5 and 9 from Farmakokefalo and Episkopi Ierapetras respectively. On one side of the main zone there is a single LM IIIA2 foliate band, identical with that on our 45 and 995 (cf. Analysis 180. Gournia pl. X:13-14,21. PKU figs. 67, 85:a,c and 88:a). The motif is bordered below by a row of Z or N pattern FM 60:1, identical with that on our 988. The whole composition is exactly matched by Kanta 1980, fig. 131:1 (cf. also ib. fig. 47:9). On the other side only traces of a stylized flower have survived on one side of the spout. The calyx of the flower takes the form of a double-outlined and curve-sided triangle bordered on the inside by dots. In the centre traces of a curve-headed stamen are preserved. The shape of this jar is probably dated to a late stage of LM IIIA2 (cf. Kanta 1980, 246-247), but its decoration could well be LM IIIA2e. (cf. Kanta 1980, 302: IIIB1).

It is difficult to establish to what kind of stirrup jar our neck-and-handle and shoulder fragments 24, 50 and 69 belonged. 24 was certainly a Palaikastrian import. Its top disc is flat and has a small air hole through it. Its diameter is fairly short. There is little doubt that the date of this fragment is LM IIIA2,

50 is a shoulder-and-belly fragment from a piriform stirrup jar. The encircling bands on the body rather indicate a Minoan manufacture and the jar is also probably LM IIIA2.

69 was made of fine buff clay and has a ledge neck moulding. This corresponds to Analysis fig. 23 (IIIA2e.), The concentric circles with the central dot on the handle disc correspond to FM 41:14. The parallel arcs or wavy lines on the shoulder probably belonged to elaborate triangles FM 71:b, similar to those on C29, C32 and 1266. They also recall the shoulder decoration on a similar stirrup jar from Mycenae (Wace 1932, pl. XIX:6). 69 is probably LM IIIA2e. in date.

In a total of thirty-one complete or fragmentary stirrup jars from Karpathos only two are Mycenaean imports. The rest appear to be imports from Crete and twenty specimens seem to be Palaikastrian products. Two examples (997-998) may have been imported from Episkopi Ierapetras or from another nearby centre. Three examples are IIB/IIIA1, two IIIA1, eight IIIA2e., four IIIA2, seven IIIA2 late, two IIIA2/IIIB and five IIIB1.

10. Jugs and Ewers

The jug was also a popular vase in LM III graves of Karpathos. The fragmentary state of the pottery from settlements does not permit assessment of its frequency during MM-LM I, but from the scanty evidence we have it seems that the jug and ewer were fairly common in this period, too.

We can divide the known specimens into seven groups, all of which except the first belong to the LM III period: (a) MM III-LM I jugs and ewers; (b) bridge-spouted jugs; (c) globular or depressed ovoid low-beaked jugs; (d) tall narrow-necked ewer with handle set below the rim; (e) small wide-necked and broad-mouthed jugs; (f) small and miniature narrow-necked jugs, mostly with a low beaked or trefoil mouth. Types (a)-(c) have beak-spouts, whereas (d) and (e) have round mouths.

10(a). Middle Minoan III - Late Minoan I Jugs and Ewers

These early examples are almost exclusively small sherds from spouts, rims, necks and body. 184-185 are certainly fragments from tilted jug spouts dated by their context to MM III-LM I. This kind of raised trough-like spout appeared as early as EM II and continued into LM I. As a rule, the earlier the jug the higher the beak (PKU 62, figs. 18, 31 and 36. PM I, fig. 415:c. Popham 1974, pl. 29:b). During LM IA the spout was fairly low and was often furnished with a boss on either side. In later examples the boss was set at rim level (Palaik. II, 321, fig. 21, PKU 62). This is a metallic feature indicating that these jugs were imitations of metal prototypes (cf. Analysis 104-105). Unless they are merely decorative, these plastic pellets or "bird's eyes" can only be referred back to metal nails. They cannot be used as a chronological guide, though, for they already appeared on the Vassiliki jugs of EM II-III; they were also commonly used in MM jugs, including Kamares, and continued into LM I (Lasithi I, 70f. Myrtos P649 and P653. Walberg 1976, 37-38. Trianda fig. 40:14=Furumark 1950, fig. 1:12. Kythera pl. 27:ζ70). Our 185 is provided with such a rivet (cf. Lasithi I, fig. 17:624-625=pl. 12. Maisons I, pl. VIII:8489, MM I-II).

A similar pellet is seen at the top of the handle of our jug 46 (cf. our 651 and Kythera pl. 22:δ57, MM IB-IIIA). This jug has a globular shape and narrow neck. Its spout is low and similar to our 184-185. These features as well as the rather high curve of the shoulder and the fact that it was made on the fast wheel, date this jug to the LM I period, although its context appears rather to have been LM III. As already stated, this kind of jug has EM and MM antecedents. This general shape with minor modifications was in use throughout Minoan times (cf. Lasithi II, 35, fig. 14:5-7, MM IIIB. PM II fig. 176:a). There are traces of blob decoration on the body of the jug. This pattern was a very popular one on east Crete and particularly at Palaikastro (PKU 111-112, fig. 96. Kanta 1980, 148, 259, figs. 57:7 and

95:4). It occurs, too, on our 66, 239, 1004, 1028-1031 and C24, C50-51, C54.

Spout fragments 573, 1095-1096, 1240 and 1412 most probably belonged to similar jugs. The grooved handle fragment 574 seems to belong with 573.

Rims 714, 1231, 1263 and 1346, which are all splaying, probably came from such jugs with tilted spouts (cf. Lasithi II, fig. 14:6-7) or from ewers. 714, 1231 and 1346 are identical in profile and can be paralleled by Popham 1974, fig. 6:28, MM IIB, and Catling et al. 1979, fig. 24:156 (MM IIIB). 1263 can be compared with Catling et al. 1979, fig. 24:152 (MM IIIB). It might, however, have belonged to an ostrich-egg rhyton like PKU pl. XVII:a.

Necks 298, 709 and 1094 have a neck moulding and most probably came from narrow-necked jugs or ewers, although they might well have come from a type of rhyton similar to PKU fig. 24 and pl. XVII:a (LM IA). The neck moulding originated in EM II and continued throughout the Minoan era, occurring especially on pithoi, jugs and rhyta. It is constantly found on MM III-LM I jugs of metallic character. Its origin from metal prototypes cannot be denied, although the technique of making the neck and body separately and then joining them together may have contributed to the development of the moulding (Analysis 86-87. Lasithi I, 75). 298 and 1094 have marked ring mouldings and can be matched by PM I, fig. 415:B; Maisons III, pl. XXIV:3, XXXVI:3, LX:2e; Forsdyke 1926-7, fig. 49, and Catling et al. 1979, fig. 16:V8, all MM III.

Necks 404, 980, 1100-1101 and 1470-1471 probably also belonged to narrow-necked jugs. However, they could have come from ewers like our 299, which is a reconstruction on paper from surviving sherds and dates from MM III, as its elongated ovoid shape indicates (cf. PM I, 571. Lasithi II, 28. Analysis 21). This kind of vase seems to be uncommon in the island group under discussion, as it is in contemporary Cretan contexts (e.g. PKU 67 and fig. 53).

Neck-and-shoulder fragments 558 probably came from a juglet. The fabric looks rather Cycladic and more specifically Melian rather than Minoan, and so does the decoration. The latter consists of running or rather double spirals in black, almost matt paint. Similar decoration occurs on MH/MC II-III matt-painted pottery, as well as on MM III-LM I ware (e.g. Prosymna II, figs. 43, 63, 522, 569, 573, 586. BM Cat. A342 and A372. Phylakopi pls. VII:1; XIV:1, 4,6,10,16,20; XVI:5,10,13. Maisons III, pl. XXI:1,i. BSA 8 (1901-2) fig. 51:3). This juglet was probably an MC III import. There are analogous Cycladic importations in contemporary Crete, such as the Melian jugs from the MM IIIB contexts in the Temple Repositories at Knossos (PM I, figs. 404:h and 405:d).

Handle and shoulder-and-belly fragments 555-556 may have come from a jug with a markedly arched handle like Maisons III, pls. XIX:3 and XXXVI:3 (MM III in MM I tradition). Handle, shoulder and belly fragments 403, 553-554, 559-560, 658, 664, 727-728, 963, 1095-1097, 1376-1377 probably belonged to jugs, too.

10(b). Bridge-spouted Jugs, Furumark form 22

Only two specimens of this type are known, 57 and C23. The first has a depressed ovoid shape corresponding to FS 103 (LH I-IIA) and to a lesser extent to the more narrow-mouthed FS 104 (LH IIB). The neck is short and straight and so is the horizontal lip. The handle is in a line with the beak. The ledge neck-moulding and the metallic laid-on handle from the rim to the shoulder indicate the metallic origin of the type. The shape goes back to the LM I period when it is taller and rather globular (Pseira pl. VI:c. Zakros fig. on p. 122. Phylakopi pl. XXV:4-5. PM II, fig. 296A:a and IV, fig. 214. PKU fig. 26. Palaik. VII, fig. 11:NP78=pl. 58:a-b). By LM II it became more low-shouldered, and acquired a depressed ovoid shape and the metallic features, which are carried on into the LM IIIA1 period (PKU fig. 62). The type is typically Cretan but was widely exported and imitated by Mycenaeans (cf. Hankey 1952, 835, pl. 24:539). Our example appears to belong to the transitional LM II/III A1 period. It closely resembles PKU fig. 62, Hankey 1952, pl. 24:539 and Maiuri 1923-4, fig. 110.

The main decoration consists of a scale pattern formed by vertical repetition of festoons. Each scale is filled with a spiral coil stemming from the side rather than from the top angle, which is the case with C1. The latter bears a decoration which is similar but later in date. Similar decoration but with dots as filling ornaments instead of spirals are seen on a small piriform jar from Cyprus (CVA Gr. Br. I, 13, pl. 1:10=BM Cat. C472).

C23 is globular and broad-based. As in the case of the last jug, its ridged handle and neck moulding betray the metallic character of the vase. The shape appears to be a later and smaller version of the ovoid FS 103. Its profile compares well with PKU fig. 64. The main decoration consists of a double S-type foliate band. This kind of ornament is very common on the shoulder zone of jugs (cf. Gournia pl. X:14,21, Catling 1968, 108, fig. 4:13, 15, all IIIA2). This jug seems to be LM IIIA2e, in date.

10(c). Low-beaked Jugs, Furumark form 41

These can be divided into big (C22) corresponding to FS 144 (III A1) and big (1004A) or small (C24-25, 28, 1004, 1267) corresponding to FS 149 (III A1-IIIB).

C22 has a depressed ovoid-conical shape, low trough-like and beaked spout, and neck moulding. The latter, along with the lower handle attachment, points to the metallic origin of the type. None of these metallic models has yet been found, but it is almost certain that they will have been Minoan. However, due to the lack of Minoan clay counterparts, the shape has been considered purely Mycenaean (Analysis 607). Our example is closely paralleled by Pylos III, ill. 236:14a-b; BM Cat. A877, C578 and Maiuri 1923-4, fig. 108=Mee 1982, pl. 3:2. On one side of the belly there is a double spiral FM 47:2 (LH IIB).

This spiral has a kind of fan-shaped floral ornaments as angle fillings, which is a rather Minoan feature, also occurring on an LM IA version of the double spiral motif (PM II, fig. 341). The latter should be an antecedent of FM 47:2. The present angle fillings may represent a fringed papyrus derivative like that on our sherd 720.

Likewise Minoan is the bucranium on the other side of the vase, which probably represents a cow rather than a bull. It roughly corresponds to the more stylised FM 4:1-2 (IIIB) but lacks close parallels. While the design as a whole is fairly formalized, naturalistic features of the LM I tradition are still present: vivid and high-set eyes, streaming lateral ears, as well as the effort of depicting the mane of the cow. "The thick outlines and symmetrical squareness of the animal might have suggested a date as late as the Argos jug (IX.27), but the ewer shape cannot be much later than LH IIIA1, roughly contemporary with the bull's head krater from Cyprus" (Vermeule-Karageorghis 1982, 159). An earlier version of this bucranium appears on a Palaikastrian MM III bucket-vase, in association with double axe and naturalistic flowers (PKU pl. XII). The filling ornaments of the bucranium are Minoan foliate bands, identical to those on a sherd which belongs with 720 and is not illustrated here. The Minoan derivation of the jug, therefore, cannot be questioned. It should be dated to LM IIIA1.

1004A roughly corresponds to FS 145 (IIIA2), while C24-25 and 28, 1004, 1267, which have a tilted trough spout, are FS 149.

1004 and 1004A have a globular profile identical to PKU 96:b (cf. also Hood-De Jong 1958-9, fig. 6:8=pl. 47:b and Kanta 1980, fig. 127:4). 1004A is not illustrated here. It has a ledge neck moulding and its rim flange is decorated with groups of transverse lines. The shoulder decoration is identical with that on C23. 1004A should also be LM IIIA2e.

The other three examples are depressed globular like PKU fig. 96:c= Kanta 1980, fig. 95:4 (cf. also Kanta 1980, fig. 109:2 from Myrsini). Both PKU figs, 96:b and c are also identical with our 1004 and C24 in fabric and decoration. It seems that the latter were imports from Palaikastro. Both shapes were typical LM IIIA2, but continued into LM IIIB. The blob-and-trickle decoration on 1004 and C24 is a typical east Cretan feature and occurs also on our jug 46 etc. Apart from Palaikastro, this kind of decoration is also found at Myrsini, Episkopi and elsewhere (Kanta 1980, 148, 166, fig. 57:7. AD 6 (1920-1) 161, fig. 12). Both 1004 and C24 are probably IIIA2 late in date.

The shoulder of C25 is decorated with running spirals of a kind not witnessed elsewhere. They are reminiscent of FM 46:46-48 (IIIA2 late-IIIB1), but are certainly closer to the "Karpethian" FM 46:53, from which they were probably derived by the extension of the end of the coil and its attachment to the rear part of the next coil. This jug is LM IIIA2 late, too.

The shape of 1267 has a rather depressed globular-conical profile. A jug

from Myrsini seems to be very similar to it, both in fabric and profile (BCH 1960, 820, fig. 2). The shoulder zone is decorated with quirk FM 48:5 (LH I-IIIC1). This motif was common both in the Mainland and Crete from LM IB/LH IIA onwards. In LM IIIA-IIIB it occurred quite frequently as a single band, especially on cups (Popham 1965, 327). The Minoan version appears to be rather more lively and less rigid in execution than its Mycenaean counterpart. The design on 1267 is closely paralleled by Popham 1964, pl. 7:d (IIIB1); 1979, fig. 4:40,42 (IIIA2 and IIIB); Morricone 1972-3, fig. 345; Kanta 1980, fig. 140:8. 1267 is rather transitional LM IIIA2/IIIB.

28 is a smaller version of FS 149, PTK fig. 117:76f is identical in profile and has a similar decoration with a foliate band (IIIA2e.). Its shoulder decoration consists of a degenerate foliate band FM 64:21 (IIIA2) or curved stripes FM 67:3 (IIA-IIB, cf. Popham 1964, fig. 5:7, LM IIIA). The latter motif was probably derived from the foliate band and both are of Minoan origin (Analysis 159, 180, 402). 28 is closely paralleled, both in shape and decoration, by Gournia pl. X:14 (IIIA) and Charitonidis 1963, pl. 65:B (IIIA2e.). It should be dated to LM IIIA2e. Its fabric suggests a Palaikastrian derivation.

10(d). Tall Narrow-necked Ewer

This class is represented by only one specimen, 1003. It has a conical-piriform shape roughly corresponding to the Mycenaean FS 119 (IIIA1), which normally has a bevelled lip and a torus base. The spreading neck and neck moulding on our example are certainly metallic features. The shape probably goes back to an LM IA jug with a broader neck and a laid-on handle from rim to shoulder (Palaik. IV, fig. 11). This type continued into LM IB and LH IIA (PKU fig. 35. Zakros figs. on pp. 106-107, Wace 1932, pl. XXXIX:3). By LM IIIA1 the profile remained the same, but the handle was attached to the neck, which became narrower (PKU fig. 63:1. Kanta 1980, fig. 109:3). The LM IIIA2 development is represented by our specimen, as well as by Gournia pl. X:21, the rim of which has been wrongly restored, and BCH 1960, 820, fig. 2 (from Myrsini). The profile is now more slender and ovoid rather than piriform. The rim has become spreading and angular rather than funnel-shaped. All three specimens referred to have a wavy line round the neck. The shoulder zone of our example is decorated with curve-stemmed spirals FM 49:14-16,21 (IIIA2). The handles and neck are encircled in the usual LM III manner, by a double line hatched by transverse strokes. This pattern recalls analogous elements of the elaborate triangles seen on the shoulder of some stirrup jars from Karpathos (cf. especially C94). The fabric is of the Palaikastrian type and appears to be similar to that of the Myrsini jug.

10(e). Wide-necked and Broad-mouthed Jugs, Furumark forms 24-25

363 and 1005-1006 as well as 1010 and probably also 1011 are classed within this category. 1005 is globular-conical in shape and roughly corresponds to FS 110 (LH IIB-IIIC1). It has a straight, slightly splaying neck and a small pinched out spout. The form is very much in the LM IA tradition (Gournia pl. VII:5) and slightly resembles Palaikastro VI, fig. 14:P14= pl. 75:d (IIIA2). The main zone is decorated with six groups of parallel chevrons antithetically arranged, so as to form patterns similar to those on our 11, but in a careless and apparently later execution. There is a similar decoration on a basin from Myrsini (Hag, Nikol. Mus. 1943). The date of 1005 is LM IIIA2 late-IIIB1.

363 and 1006 are of depressed globular shape and have a short and widely splaying neck. They closely correspond to the baggy FS 114 (IIIA2 late-IIIB) which occurs mostly in Cyprus and the Near East. Both examples are of the same, rather Mycenaean, fabric and most probably date from IIIA2 late. They are perhaps Rhodian products. 363 has a low ring base and its shoulder is decorated with a degenerate foliate band FM 64:19 (IIIA2 late) which resembles that on our stirrup jar 60 and on juglet 28. The shape of 363 is closely paralleled by Wace 1932, pl. LI:17 and Mee 1982, pl. 12:3. CVA Gr. Br. I, 24, pl. 12:5 and Boysal 1969, pl. XX:1 are fairly similar too, both in shape and fabric. The former also has a similar decoration with foliate band.

1006 is flat-based and its shoulder zone is decorated with quirk FM 48:5, which appears to have been executed in the Mycenaean way, in contrast to that on our 1267 and C81. The design is exactly paralleled by French 1965, pl. 51:b6 (IIIA2) and BSA 68 (1973) 4, fig. 3;13,23.

1010 is too fragmentary for its whole profile to be reconstructed, but it seems to correspond roughly with FS 114. It has a flat lip and is unpainted. 1011 is also fragmentary and could have come from a low-beaked jug rather than from a round-mouthed. It is of depressed globular-conical or ovoid shape (cf. FS 112) and is decorated with blob-and-trickle patterns exactly like our 1004 and C24. It is thus very likely that this pot, too, was an import from east Crete. Both 1010 and 1011 are LM IIIA2 late-IIIB1.

10(f). Small and Miniature Narrow-necked Jugs

These can be piriform (64), globular (14, 16) or depressed globular (15, 47, 364-365, 1007-1009 and C96).

64 is heavy piriform and roughly corresponds to FS 134 (IIIA2 late; cf. Gournia pl. X:23). Its surface is wholly damaged and no decoration is preserved. It is a Palaikastrian import as are also 14 and 16, which are globular and correspond to FS 149 (IIIA1-IIIB), Gournia pl. X:15 and 19 (IIIA2) have a profile very similar to our examples. Both 14 and 16 have their shoulders decorated with foliate bands of the familiar LM IIIA2 S-type,

exactly similar to that on our stirrup jar 45. 14 seems to be identical with PKU fig. 95:a, in fabric, shape and decoration.

15, 47, 65, 364-365 and C96 have a very similar profile which is depressed globular, slightly weighed-down. It roughly corresponds to FS 149 (IIIA1-IIIB; cf. Gournia pl. X:20, IIIA2, PTK fig. 117:6b,66p,76g. Hood et al. 1958-9, fig. 26:II,1=pl. 55:e). All but 364 and probably also C96 have a slightly hollowed base. With the exception of 365 all are of the typical Palaikastrian fabric and date to LM IIIA2,

15 is slightly baggy and its shape and fabric resembles Boysal 1969, pl. XVIII:6. The shoulder is decorated with an early version of the running spiral motif formed by coils with overlapping ends (FM 46:53), which has already been seen on our 1270 and on C40, C61-63. This version which has thicker lines executed in a more lively fashion, is identical with that on our C41 and 48 (cf. PKU fig. 65:6, IIIA1). As already stated, the motif was probably derived from the alternating scroll pattern of LM I (Analysis 180). In the present case the angles between the coils are filled with diminishing parallel curves, which are a papyrus derivative and are also seen on our 987, 995 and on C1, C21,

47, 65 and 364 are decorated with the usual shoulder pattern, the LM IIIA2 foliate band which is not of the familiar S-type, but consists of slightly curved and club-shaped bars of paint (cf. BM Cat. A731). The foliate band on 47 is bordered below by a degenerate iris chain FM 10A:e. The whole composition is exactly paralleled by Kanta 1980, fig. 47:9.

365 is decorated on either side by a peculiar stylised version of the argonaut motif, the body of which is hatched and there is only one coil due to the limited space (cf. FM 22:7, IIIA1 and 22:12, IIIA2e.). Similar motifs but with three or two tentacles can be seen on PM II, fig. 390 and Forsdyke 1926-7, fig. 26, both IIIA2 (Analysis 192-193). The body of the argonaut, which is vertically set and recalls the bivalve shell FM 25:13 (IIIA1), is bordered on one side by scale pattern FM 70:3 (IIA, cf. BM Cat. A657 and Popham 1967, fig. 2:12, LM I). Dotted rosettes or sea anemones FM 27:15 (IIB-IIIA1) are used as filling ornaments. As a rule, this motif is used in connection with marine subjects (Analysis 209). 365 is dated to LM IIIA1-III2e.

The shoulder of C96 is decorated with dotted scale pattern FM 70:2 (IIIA1). The design has been executed in the LM IIIA2 fashion (Analysis 202. TDoAx fig. 28. PKU fig. 55:9. Kanta 1980, fig. 53:1). The date of the pot is probably LM IIIA2e.

1007-1009 are miniature monochrome jugs roughly corresponding to FS 149. 1007 is squat globular biconical and has a trefoil mouth (cf. Kanta 1980, fig. 128:1-3,9). 1008 is squat globular and is exactly matched by Kanta 1980, fig. 128:5. 1009 is also squat globular, slightly biconical, and is exactly paralleled by Kanta 1980, fig. 128:2. The last two have a simple round mouth

with no spout. All three are probably LM IIIB1.

Our base fragment 366 was probably part of an LM III monochrome jug of unknown shape.

In a total of twenty-seven complete or almost complete LM/LH III jugs only two examples are Mycenaean, probably imported from Rhodes. The rest are Minoan and twelve specimens are Palaikastrian products. The II/IIIA1, IIIA1 and IIIA1-IIIA2e. periods are represented by one example each. Four specimens are IIIA2e., seven IIIA2, six IIIA2 late, four IIIA2/IIIB and three IIIB1.

11. Oval-mouthed Amphorae

This type of jar appears not to have been popular in the islands concerned. Yet in Cretan MM and LM I contexts it is fairly common, usually occurring in the tall storage-vessel form. A smaller version, which is often decorated, occurs from MM III onwards (cf. PKU 64).

Our 549 belongs to the latter type. It is a paper reconstruction, to which the two fragments 557 should be added. The latter are illustrated here upside down. The shape of the amphora is typical MM III (cf. our 229). The decoration consists of encircling bands and spirals in creamy paint on a rather matt background. This kind of decoration is characteristic of MM IIIB (cf. Palaik. VI, 251). It differs from the preceding Kamares style in the inferior quality of execution and in the limited and monotonous decorative repertoire. Moreover, the Kamares wares are, as a rule, of fine clay, the background often flakes off easily, and the decoration has a chalky texture. Spiral decoration round the upper part of the body is the commonest design on this kind of pottery (cf. Morricone 1972-3, figs. 276:a-b,d and 287:a-b,d. Palaik. VI, 251).

The top of an oval-mouthed amphora, which is not illustrated here, was noted in the area of Laki on Karpathos. It belonged to the tall storage-jar type and its handles are decorated with parallel transverse strokes of paint.

12. Hole-mouthed, Bridge-spouted Jars

In Crete the shape of the hole-mouthed jar goes back at least to EM III, when it only occurred in plain unpainted ware (Lasithi I, 44; II, 30). In the island group under discussion it seems to have had a very long history, with antecedents going back to LN-FN or EB 1 (our 1555-1556). From MM I it became more popular in the Minoan world and was usually fine and decorated. It was most common among the Kamares ware, occurring in a great variety of forms, usually with two horizontal ribbon handles (Walberg 1976, 23 f.). It continued through MM III-LM I without any perceptible change in profile. The origin of the type from Early Egyptian copper vessels has been disputed (PM I, 80-82. Walberg 1976, 39).

The hole-mouthed jar appears not to have been very popular in our group

of islands. As is always the case with pottery from settlement sites and from surface collection, the material is very fragmentary and no complete vase can be made out. As a rule, the fabric is comparatively fine buff, often indistinguishable from that of the conical cups. The bulk of the material consists of rim fragments, but a few spouts and handles occur too.

Two varieties of the hole-mouthed jar can be distinguished and both seem to have been rather globular in shape. One has two horizontal rolled handles on the shoulder, placed at right angles to the spout (294, 562, 769-770). This variant appears to be the most common. It roughly corresponds to the globular type 80 of the Kamares ware (Walberg 1976, 23-24, figs. 6-11a, MM IIB-IIIA). The second variety has a rolled vertical handle (158) and roughly corresponds to FS 100 (LH I) which has two more horizontal handles in addition to the vertical. The precursors of this one-handled spouted jar can be traced back to MM IB (Fitzwilliam Mus, Cambridge 115,1907 and 120,1907).

Our rim fragments can be divided into three categories:

- (A) rims with undifferentiated lip (163, 235-238, 256-257, 262, 294, 296, 769, 1090). These rims can be paralleled by Gournia pl. X:35 (LM IB); Palaikastro IV, fig. 15:B (MM III-LM IA); Maisons IV, pl. XIV:151 (MM IB-II); Levi 1976, pls. 199-203 (MMIB-IIIB Kamares ware), and Kythera fig. 38:ε42=pl. 22 (MM IB-IIIA), fig. 40:η39 (LM IA).
- (B) rims with more or less splaying lip. Such rims are 162, 273, 295, 400-401. These can be compared with BM Cat. A519 (MM II) and Popham 1974, fig. 7:2 (MM IIB).
- (C) rim with short vertical and flat-topped lip (297). This is closely paralleled by Buttler 1935-6, pl. 70:4-5 (LM IA) and Morricone 1972-3, fig. 289.

Most of the hole-mouthed jar fragments bear traces of decoration, which chiefly consists of groups of stripes in various arrangements and bands of paint round the rim, spout or handles. Nos. 93-96, 150 and 162 are decorated with parallel, horizontal, vertical or oblique, stripes of brown paint on clay ground (cf. Kythera pl. 29:η39=fig. 40, LM IA).

13. Pilgrim Flask

Only one example of this type of vessel is known from Karpathos, no. 59. It has a globular shape which is FS 189 (IIIA2 late), and a ring base. The main decoration consists of multiple concentric circles on either side, covering the whole body. This is the most frequent design on this kind of vase and would have been originally applied to the lentoid flask, for which it seems to be more suitable. Below the handles there are narrow metopes with parallel horizontal strokes.

Fabric, shape and decoration are exactly paralleled by Jacopi 1930-1, fig. 13, while CVA Rodi 2, pl. 2:4-6, Mee 1982, pl. 13:1 and Morricone 1965-6,

fig. 204:155 are close parallels too, There is little doubt that 59 was a Rhodian import (cf. Stubbings 1951, 16 and 19-20).

The pilgrim flask was common both in the Mainland and the Levant. Only a few examples have been found in Crete, including Minoan products and Mycenaean imports (Tzethakis 1971, Kanta 1980, 287). After IIIA2 the pilgrim flask was no longer used.

14. Cylindrical side-spouted Jar

Only one example is known, no. 1012. Its fabric and lower profile is identical with pyxis 1013 and it seems very likely that both were made in the same workshop. No close parallel for this jar can be cited but its general shape and function is certainly similar to ascoid vases like PKU fig. 45 (LM I) and FS 195 (cf. Analysis 68). It is possible that the LM I globular ascoid jar assumed in LM III such a cylindrical shape by analogy with the cylindrical pyxis, from which also it took the two basket handles, but preserved, too, the normal ascoid handle opposite the tubular spout (cf. the LM I straight-sided and broad-mouthed spouted jar in Hag. Nikol. Mus., no. 7262). The spouted LM I pyxis (Gournia pl, XIII:21-3,31) which bears a third vertical handle at the back, must have played a considerable part in the development of this kind of jar (Kanta 1980, 283).

The body of 1012 is decorated with an encircling zone of LM IIIA2 alternating parallel chevrons, roughly corresponding to FM 61:10. Similar decoration occurs on our 44; TDoAx fig. 28; Maisons II, pl, LXVI:j; Popham 1979, fig. 4:2 and Kanta 1980, fig. 33:6, all IIIA2.

On the top of the jar there is a painted cross or quatrefoil, roughly corresponding to FM 54:4. Similar motifs occur on our C1 (IIIA2 late) and 1268. The angles are again filled by groups of diminishing parallel curves. A narrow zone between the handles and the cross pattern is filled by groups of transverse strokes enclosed between thicker bars. The jar is dated to LM IIIA2.

15. Alabastron and Pyxis

These shapes are very rare on Karpathos. There is only one example of the squat alabastron type, no. 49. This corresponds to FS 84 (IIIA1) which is considered to be a typical Mycenaean form (Pendlebury 1939, 223). Its ultimate prototype is to be sought outside the Aegean. Although such vessels of Minoan manufacture do occur in Crete and elsewhere from as early as LM IB (Analysis 39-40. Furumark 1950, 193, 206, 208) our example appears to be of Mycenaean manufacture; its decoration, however, seems to be rather in the Minoan tradition.

The shoulder zone is decorated with rock or wave pattern roughly corresponding to FM 33:9 (IIA), but is rather closer to contemporary Minoan equivalents (cf. Analysis 160, 184). Sea anemones FM 27:15 (IIB-IIIA1) are

used as filling ornaments. There are several examples from Rhodes and Cyprus with a very similar decoration (BM Cat, A812-814 and C493-497).

51 is an alabastron of cylindrical profile FS 93 (IIIA1-IIIA2). This type of straight-sided alabastron seems to have been a Mycenaean invention and was frequently exported to the Near East, but is very rare in Crete (Kanta 1980, 279). The shoulder of 51 is decorated with diaper net FM 57:2, which also occurs on our fragment 23. According to Hope Simpson, who handled the pot, it closely resembled an alabastron from Múskebi (Hope Simpson-Lazenby 1962, 160 n. 49. Bass 1963, pl. 81:4; cf. also BM Cat, A818 and Mee 1982, pl. 35:3-4). 51 is probably LH IIIA2.

1013 is a cylindrical lidded pyxis which was certainly an import from Palaikastro, where several similar clay boxes have been found (PKU 94-98, figs. 79 and 80-81, all IIIA2. BM Cat, A708). It is basket-like with two upright rim handles, each composed of two superimposed rolls of clay. Inside the rim there is a ledge to support the lid, which has survived. The shape is exactly paralleled by PKU fig. 81, which is LM IIIA2 (Analysis 181 n. 11). The type goes back to LM I, when there also existed a variety with a domed lid like Gournia pl. VII:13,33, which seems to continue into LM IIIB (cf. Hag. Nikol. Mus. 4925 from Pano Zakros). However, during LM IIIA the flat-lidded pyxis seems to have been favoured (Gournia pl. X:5,40. PKU figs. 79-80. Alexiou 1954, pl. 2).

On either side of 1013 there are two dotted loops antithetically arranged. The angle between them is filled by diminishing parallel curves. The loop motif roughly corresponds to FM 63:8 (IIIA2). Below each handle there is a metope with parallel zig-zag lines, FM 53:27 (IIIB) or 61:11 (IIIA2). Similar metopes occur on pyxides from Palaikastro, Pano Zakros and Chania (BM Cat, A708. Hag. Nikol. Mus. 4925. Kanta 1980, fig. 93:10) as well as on C12 and C31. 1013 is dated to LM IIIA2 late.

Fragment C80 probably belonged to a similar pyxis. The same is true of a small base fragment found in the MM III-LM I deposit at Pigadia, not illustrated here. It is covered by fine black paint inside and out.

16. Various Jars

Within this category are classed one nearly complete small pithoid jar (C83) and various rim, neck and decorated belly fragments belonging to closed vessels. These pots would have been either amphorae or jugs of various forms, which are usually difficult to distinguish in sherds, when they have no special feature of note. Most of these fragments come from rather globular jars of fine or semi-coarse fabric, plain or decorated. The pottery of this class is divided into two groups: (a) MM-LM I jars and (b) LM III jars.

16(a). Middle Minoan-Late Minoan I Jar Fragments

Neck-and-rim fragments 178-179 may have belonged to similar jars with a tall straight and splaying neck. 178 is dark-washed and 179 is decorated with encircling bands.

Neck fragments 177 and 258 come from two identical jars with short spreading neck.

Rim fragments 712-713, 715 and 1422 belonged to jars with splaying or concave-splaying necks, whereas 716 comes from a similar jar with a rather spreading neck.

Rim-and-handle fragments 402, 660, 725-726, 1423 and probably also rim-and-shoulder 1349 and neck-and-shoulder 183 and 777 belonged to jars with straight vertical collar necks. 402 and 1373 come from identical short-necked jars. These can be paralleled by Sondages pl. XIII:1; Hood et al. 1964, pl. 14:a and Kythera figs. 36:β49 and 37:β75, all MM I. 1349 probably belonged to a similar jar.

Base, belly and rim fragments 550, 1347-1348 and 1356 come from wide-mouthed jars with undifferentiated rims. 550 is decorated with broad bands both round the base and round the rim, the form of which is slightly reminiscent of Maisons III, pl. VIII:5 (MM I-II) and Palaikastro VI, fig. 16:P18. The latter is an LM III basin, the shape of which is attested from as early as LM IB.

1347 is splaying and recalls analogous jars from Mallia (Maisons I, pl. XLVII:centre, MM I-II) and Knossos (Catling et al. 1979, fig. 36:239, LM IA).

1348 and 1356 are straight rims, the former slightly incurved. They resemble Maisons III, pl. XXXVIII:1-3 (MM I-II); Sondages pl. XIV:2 (MM I) and Kythera fig. 38:δ22 (MM IB-IIIA).

180-182, 241, 405, 658, 630, 661-662, 751, 1102-1104, 1377, 1413-1414, 1470-1472 and 1490 are neck and shoulder fragments from various plain or decorated jars with straight or slightly concave necks. 241 has a concave neck which can be matched by Catling et al. 1979, fig. 24:157 (MM IIIB).

186-187, 193, 300, 406 and 658 are belly fragments which bear traces of spiral decoration. The design on 186 probably belonged to tangent spirals FM 46:9 (LH I). The motif appears to correspond to the LM IA variety, which first appeared in MM III and was probably a simplification of the returning or meander type of spiral (Analysis 153, 352). Our example can be matched by PM IV, figs. 195-196; Popham 1967, fig. 1:4-5; Kythera pl. 31:θ22 and Catling et al. 1979, fig. 31:224.

187 can be paralleled by Sondages pl. XXV:68P1892. 300 is very close to Popham 1977, pl. 28:c-d (MM IIIB).

Belly fragment 239 bears part of a blob pattern. This kind of decoration was very popular on east Crete and particularly at Palaikastro throughout the

MM and LM periods. It also occurs on our 46, 66, 1004, 1028-1031, 1405 and on C24, C50-51, C54.

Base fragment 197 and belly fragments 189 and 551-552 are decorated with splash-and-trickle patterns, which are also seen on the pithos fragments 246, 1383 and on the bowl rim 565, as well as on the neck of the LM III jug 1267. The splash-and-trickle decoration was usually applied to large and crude vessels such as pithoi, but is occasionally found on smaller and finer ware. The earliest use of this kind of decoration goes back to EM II (Myrtos figs. 79-83, pls. 59-61), but it became common from MM I and MM II. By MM III it was more widely employed, especially on storage jars and continued into LM I (Pachyammos pl. V. PKU fig. 97. Maisons III, pl. XI:6b. Sondages 74, pl. XXXVI:68P2055. Hood et al. 1964, 95. Kythera pl. 25:ε108. Popham 1974, 186, 188).

Belly fragment 240 bears part of a cross-hatched loop associated with parallel stripes. The motif roughly corresponds to the LH IIIA2 FM 63:8, which is double-outlined and is also seen on Kylix C34. The cross-hatched loop is first seen on EM III pottery decorated in white on dark. It became commoner in the Kamares Style (Gournia fig. 15:10 and pl. VI:9. Analysis 121 f. Furumark 1950, 209). It is most typical of LM IA and LH IB and it seems that in Crete it does not occur after Sub-LM IA, whereas on the Mainland it lives on into LH IIB-III (Furumark 1950, 156, 200). The Mycenaean variant was apparently inherited from MH times and, as a rule, it seems to have a more elongated form, whereas the net is usually more dense (Hankey 1952, pl. 14:416, 475. Wave 1932, pl. 33:2). From the many LM IA examples which can be paralleled to our 239 we only cite Maisons II, pl. V;60K241; Phylakopi pl. XXXI:20 and XXXII:18; PKU pl. XVI:a; PM II, fig. 315:a,b and IV, fig. 197; Forsdyke 1926-7, fig. 11. Halbherr et al. 1980, fig. 172.

16(b). Late Minoan III and Late Helladic III Jars

C83 is a miniature pithoid jar with two horizontal handles, one of which is missing. The type appears to be unique and its faulty and careless manufacture suggests that it was probably intended to be used as a toy and was perhaps decorated by a child, as the negligence and awkwardness in the execution shows. A swastika is painted on the shoulder, surrounded by dots of various sizes. The lower body is decorated with irregular strokes horizontally or vertically arranged.

Base-and-belly fragments C76-79 also belonged to various LM/LH III jars. C76 probably comes from a jug, whereas C79, a Palaikastrian import, was perhaps part of a three-handled piriform jar.

1239 and probably also 1562-1563, 1565-1568, 1571-1572, 1577 belonged to LM/LH jars decorated with spirals and encircling bands. The spiral on 1239 is evidently of LM/LH IIIB-IIIC date and can be paralleled by Palaikastro VI,

fig. 8:h=pl. 77:a (IIIB/IIIC) and Catling et al, 1979, pl. 12:d (LM IA). The fabric of the sherd, the quality and colour of paint and the execution of the design rather indicate a Mycenaean manufacture.

17. Ritual Vessels

These can be divided into (a) rhytons, (b) composite vessels and (c) vases with plastic bird attachments. It must always be remembered that the functions of these vessels are still open to discussion. There is little doubt that they were used in both domestic and religious activities (cf. Koehl 1981).

17(a). Rhytons

1268 is a clay libation vessel modelled in the form of an ox head with projecting horns and ears (Koehl 1981, fig. 1). It corresponds fairly well with the two-dimensional FM 4:1 (IIIB). "Animal ascoid rhyta" were made in Crete from as early as EM II (Koehl 1981, 179-180 and fig. 1). Rhytons in bull form occurred already in MM I pottery (PM I 189, fig. 137; II, 259-260, fig. 154-155. Marinatos-Hirmer 1960, fig. 14). The bull's head rhytons became the favourite type of such vessels from LM I, during which period rhyta first appeared on the Greek Mainland (Koehl 1981, 187). The bull's head rhyton was probably intended to hold the bull's blood in religious rites. The finest and most valuable examples of this form were certainly those made of precious metals during LM I. Only one such specimen has survived, the silver rhyton from the IV shaft grave of Mycenae (Karo 1930, pls. 119-120). This kind of metal vessel with its naturalistic rendering and carefully calculated volumes was probably the model for similar rhyta made of stone and clay.

The finest stone example is the bull's head of inlaid steatite from the Little Palace at Knossos (TDoAx figs. 70, 87-88, 90. PM II, figs. 330-332), whereas a similar fragmentary specimen from the palace at Zakros is equally admirable (Zakros 161-163, with figs. on pp. 2 and 161). Gournia pls. I:1 XI:19 and PM IV, fig. 251=TDoAx fig. 95 are the best known clay specimens of the period. The steatite vessel as well as Gournia pl. I:1 are nearly exact parallels to their contemporary masterpiece from Mycenae, while the two clay examples are also finely modelled and convey an extremely realistic impression. The effort of the artist to reproduce its silver prototype as faithfully as possible is clearly shown by the shining white slip on Gournia pl. I:1 and on the clay rhyton from the Little Palace (PM II, fig. 251). Both these specimens, as well as our example, were probably intended as imitations of silver or gold rhytons. The same applies to Gournia pl. XI:20, which has no claim "as faithful or artistic copy of life" (Gournia 48) and despite its date is less naturalistic than our example.

Bull statuettes which apparently represent rhyta of the naturalistic LM I type, are drawn in the tombs of Amenuser, Rekhmire and Mekheperreseneb in Egypt. According to Furumark, "they must be considered to have had a common prototype which is most probably Aegean" (Furumark 1950, 232-233, figs. 23-25, PM II, 527-537, figs. 337-340).

Our example is perhaps the finest LM III clay bull's head discovered so far. The naturalistic tradition of the LM I period appears not to have faded away completely. The process of degeneration and stylization observed on the decorative elements and syntax of the pottery seems to apply to the three-dimensional art too. As in the case of the octopus and other motifs, by LM IIIA2 the last signs of naturalism are giving way to the absolute formalization, which is typical of LM IIIB-IIIC.

The style of 1268 is well within the LM I tradition. Its general form and appearance still have a sense of liveliness and restrained vivacity.

The pale buff slip which covers our rhyton probably carries on the LM I fashion of imitating silver or gold by those means available to the potter. The thirteen quatrefoils or lobed crosses, which decorate the front part of the pot, roughly correspond to FM 54:4 (IIA) or 55:4 (IIIC1). They occur, too, on our C1 and 1012. The fashion of decorating rhytons with trefoil and quatrefoil motifs goes back to LM I (TDoAx fig. 70. PM IV, fig. 251:a-b). These ornaments have been related to the Egyptian star-markings on the cow of Hathor, and have been considered to be a symbol of the goddess as queen of the night and of the underworld (PM I, 513, fig. 370). The chevron motif on the front of the bull is FM 58:11 (IIIA2) and the lattice pattern on the top is diaper net FM 57:2 (IIIA2).

The Mycenaean III clay rhytons in the form of animal heads are quite different in character, and as a rule they are more formalized. They all seem to have been imitations of Minoan originals (e.g. CVA Rodi 2, pl. 7:1=C1.Rh. I (1928) fig. 44. BM Cat. C607. Doumas 1968).

1269 is a funnel-cup rhyton of wide-necked piriform shape (Koehl 1981, fig. 1) and is the actual vase of FS 201:3 (LM IIIB1). The foot which is missing was probably pointed and not spreading. The lip is flat and the neck slightly splaying. The rhyton is provided with an internal funnel and a hole from the upper handle joint to the interior of the vase. When the vase was full and covered by a lid or another vessel such as an incense burner, a finger pressed on this hole sufficed to prevent the escape of the liquid from the bottom hole. When the upper hole was left open the liquid would jet down and could be stopped at will by replacing the finger on the hole. According to Glotz (1925, 163. cf. Koehl 1981, 183 and fig. 5), the funnel-shaped vase was probably designed to keep back the lees when libations were being poured out to the gods. This mechanism gives the funnel-vessel the character of a trick vase, and there is little doubt that analogous pots were made to be used

as toys, as they were in later Historical times (PKU 102-103, BM Cat., 179. Analysis 73).

The sacred nature of our example is marked, as in the preceding specimen, by the presence of the bull. In the present case a plastic bull's head is attached to the shoulder across the handle. Such plastic elements "do not form a decoration in the proper sense of the word but seem to be conditioned by the ritual character of the vases" (Analysis 424). Both animal-shaped rhytons and animal attachments point to a strong oriental influence on Minoan art and religion (PM II, 259 f. Furumark 1950, 233).

The type of piriform rhyton first appeared in LM IA and was a rare variant of the conical rhyton, which goes back to MM III (Analysis 71-2. Palaik. III, fig. 4. JHS 23 (1903) 253, fig. 16. PM II, 221 f., pl. 24). By LM IB, besides the conical, there were two other types of rhyton: (A) the piriform and (B) the elongated ovoid. The latter disappeared after this period. Type A survived into LM III and is represented by a few examples, one of which is our 1269 (Palaik. II, fig. 12:1. PM II, 221 f., fig. 129:13-14. Analysis 72).

The shape of 1269 is closely matched by PKU fig. 86 (IIIA2) which has three handles and a spreading base. It is also closely paralleled by PM II, fig. 129:14 which is LM III from Haliki in Attica and has one handle and a foot tapering to a point. Four Mycenaean IIIA2-IIIB specimens seem to be identical to ours in profile, but lack the plastic attachment (Agora XIII, pl. 50:XXI,6. CVA Deutch. 3, pl. 98:3. Maiuri 1923-4, fig. 160. Morricone 1965-6, fig. 248). These Mycenaean rhytons have their handle attached to the shoulder, but in other respects appear to have been copies of an LM IB example from Phaistos, the handle of which is from the rim to the shoulder (PM II, fig. 129:13). The latter feature, as well as the plastic animal attachment, seem to have exclusively Minoan characteristics. Both these elements occur on our example which is definitely Minoan, as its fabric and decoration also suggest.

Our rhyton with its plastic animal attachment, which roughly corresponds to the two-dimensional FM 4:2 (IIIB), is strongly reminiscent of two similar LM IA specimens from Palaikastro. The latter have a wild goat's head attached to the shoulder across the handle (Palaik. III, fig. 4; VII, fig. 9:NP35=pl. 57:a). As in the case of our 1268, the main difference lies again in the gap between the naturalism of the LM I style and the formalization of LM III. In the same LM I tradition appears to be the plastic bull's head seen on an ostrich-egg rhyton which is displayed on register II of the Amenuser's tomb paintings (Furumark 1950, 232, fig. 27:c). Plastic bull's heads exactly similar to ours are seen on some pottery sherds of the New Palace period in the Heraclion Museum (no. 3120 etc.) Similar bucrania, in association with plastic birds, are attached to the jar rims of a triple ritual vessel from

Myrsini (Hag. Nikol. Mus. 1973),

The shoulder of 1269 is decorated in a purely Minoan way with parallel arcs and chevrons forming an everted festoon pattern identical with that on our cup 1026. They correspond to the disintegrated tricurve arch FM 62:24 (IIIA2 late; cf. Analysis 391) and are identical with Kanta 1980, fig. 121:1, from Episkopi Ierapetras. The isolated concentric semicircles which border the festoons are FM 43:9,13 (IIIA2 late-IIIB1) and occur on our 60, too.

17(b). Composite Vessels

C97 and 48 are miniature piriform jars which were once part of composite, most probably double, vases. The composite type of vessel which is also known from other Mediterranean areas had apparently no practical advantage, and its ritual use seems to be very likely (Nilsson 1950, 130 f. Popham 1964, 9). It consists of two or more open or closed vases, usually identical in shape, joined together by clay connections and handles rising above them. The type probably derived from a stone composite vase. The Cretan variants usually have two members, whereas the Mycenaean examples often have more than two (Analysis 69). A unique specimen from Myrsini, though, is composed of three miniature jars and has two plastic bucrania and four birds perched on the three rims (Hag. Nikol. Mus. 1973). As in the case of other ritual vessels, the composite pots do not seem to have changed very much over long periods of time. The types in the discussion appeared in LM/LH I and continued down to LM III.

The top of C97 is missing and we do not know if the jar was false-necked like 48 or had an open, circular or trefoil, mouth or even a mouth of strainer-like form (cf. TDoAx fig. 46. Gournia pls. IX:9, LM I and X:26, LM III. Hag. Nikol. Mus. 1973). The vessel if complete may correspond to FS 333 (LH I) which is a Minoan type and consists of two jugs with communicating bodies and their necks joined by an arched handle. One of the members is closed and the other is provided with a strainer and a trefoil or beaked mouth (cf. Gournia pl. X:26. TDoAx fig. 46).

The jar is decorated with birds FM 7:i (LM IIIA) floating and pecking among flowers on either side of a chequer pattern FM 56, which assumes the form of a stemmed chalice. This check pattern may well represent something like an altar. The flowers belong to the familiar LM IIIA2 type (Mackeprang 1938, pl. XXVI:6. Kanta 1980, figs. 97:5,8 and 110:2) The whole composition which seems to have been ultimately inspired by wall paintings, recalls similar ones in Maiuri 1923-4, figs. 50 and 52, and Kanta 1980, figs. 8:5-6 and 114:1. On an alabastron from Phaistos (PM IV, fig. 280:a) there is a similar decoration, including the chequer pattern. The whole design "is vivacious and picturesque ... and the conversion of the theme of feeding birds to an apparently sacral scene stresses the Minoan connections"

(Vermeule-Karageorghis 1982, 158), According to Mee (1982, 9) the bird on the Karpathian jar "provides a geographical link between those from Ialysos and Knossos". C97 is probably early IIIA2, although a slightly earlier date (IIIA1) cannot be excluded.

48 is slightly smaller and has a false neck which implies that its twin vessel will probably have an open mouth. Apart from the usual hole in the middle of the body, which is also seen in C97, there is a second hole in the shoulder. The latter evidently belonged to a tubular spout which is broken off. 48 seems also to correspond well with FS 333 (cf. also FS 324, IIIA2 late/IIIB and BM Cat. C428). 48 probably comes from a double vase like PKU fig. 95:d which has both necks closed. The Palaikastrian example has also a side-spout like our example and a loop handle connecting the false mouths. One of the necks of a similar vessel from Khania ends in a plastic animal head. The jars of this vessel are decorated all over with bird protomes (Tzethakis 1969, fig. 3). The shoulder decoration of our example is identical with that on our miniature jug 15 (LM IIIA2),

17(c). Bird-vase and Vase with Plastic Bird Attachments

Only one fragmentary example of this category is catalogued and illustrated here, no. 36. It is a bird's neck-and-head fragment which is hollowed inside where fire traces are clearly visible. The specimen was apparently found in an LM III chamber tomb and there is little doubt that it was part of a ritual vessel, probably an incense burner used for the fumigation of the tomb. The bird appears to represent a dove and is decorated with straight and curved bands of red paint. Clay doves with similar decoration have been found at Palaikastro (Palaik. III, 219-220, fig. 6:b).

Similar bird protomes were noted on a small coarse bowl from the chamber tomb at Vonies, which is not catalogued here. These protomes are set on the rim, like basket handles and face outwards. This must also have been a ceremonial vessel, probably related to burial rituals or to the cult of the dead. On a Pre-palatial clay pyxis from Levina there are four similar bird protomes placed in exactly the same way (Herakl. Mus. L II 239). On the triple vase from Myrsini, already referred to, whole plastic birds are perching on the rims facing outwards.

The position of the dove in the Minoan religion appears to have been very significant, to judge from the discovery of the so-called dove goddess figurines at the shrines of Knossos and Gournia, as well as of relevant evidence from the Palaikastro shrine. The dove seems to have been related to chthonic deities which sometimes take a fetish form. It probably also represented the divine epiphany (BSA 8 (1901-2) 28 f., fig. 14, PM I, 576. Gournia 48, 51. Palaik. III, 219-220, 226).

18. Basket Vases

Two examples of this kind of vessel are known, C86 and C87. They are both FS 319 (IIIA2-IIIB) which seems to be exclusively a Rhodian type (Analysis 73-74. Stubbings 1951, 16-17), despite the fact that two of the three Rhodian examples, which have been analysed, have a clay composition matching east Crete/Naxos (Mee 1982, 17).

C86 has a semiglobular lower body, whereas the upper half is conical. C87 has a depressed globular shape. Both have a collar neck, a basket handle, to which a semiglobular lid is attached by a clay loop, and three ribbed legs. The latter are reminiscent of metal work, but the prototype for these vases was rather of basket work and this is confirmed by the simple geometric designs which usually decorate them (Analysis 74. Mee 1978, 141).

The shape of C86 is closely matched by Maiuri 1923-4, figs. 91, 128 and 160:b. The shoulder is decorated with narrow vertical panels filled by groups of parallel chevrons. The interspaces between the latter bear vertical strokes or dots. The edge of the lid is encircled by a series of cross-hatched triangles FM 61A:7 (IIIA2) which is the commonest decorative motif on basket vases and occurs, too, on our C87, as well as on piriform jar 58.

C87 is closely paralleled by Boysal 1969, pl. XXXII:5 and Mee 1982, pl. 13:5 (IIIA2). The latter has an identical shoulder decoration with a row of cross-hatched triangles. The lid is decorated with groups of vertical strokes and a wavy line. Both C86 and C87 are LH IIIA2.

The distribution of the basket vase is reminiscent of the brazier and includes Rhodes, Karpathos and Múskebi. C86 and C87 are excellent evidence of contacts between Rhodes and Karpathos (Mee 1982, 17).

19. Crater Stands

The type is represented by only two specimens (C84-85). This kind of stand is not very common in Crete and it seems possible that it was a Mycenaean creation (Analysis 70-71. Kanta 1980, 280).

C84-85 roughly correspond to FS 336:1-3 (IIIA2-IIIB). Both have a concave cylindrical shape and three ogival openings cut out of the sides, which thus form three broad legs. C84 is shoulderless and its shape recalls BCH 1960, 820, fig. 2, from Myrsini. It is decorated in an elaborate way and this is a sign of earliness. One of the encircling decorative zones contains running spirals FM 46:54 (=Popham 1965, fig. 6:32), which are frequent on early LM III crater stands (cf. Kanta 1980, 281). Further down there is a band of adder mark FM 69:a (LM II-III A, cf. our 995 and Kanta 1980, fig. 143:8 from Episkopi Ierapetras). The wavy line roughly corresponds to FM 53:14 (IIIB). This stand is dated to LM IIIA1.

C85 has a differentiated shoulder and corresponds to FS 336:1 (cf. Zygouries fig. 138). The shoulder is decorated with a wavy border FM 65:7 (IIIA2, cf.

PM II, fig. 70bis). The herringbone pattern on the legs, which also occurs on C13 and C26, corresponds to FM 64:17 or 58:32, both IIIA2. This stand should be LM IIIA2.

Our 991 may have been used as a stand for one of the amphoroid craters 986-989.

In general, the crater stand seems to have been a Mainland type which was adopted by the Minoans from LM IIIA1 if not earlier. The specimens from Karpathos were probably imports from east Crete.

20. Coarse Side-spouted Jars

Six examples of this kind of jar are known, all of gritty, friable fabric and, except for fig. 58:B, unpainted. They are all of globular or depressed globular shape and have a short splaying or concave-splaying neck, a tubular spout and two horizontal rolled handles. Their profile is slightly reminiscent of the necked version of the Mycenaean "feeding bottle" (FS 159-163) which had no MH prototypes, but occurred in the EH repertory (Analysis 34). Our examples are without exception Minoan and appear not to have any relation to the Mycenaean spouted jars, which are invariably provided with a distinctive basket handle rising above the mouth,

C88-89 and 1038, which has a low ring base, are taller than the other two and have an identical profile, 35 has a small hole through its base. The jar in our fig. 58:B is 6.7 cms. high and its rim is 4.3 cms. wide. The surface is covered with a reddish slip, on top of which traces of black paint are visible, apparently the remains of a decoration.

All the Minoan coarse side-spouted vessels appear to be earlier in date than our examples (Mochlos 1912, figs. 32:XIII, C and 48:46, EM II-MM I. Tylissos 1912, fig. 11:a. Trianda fig. 36. Furumark 1950, fig. 2:19, LM IA). There are also similar examples in fine decorated ware, dating from LM IB' (Gournia pl. VIII:23,31). The examples from Karpathos are probably LM III survivals of the type and this is hardly surprising, given the fact that most of the household pottery forms are not very susceptible to change through long periods of time.

The use of these vessels is not quite clear, but it seems very likely that they were used for pouring water or wine.

21. Pithoi

These are most common among the household ware and are always found in sherds, which are too small for any reconstruction to be made. Nearly all specimens appear to be MM-LM I in date. As a rule, they are of coarse and heavy fabric, mostly of the buff oatmeal type. Their outer surface has usually been smoothed by an extra wetting. The sherds collected always belong to moderate or small types of pithoi and it seems that, as at Palaikastro

(PKU 55), huge vessels like those in the Knossian magazines were not in use on the islands concerned. Most of the fragments are plain but there are some decorated with rope mouldings or splash-and-trickle patterns.

Most of the body sherds seem not to have a very pronounced curve (246, 676, 1262-1263, 1285, 1384-1386) and the base fragments present a fairly sharp angle with the body (561, 677).

Our examples are grouped into two categories: (a) rims and (b) decorated fragments.

21(a). Pithos Rims

The rim fragments can be divided into four types: (A) thickened and spreading back in a heavy collar, which is the continuation of an undifferentiated neck (31, 205-206, 431, 487, 850); (B) rims of the same form as the preceding, but with their thickness not differing from that of the neck (204, 561); (C) flaring rim on a short straight neck (486), and (D) rims with an out-turning horizontal lip (428-430, 1128).

205-206, 431 and 487 are very similar in profile. Their heavy rims and undifferentiated necks rather point to an MM III date, although the general shape of the pithoi remains almost unchanged until LM times. These fragments may have belonged to pithoi like Lasithi I, fig. 20:913-914, 920-921 and Palaikastro VI, fig. 11:a, which is LM IIIB/C. 206 in particular is comparable with Lasithi II, fig. 17:1 (MM III).

31 differs in having a flat instead of convex top. 850 might have come from a jar like Trianda fig. 82 and Tylissos 1912, figs. 3:b and 4 (MM III). The latter bears trickle decoration.

204 and 561 could be matched by Lasithi II, fig. 17:5 (MM III), whereas 486 may be compared with Palaikastro VII, fig. 16:NP83 (Sub-LM IA) and Poliochni pl. CCLXXXIV:g-h. The differentiated neck and the rope ridge at the junction of neck and shoulder are signs of comparative lateness and it seems that 486 is not earlier than LM I (cf. PKU 57).

429 probably belonged to a vessel like Trianda fig. 111=Furumark 1950, fig. 10:195 and Palaikastro VII, fig. 17:NP63 and NP100, all Sub-LM IA.

430 may have come from a large basin like 730 and 1251 rather than from a pithos.

21(b). Pithoi with relief or splash-and-trickle decoration

Numerous shoulder and belly fragments bear relief decoration with raised and thumb impressed bands of clay. This is a constant feature of Minoan pithoi, although relevant elements do occur on similar Mycenaean vessels (Analysis 97 and 426). These rope mouldings were probably used originally to conceal the joints of pithoi, which were built in sections. They are narrow bands of clay pinched up at intervals between two fingers. On Cretan pithoi

in general they are applied in one or more lines sometimes on the neck, immediately below the rim, but more often further down the shoulder and less often lower on the body. As a rule, they run horizontally or else obliquely, and less often in festoons looped up so as to coincide with the junction of the handles (cf. Lasithi I, 88).

This kind of plastic decoration was current in Crete from EM II to LM I and continued in a different and degenerate form through LM III (Myrtos 146-147, figs. 79-83, pls. 59-61. PM I, 587 and fig. 430. PKU 57 and pl. XXII:e. Hood 1967, 50 and pl. 4:16. Kythera 91).

Our examples of pithos thumb impressed decoration can be divided into three categories: (A) high relief bands with oblique or vertical finger impressions. Fragments 1262, 1383 and probably also 434 belong to this class. They are closely matched by Hood et al. 1964, pl. 17:g (EM III-LM I; cf. PM II, 418 f.). 1383 bears splash-and-trickle decoration besides the relief one. (B) plastic coils as the preceding but in low relief. Such are 428, 432-433, 733-734, 786, 1283-1285 and 1384-1286. These can be compared with Kythera pl. 20:β109-114 which are EM II-MM IA. Of these pl. 20:β110 has two horizontal ridges identical with those on our 428 (cf. also PKU fig. 43:c and pl. XII:c). (C) low coils with partially overlapping punctuations, forming a chain-like decorative band. To this class are assigned sherds 204 and 476-477, which are closely paralleled by Pachyammos pl. XVI:xiv-c (MM III), Hood 1967, pl. 5:33 and Kythera pl. 25:ε107,109 (MM IIIB).

Belly fragment 246 has a splash-and-trickle decoration like 1383. This kind of decoration, which has also been used on several other jars from Karpathos, was very common on Cretan pithoi during MM I-LM I (e.g. Pachyammos 24-25, 27 and pl. XVI) and sporadic instances occurred as early as EM II (Myrtos figs. 79-83 and pl. 38). On east Crete it appears to persist right up to LM times not only on pithoi but also on fine wares.

The pithos appears to be the most popular storage jar on the islands in discussion. All examples are Minoan in character, but it is difficult to decide whether they were locally made or imported.

22. Tripod Cooking Pots

This is another very common type among the coarse ware. Cooking should have been the main use of this pottery, but they seem to have been suitable for other functions too, such as dyeing cloth, cheese making, etc. As in the case of other coarse ware shapes, the cooking vessel tradition is very conservative and its general form changes very little over a long period of time (Betancourt 1980, 7-8).

All our examples are again fragmentary and hardly any can be reconstructed on paper. The bulk of the material appears to be wheel-made. The fabric is always very coarse, often micaceous and normally crumbly. The core is dark and

the surface varies in colour from light grey and buff to brown, reddish brown and black. Both sides of the vessel are usually wet-smoothed.

There are two general shapes: the ordinary deep, two-handled cooking pot and the cooking tray. The handles of the first shape are usually horizontal and rarely vertical. They are always of circular section and are placed either on the shoulder or lower down on the body (nos. 589-600). Following Betancourt's classification we can distinguish two types of the first shape: (a) cooking vessels with elongated globular body and splaying or everted rim; (b) similar cooking pots with a straighter profile and more open mouth.

22(a). Globular Hole-mouthed Cooking Vessels

The bulk of our examples belong to this category. They vary greatly in size, the mouth diameter ranging from fourteen to twenty cms, and the diameter of the base from fifteen to seventeen. The material is insufficient to allow a clear picture of the type and of its evolution, but it seems that while the general shape is a standard one, there is a considerable variation in the configuration of the profile. It is worth noting that from EM II the cooking pot rims change from not being flaring at all (Myrtos 123-125) to splaying or slightly everted (MM-LM I) and markedly everted (LM III).

Rims 577-578, 580-581, 583 and 585 have a roughly identical flaring profile corresponding to Levi 1976, pls. 20:h and 63:a-b,d-e (MM I) and Betancourt 1980, fig. 1:C896 which is LM I-II. 578 in particular is closely matched by Levi 1976, pl. 64:g (MM IB) and Kythera pl.28:ζ128=fig. 39 (MM IIIB-LM IA).

579, 582, 586-588 have an everted rim. Of these 582 corresponds to Betancourt 1980, fig. 1:C555 which is MM IB. It is also closely matched by Palaikastro VII, fig. 18:NP11 (Sub-LM IA). 586 roughly corresponds to Betancourt 1980, fig. 1:C915 which belongs to type B and dates from LM IIIB. 584 has a peculiar form with an internally rolled rim.

Most of the base fragments 601-610 seem to belong to this class.

22(b). Open-mouthed Cooking Pots

This class appears not to have been popular in the islands concerned. Only 301 and probably also 576 belonged to such vessels. 576 is closely paralleled by Betancourt 1980, fig. 1:C929 which is LM I.

22(c). Cooking Tray

As in the case of the preceding type, this kind of vessel seems to be very rare too. Only one example is known, no. 214. This is closely matched by Betancourt 1980, fig. 4:C1483 (MM II) and Palaikastro VII, fig. 22:9 (LM III). The fire marks inside the pot indicate that it was probably used as a portable hearth. However, its use as a frying pan cannot be excluded, although a frying pan should have a long handle rather than tripod feet.

This kind of vessel was usually provided with lugs or rolled handles, either placed horizontally on the edge or vertically, rising up from the rim. While many variations of the cooking tray exist, it is difficult to distinguish any chronological development of the type (Betancourt 1980, 7).

22(d). Tripod Feet

As elsewhere in the Minoan world, the legs of tripod cooking pots, dishes and trays form a considerable proportion of the diagnostic sherds found. Most pieces are undecorated, but a few legs have a low rib or ridge running down their exterior (617-618, 1252, 1486). This kind of decoration goes back to EM II (Myrtos 125, fig. 63:1) and is known from several Cretan sites, where the relief band is usually pinched up so as to form a rope pattern (Levi 1976, pl. 63:a. Lasithi II, pl. IV.4:5. Hood et al. 1964, pl. 16:e. Betancourt 1980, fig. 5:C).

Vertical cutting slashes are sometimes used as leg ornaments (446, 1135, 1256). Similar decoration is also observed on Cretan sites (Hood et al. 1964, 93, fig. 2:3-4. Palaik. VI, fig. 17:KP17=pl. 76:e. Betancourt 1980, figs. 4:C979, C1058 and 5:C,F).

The shape of the tripod legs provides a good clue for the chronological development of the vessels to which they belonged. This was first noted by Hood et al. (1964, 52-53, 59, 91-93. Hood 1965, fig. 4:2. Hood-Warren 1966, 166-167. Hood 1967, 50, 52). It has been established that legs with thin oval cross-section are characteristic of MM IB-II. During MM III-LM I there is a tendency towards rounded legs and this period seems to favour the thick oval section, which sometimes can be nearly round. The round-sectioned leg becomes dominant in LM III as it was in EM II at Knossos.

This classification appears to hold good in general and similar development in the form of tripod feet has been observed on several Minoan sites, both in Crete and elsewhere (Betancourt 1980, 4-5, 9, fig. 2. Palaikastro VI, 285. Kythera dep. δ, 58-59, MM IB-III A; dep. ε, 96, MM III B; dep. ζ, 132, MM III B-LM I A; dep. μ, 59-60, LM I B, etc.). The evidence from Kommos, however, shows that these changes in the tripod leg form were far from precise. As Betancourt put it (1980, 5) "it must be emphasized that the development was only a general tendency which may not hold true for all individual examples. For a long period, from MM III to LM III A, several types overlapped".

Following the scheme of stylistic evolution referred to above, we can classify our specimens as follows:

- (1) 203, 304, 604, 611-613, 671, 1134, 1257, 1259 and 1486 have a thin oval, almost flat, cross-section corresponding to Betancourt 1980, fig. 2:C554, C844 (both MM IB/II).
- (2) 269, 617-618, 736, 976, 1133, 1135, 1252-1253, 1255-1256, and 1258 are slightly thicker than the preceding ones and may belong to a transitional

stage MM IB/II or to MM II (cf, Betancourt 1980, fig. 2;C845).

- (3) There follow nos. 214, 260, 447, 450, 774, 1254 and 1438 with a thick oval section, which has the form of a triangle with rounded angles. These correspond to Betancourt 1980, fig. 2:C885 and may be MM III-LM I.
- (4) The circular-sectioned leg is represented by only two examples (735 and 1137), which should be LM III (cf. Betancourt 1980, fig. 2:C902,C963-964).
- (5) 251, 737, 974 and 1136 have a rounded square section and are rather to be classed with the thin oval-sectioned legs (cf, Hood et al. 1964, 91).
- (6) 444-446 and 1355 are of a characteristic heavily micaceous fabric and have a lozenge-shaped section. The latter is unparalleled elsewhere in the Minoan world and may be a local Anatolian feature, as probably is the triangular section with rounded edges. The section of 446 is flattened and appears to correspond to the thin oval equivalent, whereas 444-445 and 1355 correspond to the thick oval section.

The evidence from the cooking vessels on the islands concerned appears to be consistent with the general impression given by other domestic pottery forms. They are almost invariably Minoan and seem to have been locally made, probably by Cretan potters.

23. Tripod Perforated Vessels

This kind of vessel has often been called a brazier or incense burner. The brazier is a clay vessel made to hold coals. But no fire marks have ever been noted on these pots and the assumption that they were used as braziers is completely denied by the evidence. Nor is there any proof of their having been used as incense burners. Although a domestic function such as cheese making cannot be ruled out, the present evidence probably indicates that these pots were related to some kind of burial practice or belief connected with the dead (cf. Analysis 77). Their comparatively small size and the fact that all of them have been found in tombs supports the view that they were exclusively intended for funerary use and probably had a symbolic value, such as representing actual braziers which would have been much larger in size (Mee 1982, 16).

Four examples of such vessels are known from Karpathos. Their exact date is unknown, for it is impossible to date this kind of pot except by context. All four have a depressed globular profile, everted rim and a vertical rolled handle set below the rim. The feet of 1039-1040 have their ends coiled up, and the same may have been the case with the other two vessels, the legs of which are broken off. Our specimens can be divided into two types: (A) vessels with several rows of holes in the upper body (67, 1040) and (B) vessels with a perforated floor (53, 1039).

Type A corresponds to FS 316 which is considered to be exclusively Rhodo-Mycenaean speciality, as was the basket vase too. This Rhodian variant often has its upper part decorated with horizontal rows of knobs arranged

among the holes. Our examples are exactly paralleled by BM Cat, A804-807; Mee 1982, pl. 14:1,5 and Boysal 1969, pl. XXXI:2-3, all IIIA2-IIIB. Similar examples were found in the Mainland, but their legs are straight, not coiled up (Pylos II.2, ill. 395:504,580=ill. 396).

Type B had probably the same function as type A, although the perforated bottom indicates that these vessels were probably used as strainers. Such strainers of a much larger size and quite different shape were popular in LM IA at Palaikastro, whereas from LM IB small versions made their appearance, probably used as toys. The type continued into LM II and III (PKU 66, fig. 48. Palaik. III, 225, fig. 8:a; VII, 224, fig. 15).

1039 corresponds to FS 316 and is identical to 67 and 1040, the only difference being in the perforations. The shape is exactly matched by Jacopi 1930-1, fig. 61.

53 has only two holes through the base and is certainly wheel-made. Its fabric and shape point to a Minoan manufacture, although similar shapes occur in the Mainland (Pylos II.2, ill. 395:275=ill. 396).

Three of the perforated vessels described above are undoubtedly of Rhodian provenance. These, as well as the basket vases already referred to, provide unmistakable evidence for close Rhodian-Karpathian connections. The distribution of the former, apart from Rhodes and Karpathos, includes Múskebi and Scoglio del Tonno. If these vessels were really symbolic objects, their presence outside Rhodes cannot be explained only by trade contacts (Mee 1982, 16).

24. Fire Boxes or Censers

Only two examples of this kind of vessel are known from our island group (54 and 1041). 1041 was found in the tomb at Vonies and 54 probably comes from a chamber tomb at Pigadia. They are both fragmentary and of heavily coarse fabric. The heavy fire marks inside and on the underside of 1041 leave no doubt as to the practical function of this vessel, in contrast to the perforated pots described above. It has a lenticular shape and rests on an encircling collar or flaring rim which is projecting upwards. The type corresponds to Georgiou's type IA:17 (1980, 133, pls. III and X) which is LM IIIA-IIIB and has been described as "the only anomalous vessel in the group", with a central hole on the top of the cap, a flattened disc-shaped rim and a perforated underside (ib. 159).

54 is only known from a photograph where it is shown upside down. It seems to belong to the same general type IA (ib. 124-125, pls. I-II. Also Kythera 288, type II), with a hollow sphere and a flaring rim. The underside is solid, whereas the top hemisphere has a large hole which is surrounded by smaller perforations.

The function of the fire box, which was used at least from LM I onwards,

has not yet been satisfactorily explained. It is worthy of note that only three out of 78 Cretan specimens were found in tombs and this underlines the practical use of the vessel. In Kythera, however, most of the examples come from tombs (ib. 288). The presence of these objects in tombs may have been of symbolic value and not of ritual character (Georgiou 1980, 160-161). It has been proposed that they were used as censers intended for burning aromatic seeds, which were inserted through the central hole. This is corroborated by the finding of a fire box at Mallia, which contained carbonized seeds of juniper, coriander and a species of fennel (Kythera 188).

According to Georgiou (1980, 173), these vessels cannot be incense burners, since other types are known for this purpose, with holes in the top, through which smoke could escape. The majority of the known specimens are burnt on the perforated underside and this suggests that the source of heat was from beneath. Apparently the vessel was placed over a glowing fire by means of a stand or another supporting vessel. It has recently been suggested that the rim channel which is a container for a limited quantity, used to hold some substance, liquid or solid, which had to be heated. This substance has been tentatively proposed to have been volative ingredients in the production of aromatics by the dry distillation process (ib. 158-160, 168-173).

This type of fire box is purely Minoan and is well known both in Crete and elsewhere. Its presence in Karpathos testifies again to Minoan continuity during LM III.

25. Clay Lamps

201-202 are complete profiles of the bowls of clay lamps made of fine clay and covered with a distinctive, highly polished red paint. The latter betrays the effort of the potter to imitate stone models. The lower part of the lamps is missing, but there is little doubt that it had the form of a high or low stalk, apparently hollow, like Maisons I, pl. IX: 8532 (MM I-II); Gournia pl. II:65,73,75 and Lasithi II, fig. 12:3-5 and pl. VI, 2:3-4 (MM III).

This kind of clay lamp was certainly an imitation of stone prototypes and particularly of Warren's standard type 24 (1969, 49 f., no. P292. cf. Gournia pl. V:26,28. PM II, fig. 174:b. Zakros fig. on p.149. Mercado 1974-5, 23 f. with figs.). This stone original consisted of a circular bowl with two wick cuttings in the rim. Three versions of this type have been distinguished: (1) a low variety with no pedestal, (2) a medium one with a low pedestal and (3) a tall one with columnar pedestal (Mercado 1974-5, 28 f., figs. 19-43). Our examples were probably copies of the third variant.

Nearly all clay imitations of such lamps are considered to be Middle Minoan, during which period the stone variety rarely occurred (Warren 1969, 50). Clay versions of this type appeared as early as MM IA and seem to have

continued in the same general forms through MM IB-LM IB (Levi 1976, pls. 37:e, 43:c and 151-3. PKU pl. XXVIII:k. Borda 1946, pls. XXII and XXIV).

202 may well have been tripod like Lasithi II, fig. 11:1-4 and pl. VI. 1:2,4 (MM III) and not pedestalled as has been restored. The Lasithi examples do not seem to have been used as lamps, since they do not show any trace of burning. The same is true of our examples and this makes one wonder what else might have been the function of these objects.

II. CHIPPED-STONE INDUSTRY

In most Aegean sites it was not until well into the MBA that metal began to predominate as raw material for making tools and weapons (Renfrew et al. 1965, 240-241). Obsidian and to a lesser extent flint were the chief stones to be used for this purpose. They are found abundantly in all Neolithic and Early Bronze Age contexts in the Aegean. From the Middle Bronze Age they gradually became less common. During the LBA isolated examples still occurred here and there. Such late use of obsidian and flint is well exemplified in east Crete, where they turned up in MM and LM contexts (Lasithi II, 50, fig. 21. Palaik. I, 396. Maisons II, pl. XXII:4). We have similar occurrences in several Karpathian and Kasian sites, such as Fournoi, Lakos, Baela, Mastikharia, Poliatses and Khelatros (nos. 462, 759, 761-762, 784, 1045, 1192, 1441).

The chipped-stone industry in our group of islands is predominantly of obsidian and again it is known only from surface collection. Of necessity it consists chiefly of waste products of manufacture, which have suffered greatly from the long surface exposure and cultivation. The rocky nature of most of the sites and the continuing erosion caused the obsidian artefacts to turn up on the surface, often in considerable amounts. From Leftoporos alone more than one kilogram has been collected.

The proportion of the obsidian as raw material is far higher than the various kinds of flint or chert. Second to obsidian comes a matt black and extremely hard ~~stone~~ ^{stone}, found only on Kasos and Saros. It occurs in local sources on both islands. It appears to be acid igneous rock or quartz (cf. Saliagos, 46) and does not show the glassy fracture of obsidian. This kind of material is only appropriate for making small flakes. 1529-1531 and 1543-1548 are examples made of this material.

The rather common brown flint is third in frequency with seven examples from Leftoporos and others from elsewhere (462, 1167-1168). Other kinds of flint or chert include a dark red or chocolate variety and a handsome honey-coloured stone (683, 1441, the latter with steep invasive retouch round one face). The last three materials are probably not native to the three islands.

Almost all the obsidian found in this island group is apparently from Melos; "The Melian origin of the obsidian found widely in Prehistoric

contexts in the Aegean, already long suspected, was documented by trace-element analysis, in the first instance by optical spectroscopy" (Melos 182 f. Renfrew et al. 1965. See also Treuil 1983, 158-159 with refs. and Kitsos 223 f.). The Melian obsidian has the typical pearly lustre and varies in colour from milky grey to black. The bulk of the material is opaque and very few fragments are translucent, whereas the surface is always lustrous (Renfrew et al. 1965, 231-232. Saliagos 47. Melos 185 f.) The extent and duration of the "exchange" of Melian obsidian has recently been sufficiently demonstrated, although the mechanism of its acquisition and distribution is still open to question (Melos 181 f. and fig. 15.4).

The Yali type of obsidian occurs in small quantities on Karpathos, particularly at Leftoporos and Lefkos (1166, 1188). It is black in colour and has a speckled appearance, being dotted by many white spots or spherulites which are fairly uniformly distributed and are responsible for the somewhat loose texture and irregular fracture of this obsidian. When light is transmitted, the Yali obsidian appears translucent and transparent and the vesicles appear as dark spots (Renfrew et al. 1965, 232. Torrence-Cherry 1976. Buchholz-Althaus 1982).

All the Yali obsidian artefacts are small flakes. This is hardly surprising, given the comparatively fragile and less durable nature of this material. It appears that this kind of obsidian, as in other Aegean sites (e.g. Saliagos 47), was of no considerable importance to the local stone industry.

The obsidian source of Yali, an islet near the island of Nisyros, was discovered by A. Della Seta (Aspripetra 279). The distribution of Yali obsidian in the Aegean appears to be fairly wide (Treuil 1983, 158-159). It has been noted in Neolithic and later contexts in Aspripetra on Kos (Aspripetra fig. 63:f-g), Ialysos (Cl.Rh. 1 (1928) 100; 10 (1940) 74, fig. 21:6-7) Saliagos (Saliagos 89, appendix IV. Renfrew et al. 1965, 240) and Crete (PM I, 87, 178, 412, figs. 55:c, 127:e. PM II, 14, 56, fig. 5b. Zakros fig. on p.144. AE 1912, 219, fig. 25:2. Renfrew et al. 1965, 239, 241. Cadogan 1969, 158. AR 1976, 83).

There is little doubt that the material was worked on the spot. This is shown by the fact that most of the obsidian recovered was in the form of waste artefacts, as well as by the presence, although very scarce, of cores. It has been suggested that small groups of Aegean consumers travelled to Melos and "after returning to their settlements, they used a portion of the quarried modules in their own households and they exchanged the surplus with friends and relatives in nearby inland communities" (Shelford et al. in Melos 220). The very small size of the cores suggests the great economy with which the obsidian was used (cf. Saliagos 48, 55). It was evidently imported in large pieces and was subsequently worked with extreme economy.

The highest proportion of the obsidian artefacts consists of fragmentary and unworked flakes and blades, whereas worked pieces, long waste blades and large flakes are rare. This may prove to be partly due to the breakage caused through erosion. Future excavation may therefore reveal a different picture.

A. RETOUCHE IMPLEMENTS

A(1). Points

The most remarkable retouched pieces are two projectile points, 636 and 852. They were apparently used as arrow-heads or possibly leister-tips. It seems likely that 636, which is bigger, was attached to a hunting arrow, whereas the smaller 852 makes a good tip for a leister or fishing (i.e. harpooning) spear (cf. Saliagos 58). Both have been produced by flat invasive (pressure) flaking on both sides. The careful retouch is portrayed by the extreme regularity of the working edges, especially on 852.

852 is of excellent workmanship and its slightly convex edges are exceptionally regular. It may be contrasted with 636 which is less neatly flaked and displays a markedly straight edge. This may not have any chronological significance. 852 has a tang but no barb, whereas in 636 the tang is slightly barbed (both Saliagos form C, Saliagos fig. 16). By their working technique both points fit in well with Saliagos class I, which includes artefacts with shallow flat scars covering all or almost all the surface on both sides. They are therefore type C1 (Saliagos fig. 16) or Kephala type 4 (Kephala 7) and Buchholz-Karageorgis type IIb (1973, fig. 20. cf. also Kitsos pl. II:3-5).

636 is closely paralleled by Saliagos fig. 62:2,7,9,8=pl. XXXIV:24 (types B1-II); figs. 74:2=pl. LVI:1 (type B1 from Vouni, Antiparos), 66:9=pl. XXXVIII:9 (type C1, flint). Similar examples come from Melos (Melos figs. 3.1 and 3.2) and Naxos (Mykonos 399, fig. 3:1) as well as from Emporio (Roman levels, Chios II, 706, figs. 303:1), whereas Prosymna II, fig. 32, and Kitsos pl. II:4, provide exact counterparts to ours.

852 is closely matched by Saliagos fig. 63:7=pls. XXXV:3 and XXXVII:21.

853 probably belonged to an elongated point with flat retouch only on one face. It seems to be Saliagos type C II or C III, since it is tanged and has only one side worked with invasive retouch, while the scars do not cover the whole surface, although they run regularly and consistently some way in from the edge. This point is also closely paralleled by Saliagos figs. 66:16 (type C III), 67:5 (type D I, both sides worked) and 67:9=pl. XXXVI:7 (type D III, tangless with both faces worked).

854 may also have belonged to a point that seems to correspond to Saliagos type D III or D IV, since it has no tang and bears steep retouch along the edge of one face. It compares well with Saliagos figs. 67:7-8, 69:9,

74:7-8; pl. XXXVI:5,8; Kitsos fig. 112:1, and Chios II, fig. 303:14 (cruder version, Emporio per. VII).

The tanged arrow-head made of obsidian or flint stands out as a characteristically NL form, although the material from Lerna shows that it continued in use into EBA (Mykonos 399-400). This arrow-head type of point, like our 636 and 852, appears to have had a wide distribution within and outside the Aegean (Saliagos 84, 91. Treuil 1983, 149 f. with refs.). In the Aegean itself it seems to have been most favoured in the Cyclades, where it turned up, apart from Saliagos, on Naxos, Antiparos and Mykonos. In the latter island and particularly on the site of Mavrispilia it appears to be more abundantly represented than at any other site in the Aegean (Mykonos 399). In the Dodecanese, apart from Karpathos, an obsidian arrow-head was found in the cave of Chiromandres on Kalymnos (Maiuri 1928, 110). It is significant that it is entirely absent from Crete, whereas in Mainland Greece it was used from the time of the Elateia bothros to the beginning of the Bronze Age (Saliagos 91). It was known in south and central Greece as shown by examples from Lerna, Prosymna, Mycenae, the Athenian Acropolis, the Kitsos cave, Dimini and Sesklo (Mykonos 399. Prosymna II, fig. 32. Buchholz-Karageorghis 1973, 47, pls. 253:353 and 254:377-383. Kitsos 131, 175 f. Tsountas 1908, 326, pl. 42:1-10. Papathanassopoulos 1981, figs. 38-41). Apart from a few examples from Epirus, which are of uncertain date, only one is known to us from northern Greece. It comes from Servia in Macedonia and appears to be of EBA date (Saliagos 84. Renfrew et al. 1965, 238).

There are a few examples from Troy and Thermi but none of the form in the discussion (Troy II, fig. 234:36-116. Thermi 180, pl. XXVI:19). Further south the type is also represented at Emporio periods I and VII (Chios II, 708, fig. 303:1,2,14).

Outside the Aegean the tanged point was known in Neolithic Yugoslavia, in Spain and in the tomb groups of Copper Age Italy, except in the Laterza culture. Flint is used here instead of obsidian but the forms and flaking techniques are similar to the Aegean ones. The distribution of these arrow-heads extends as far west as Spain (Mykonos 400. Saliagos 84. Renfrew-Whitehouse 1974, 364, figs. 2-7).

West Anatolia appears to be completely excluded from the arrow-head's distribution, whereas in south Anatolia, particularly in Cilicia and the Konya plain, it is well represented and approaches the Aegean forms. It flourishes there in the EN period, while it is very rare in the later Neolithic (Hacilar fig. 166:f). The richest industry was that of Catal Hüyük, which is closely related to those of Ilıcapınar and Mersin XXIX-XXVII (Bialor 1962. Mellaart 1958 and 1964, 103 f., pl. XXVI and fig. 52. Garstang 1953, 11-13, 15-16, fig. 5); it also has certain affinities with Syrian Amouq A-B and with

Neolithic Byblos (Payne 1960, 525-526, figs, 30, 59 and pl. 65, Cauvin 1962), whereas there are no close links with the early lithic industry of Jericho, which is of Natufian ancestry (Kirkbride 1960). A distant relationship between the Aegean and south Anatolian tang-point industries could be accepted, although convincing parallels are lacking, the Anatolian examples being longer and narrower. This is hardly surprising, given the great chronological and even geographical hiatus (Saliagos 84, 91. Mykonos 400. Bialor 1962, 74 f., and figs. 2-3, 5-7, 10. Mellaart 1958, 87. Braidwood 1960, 84-86, fig. 161:1-2).

A(2). Parallel-sided Blades

855 is a retouched parallel-sided blade that corresponds nicely to Saliagos type J III (Saliagos 60, fig. 16) and Kephala 1a. It has a pressure flat retouch at one edge and a rather abrupt one on the other. This blade may have served as a side or end scraper (cf. Kephala 7, type 3). Saliagos figs. 67:11,14,15 and 68:5, Kephala pls. 25:117=69:117, and Kitsos fig. 108:5-6, 10, provide close parallels to 855.

856, 858-859 and 861-862 show traces of simple retouch on one or on both edges. This may be the result of deliberate secondary flaking (cf. Saliagos fig. 71:5-13=pl. XXXVIII:11-15, type J IV). It is possible, however, that this was due to unintentional trimming related to the use of the blades or to their suffering from the surface exposure. As in Mykonos (Mykonos 396) and elsewhere, the greatest proportion of the obsidian fragments from our island group appears to be so crudely serrated that all sharp edges show in many places tiny indentations or saw-like projections, like those caused by wear while in use. Our blades could therefore be waste artefacts of Saliagos type 1-2 or Kephala type 1a.

A(3). Borers etc.

921 is clearly retouched all around its point and appears to have been a nose-pointed tool, probably a borer similar to Saliagos figs. 72:5 (Saliagos 60, fig. 16, type K IV.) = pl. XLI:2.

924 was possibly used as a borer. It is similarly retouched around its pointed end (cf. Saliagos class N : burin spall) and is closely matched by Saliagos fig. 73:6.

916 is a double notch-sided blade, perhaps Saliagos type L IV (Saliagos 60, fig. 16). The notches appear to be intentional, produced by simple abrupt flaking, rather than accidental. It is closely matched by Saliagos pls. XXXVIII:6 (flint) and XLI:4 (type L III); Mykonos fig. 4:43-44, and Evans 1971, pl. V:b (Knossos FN).

B. WASTE PIECES

On the evidence at present available which is wholly based on surface collection, the greatest amount of obsidian is evidently waste material. The obsidian industry in the islands under discussion, like that of Kephala (Kephala 5-6) and perhaps unlike Saliagos (Saliagos 46), where a far greater proportion of artefacts show further working after detachment from the core, appears to be a waste industry rather than one of secondary worked artefacts. As we have seen, pieces presenting unquestionable signs of retouch are very few and with only one exception they come from the site of Leftoporos. However, future excavation may well change the picture.

The waste artefacts could be divided into three broad categories:

(1) cores, (2) flakes and (3) blades (cf. Saliagos 52-56, fig. 21).

B(1). Cores

Cores are in general very small in size and in most cases they are so entirely worked that it is not easy to tell whether an obsidian fragment is a waste flake or a small core. 927 is an example of such a small flake core corresponding to Saliagos types 19-20 (Saliagos fig. 17; cf. Melos fig. 3.2: c-d). Such short cores with a triangular cross-section are typical of the Neolithic period (Torrence 1979, 68-71, fig. 2, Kitsos fig. 95:1-3. Melos 27 f.).

No blade cores were recovered and this is hardly surprising for, as already stressed, the material was highly priced and was not used wastefully (cf. Mykonos 396. Saliagos 52 f.).

B(2). Flakes

As might be expected, the majority of the waste pieces consist of flakes, which are generally small in size. They correspond to Saliagos types 15-16 and Kephala category 2, within which fall all our obsidian and flint flakes. Some flakes, like 917-920, have a triangular or other peculiar form which appears to be rather fortuitous. 920 is closely paralleled by Kephala pl. 68:85 and perhaps by Saliagos fig. 67:12 and pl. XXXVI:9.

There is little doubt that many of the flakes, the larger ones in particular, were used as tools, probably for some kind of scraping. 349, 928-930 and 932-936 may have been used as steep scrapers like Mykonos fig. 4:34, whereas 351-355, 645-646, 922-924 and 931 would probably have been used as burins or borers. They must not, however, be necessarily regarded as intentional products (cf. Saliagos fig. 17 : rod-like fragments and burin spalls types 9-12). 922 is closely paralleled by Saliagos pl. XLI:1=fig. 72:4, which is retouched, and 923 by fig. 73:4.

Small and thin chips like 1171 most probably have not been used at all, although their use as awls or burin spalls and rod-like tools (cf. Saliagos

fig. 17, types 11-12) cannot be excluded.

B(3). Blades

These are normally defined as of length greater than twice their breadth (cf. Saliagos 60). Most of them appear to have been detached from the core by pressure rather than by percussion. As in other Aegean Neolithic sites (Mykonos 396. Saliagos 60. Kephala 6-7), very few blades were found unbroken. Some of them look nothing more than narrow flakes. Their average length is less than four cms. The only exception is 6, which is complete and is eight cms. in length. This can be paralleled in most Aegean EBA sites (e.g. Lasithi I, pl. 17:34s. AD 4 (1918) 165, fig. 15, from Pyrgos in Crete. Hartmann 1978, figs. 1-2. Kitsos pl, VII:4).

Unlike the obsidian industry of Saliagos, where less than one per cent of the waste products is formed by unworked blades, the figures in our assemblage rather point to a waste blade industry with no secondary working, apart from very few exceptions. As in the case of Kephala (Kephala 99) a high percentage of the material consists of unretouched parallel-sided blades. Yet the great preponderance of flakes over blades must be emphasized,

Most of the blades are of the ordinary parallel-sided type and fall into Saliagos types 1-2 (Saliagos fig. 17) and Kephala category 1a (Kephala 6). They are triangular or trapezoidal in section. Such blades are nos. 6, 9, 343-348, 637-642, 856-859, 861, 864, 868-872, 876-886, 894-895, 899, 906, 908, 912-913, 1143-1144, 1148-1150, 1202-1205, 1505 and 1507-1508. These blades are closely paralleled by Lasithi I, pl. 17:34a-s; Evans 1964, pl. 63:3-4 and 1971, pl. V; Levi 1976, pl. IIh; Saliagos figs. 71:7-13 and 72; Kephala pl. 25:69-70 and Poliochni pl. CV:30-36 (evolved blue per.).

Irregular blades of Saliagos types 3-4 and Kephala category 1b are also very common. Such are nos. 860, 862-863, 865-867, 873-875, 887-893, 896-898, 900-905, 907, 909-911, 914-915, 1141-1142, 1145-1147, 1179-1181, 1300, 1506, 1509, 1539-1542. Good parallels to our irregular blades are provided by Kephala pl. 69 and by Evans 1964, pl. V (Knossos FN),

The relatively high proportion of unretouched parallel-sided blades is of considerable chronological significance. They appear not to have been common before the FN period in the Aegean, whereas from EB 1 a considerable industry of parallel-sided blades grew up. It appears that they gradually increased in length and width (Diamant 1974, 404). They were uncommon at Saliagos I-II, but appear to be much more numerous in the third phase (Saliagos 55-56, 85, 88). This seems to be of great chronological importance; it probably marks a movement towards the EBA blade industry (Cherry-Torrence in Melos 31 with refs.). The latter is characterized by straight and regular margins, small but bulging bulbs of force and several typical sections, the trapezoidal being the most common (Torrence 1979, 68). This cultural change

is also documented by the decrease of white painted decoration and by the appearance of marble vessels in the Cyclades, This chronological distinction also matches well with the fact that parallel-sided blades are well represented at sites partly overlapping with Saliagos III or falling within the range of the Aegean Final Neolithic: a few short and narrow blades were found in Asprietra on Kos (Asprietra 278-279, fig, 63;a-e), whereas from Rhodes only one blade is reported (Rhodes 38). At Kephala, which may well be dated in the FN, these blades appear to be very common (Kephala 7, pl. 69). Some of them preserve a length of 6 cms. and one is 7.6 cms. long. Wider blades preponderate over the narrower ones, They are not in existence in Crete and particularly at Knossos before FN, when there is a high proportion of small blades (Evans 1971, 114, pl. V). In the FN contexts of Phaistos and in other Cretan sites the type is much in evidence (Vagnetti 1972-3, fig, 127. Levi 1976, pl. 11:h. Vagnetti-Belli 1978, 153). It probably made its first appearance at Poliochni (Poliochni pl. CV) during the evolved blue period which may, at least partially, correspond to the FN. At Emporio blades are most rare in periods X and V-II, while in levels of periods IX-VI they occur in abundance (Chios II, 798).

From the succeeding EB 1 period the parallel-sided blade, and particularly its long and perfectly regular form produced by pressure flaking, became the hallmark of the obsidian industry in the Aegean (Torrence 1979 with refs. and fig. 1). It now reached a length of up to 20 cms. and enjoyed a wide distribution throughout the Aegean. It is particularly well known in the Cyclades (Syros, Phylakopi etc.) and Crete (Papathanassopoulos 1981, pls. 46-47. Xanthoudidis 1924, pls. XXIII:866 and XXXIV:b. Lasithi I, 113. Hartmann 1978, 36 f., figs. 1-2).

Another striking feature of the EBA obsidian industry, apart from the occurrence of long parallel-sided blades, is the complete absence of pieces with secondary flaking. This fact is also of great chronological importance, because, as in the case of the blades, the process of decrease and deterioration of the secondary working on artefacts is again slow and gradual, apparently starting from the end of LN. At Saliagos there is a relatively good proportion of finely worked pieces and a wide variety of types, Both these features are removed from the EBA obsidian industry and from the poor and rudimentary stone-chipping traditions of the Aegean EN and MN (Saliagos 46). This industry contrasts markedly with that of Kephala which follows chronologically. The latter is clearly cruder with poor repertoire and proportionately small range of worked artefacts, which include only two bifacially worked pieces (Kephala 6-8, 99).

As we proceed towards EBA, the secondary working seems to be practically abandoned. This is documented by the virtual absence of retouched artefacts

from the FN sites in the Aegean. During the subsequent EBA period, except for the fine blades, the lithic industry is wholly unsophisticated, and elaborately worked artefacts are conspicuous by their absence. This applies not only to the Aegean islands, but also to south and central Greece, Macedonia and western Anatolia (Renfrew et al. 1965, 238. Mykonos 399. Saliagos 88-9).

The lithic industry of the islands in the discussion presents features common to both Saliagos and Kephala cultures, notably carefully worked artefacts, such as tanged points, and a great proportion of parallel-sided blades, which appear to be fairly remote from the EBA lithic tradition. This industry could therefore be placed stylistically and chronologically between that of Saliagos and Kephala. It is even more likely, though, that it covers the whole time-span represented by both Saliagos and Kephala cultures.

III. GROUND-STONE INDUSTRY

1. Stone Axes

Several stone axes have been found on Karpathos and Saros. With one exception, they are all chance finds. The stone axe from Vroukounda was found during re-excavation in one of the Classical or later rock-cut tombs and was certainly an heirloom.

It appears that this kind of tool was very popular in these islands, to judge from fair numbers turning up on the surface, especially during cultivation. Apart from those found at Tripes in Afiartis, Piles, Aperi, Ria and Skamnos at Lefkos, Avlona, Vroukounda and on Saros, more specimens were brought to Rhodes museum by Italian archaeologists. They were made of "basalti e rocce verdi" (Maiuri 1921, 84-85; 1928, 204). Despite our efforts neither these nor the one from Saros could be traced in the Museums of Rhodes and Cambridge. The example from Saros is described as black in colour and finely finished (Dawkins 1902-3, 201). It was apparently made of the same material as 1046 and 1174. The axe from Vroukounda was rather similar to 1046 both in material and shape (Melas 1979, 172-173). More examples are reported to have been found in Avlona and elsewhere in the region of Olymbos (cf. Dawkins 1902-3, 201).

635 is a chisel made of a sea pebble that has simply been worked so as to give a cutting edge. There is little other modification of form. Apart from both the flat faces on the cutting edge side, one of the narrow faces has also been partially rubbed. The chisel is Tsountas' type A and is closely matched by Kephala pls. 24:29 and 68:1; Poliochni pl. CLXXVII:8 (green-red per.); Tsountas 1908, pls. 39:10-11 and 41:4, and PM II, 13, fig. 3:e (Final Neol.).

1042 is an axe of excellent workmanship and was apparently also made of a green sea pebble, probably serpentine, which has been nicely shaped and polished all over the surface. It is Tsountas' type B and is best paralleled by PM II, fig. 3:b (FN); Morricone 1972-3, 273, fig. 227:1; Tsountas 1908, pl. 39:18; Lasithi I, pl. 17:43 (also of green stone); Palaik. IV, pl. VIII:2 from Magasa, and Papathanassopoulos 1981, pl. 1:2.

1046 belongs to the long Tsountas' A type of axe. It is made of heavy igneous rock, probably iron-rich emery. It is finely worked and used to have a well smoothed surface, which is now much damaged. Palaik. IV, pl. VIII:1,1a, 3 and 3a from Magasa are exact counterparts, 3 and 3a being apparently made of the same material as 1046. Good parallels are also provided by PM II, 13, fig. 13:a (type I, FN); Tsountas 1908, pl. 41:1; Kephala pl. 24:66, and Papathanassopoulos 1981, fig. 34 and pl. 2:2. Similar examples in various sizes, made of the same material, can be seen in the Pigorini Museum in Rome (nos. 13812:6, 85539, 85541-85544, 85557). They come from Samos and from Antimacheia, Pili and Kefalos on Kos.

1174 is of the short, flat and triangular form and corresponds to Tsountas' type B. It is made of the same material as 1046 and was carefully smoothed all over. This axe is closely paralleled by Palaik. IV, pl. VIII:4a-5 from Magasa; Lasithi I, pl. 17:44 ("black limestone"); Lasithi II, 49 (nos. 2 and 129, green serpentine); PM II, 13, fig. 3:b,d; Evans 1964, fig. 49:7 (stratum 2), fig. 50:6 (str. 1); Vagnetti 1972-3, figs. 79:3 and 129:6, and Kitsos fig. 125:3=pl. XIII. A similar stone axe is reported to have been found together with 1174.

1264 is a fragment of an axe, apparently similar to 1042 (Tsountas' type B). It was made of the same material as 1046 and 1174.

On stylistic grounds and on the evidence from comparisons with relevant Aegean material, all the stone axes from Karpathos and Saros appear to be of Neolithic date and more specifically of LN or FN. Most of the parallels to our examples, which have been mentioned before, seem to fall within the FN period, in which some of the Karpathian examples are probably to be placed.

In general, stone axes in the Aegean were much commoner in the LN and FN periods. During the EBA they continued to be used, but, as might be expected, to a lesser extent (Mykonos 399, Vagnetti 1972-3, 153. Thermi 185-186. Lasithi II, 49). Since such tools would be of considerable value, they usually were carefully preserved and continued in use for centuries after their manufacture. In east Crete they are often found in MM and even in LM contexts (Lasithi II, 49. Palaik. III, 215).

Stone axes are most rare in the Cyclades (Mykonos 399. Saliagos 65-66), whereas in western Anatolia and Crete they are extremely common. In east Crete, from the small site of Magasa alone thirty-six examples were recovered, and several others were found in a rock pocket at the nearby site of Karidi

(Palaik. IV, 266, 268). This may be of great significance in placing the LN culture of our island group in a wider context. The striking resemblance between the stone axes of Karpathos and those from Lasithi and the upland villages of Siteia (Palaik. IV, 266-268, pl. VIII:1-5) had already been noted by Dawkins (1902-3, 201; cf. Palaik, III, 215),

2. Whetstones and Stone Rubbers

These are normally of small size and were usually made of fine hard sandstone or schist and other abrading stones (akonopetra, cf. Watrous 1979, 46 and Lasithi I, 13, pl. 17:36-40), and less often of black heavy stone apparently containing emery. The latter appears not to be local to the three islands. Most of the whetstones were found in small fragments, and since they are all stray finds it is not always easy to say whether they are Prehistoric or later. Some of them, like 633 which was found in association with chisel 635, and 946 were evidently used to rub and smooth axes and other stone objects (cf. Dörpfeld 1902, figs. 339-340. Tsountas 1908, 9, 30, fig. 254. Aspripetra fig. 62). Others, like the grooved example 8 and fragment 330 may have served as sharpeners for metal implements.

26 is a small well shaped and neatly finished whetstone made of dark greyish schist-like stone. It was found in an LM IIIA chamber tomb, together with a spearhead fragment and other finds. In view of the presence of the whetstone and by analogy with other nearby tombs which have produced other such implements, it is pretty certain that this tomb also contained one or more swords or daggers. This whetstone has a small perforation through its narrow end. Apparently it was once hung at the side of the dead, who must have been a warrior and used to sharpen his weapons on it.

Similar perforated examples come from Mycenae tomb VI (Sandars 1961, pl. 19:4-5; Kynouria in Messenia (Buchholz-Karageorghis 1973, 47, pl. 253:352, LH II); Emporio periods V-I (Chios II, 651-652, fig. 292:28, pl. 134:29); Thermi (Thermi 193, pl. XXVI:30,43); Troy I-II and V (Troy I, figs. 217:37-294 and 361:35-256; Troy II, fig. 234:35-150. Dörpfeld 1902, 102, fig. 367); Kos (Morricone 1965-6, fig. 207) and Cyprus (SCE I (1934) pl. XXXI:40, 88, M_{Cypr.} II). In Mycenae tomb VI, unperforated examples of the same type of whetstone were also found (Karo 1930, fig. 79). Two such unpierced examples are also known from Kos (Morricone 1972-3, 136, 274, fig. 227:4-5).

This kind of implement appears in the Aegean in the EBA along with the first bronze tools and weapons and remained in use throughout the Bronze Age and even later (Chios II, 651).

209 is a flat sea pebble which was used to rub plaster, traces of which are preserved on both sides.

3. Stone Querns and Grinders

These are usually made of local hard and gritty stones, but other kinds of limestone as well as volcanic rocks (perhaps trachyte or andesite) were occasionally used for their manufacture.

The querns appear to be fairly large in size, sometimes reaching a length of forty cms. or more. As is the case with all Neolithic and Bronze Age sites, the most typical type of quern seems to be the saddle-shaped. This was normally made of a flat stone which was hollowed on the upper grinding side to give a saddle effect. The rest of the stone was left unworked and usually had an irregularly curved section. The upper face is normally oval or elliptical in shape. 938-939 belong to this type of quern. They were made of a black igneous kind of rock evidently imported from Melos, a fact that suggests care in the choice of material. 360, 940 and 1265 are also of the same type. They can be compared with Tsountas 1908, 330-331, fig. 256; Aspripetra fig. 69; Chios II, 648, pl. 135:13 (per. II); Saliagos fig. 89:3 and Vagnetti 1972-3, fig. 11.

The saddle type of quern continued to be used on Karpathos throughout the Bronze Age, as shown by 207 and 620-621 which were found in MM-LM I contexts. These later examples are clearly better made and display a more marked saddle (cf. Gournia 32, pl. III:50).

It seems that in the Neolithic and Early Bronze Ages the most frequent type of quern was an ordinary, roughly rectangular slab often made of less durable material, such as schist. Sometimes it has an irregular shape (cf. Aspripetra 282-283, fig. 70 and Kitsos 201, fig. 126:2). It was normally left without secondary shaping and there are usually signs of wear due to the grinding on the upper surface, which is normally flat or very slightly hollowed (cf. Chios II, 648, pl. 135:12, per. VIII).

The most common type of grinder appears to be the disk-shaped, like 361 and 941-942. They are all made of hard fine-grained and light-coloured sandstone. Their working side is flat, while the other, for handling, is rounded. They were clearly used in connection with the querns. Vagnetti 1972-3 fig. 131 and Saliagos fig. 91:3,5 provide some close parallels to our examples, with the only difference that they are elliptical in shape, Kitsos fig. 126:3 and pl. XVI are also similar to our examples.

Grinders similar to the slab-type of quern, but smaller in size, are not lacking (cf. Saliagos fig. 91:1). 208 was probably a small version of this form, possibly used in association with quern 207, although the former seems to be a rubber rather than a grinder. It is nicely made of fine hard stone and has a rectangular shape with rounded edges (cf. Kitsos 207). In general, the querns together with the grinders, were undoubtedly used for the grinding of grain.

4. Mortars and Pestles

Mortars appear not to be very frequent (cf. Kitsos 204). Only 937 could be identified with certainty as such. It is a schiststone slab with its working surface slightly hollowed by the action of the pestle. Marks of wear and bruising are clearly visible, obviously the result of heavy pounding and crushing actions.

632 is probably the broken round end of a pestle, whereas 7 could easily be called a pestle (cf. Lasithi I, 114, pl. 17:42 and Kitsos 204, fig. 127:2), but owing to its size it would be better classified as a pounder or hammerstone. A fine pestle made of black stone was found in an MM-LM I context at the site of Fournoi in Afiartis. It belongs to Warren's group II (Palaik. VI, 310) and has heavy wear on the working end, caused by percussion.

5. Stone Pounders or Hammerstones

These tools are mainly known from Neolithic and EBA contexts, but they remained in use down to the LBA. The most frequent type of hammerstone is a stone shaped naturally by sea erosion, and adapted for use (cf. Lasithi I, 113-114, pl. 17:41. Watrous 1979, 47, Kitsos 131, 203 f., 207, figs. 126:4 and 127:3-7). Disk-shaped sea pebbles, usually of white or light grey colour, are the commonest. They were readily available on the beaches of the islands and they needed no further improvement. Several such pounders were found at the sites of Vouno and Leftoporos (359, 943-945; cf. Evans 1964, fig. 65:1). Normally they bear signs of being used as hammers on one part of the periphery, but examples with marks on more than one part or all along the periphery are not lacking. Occasionally there are wear marks on the flat sides as well (943), which sometimes point to rubbing or polishing rather than pounding. These hammerstones were apparently used also as rubbers. Double use of such stone implements is also known from Saliagos (Saliagos 71) and from Minoan contexts at Palaikastro (Palaik. VI, 310, group III). 7 is a comparatively large piece of limestone and may have been used in the same way. It closely resembles Kephala pl. 68:8.

630 has a roughly spherical shape and although not a sea pebble it is much like this in texture and could be classified as a pebble-pounder. Such pebble-pounders or hammer-stones also occur in MM III contexts in east Crete (Lasithi II, 50, pl. III:35,44,55. Palaik. VI, 310). The material and shape of 630 is very similar to one from Ayio Gala lower cave (Chios I, fig. 43:315).

6. Macehead

947 is almost certainly a fragment of a macehead or stone-crusher. It was finely made of red chert and has a depressed ovoid shape. The type was known already in EN I Knossos (stratum VI) where it had a spherical or biconical shape and was always found broken, probably because of its large central

perforation. It continued into the Middle, Late and Final Neolithic. To the latter are dated certain examples similar to 947 (Evans 1964, 229, 231, fig. 52:5-6. PM I, 54, fig. 15a:6-8. PM II, fig. 3:k). Other parallels, LN or FN and EBA in date, come from Phaistos, Dimini and Sesklo, Poliochni and Troy (Vagnetti 1972-3, fig. 129:1. Tsountas 1908, 322-333, figs. 246-248. Neolithic Greece fig. 273. Poliochni pl. CII:4-5. Dörpfeld 1902, figs. 257, 259, 337 and 343).

These objects seem to provide another link between the Aegean and Anatolia, Syria and Egypt, since they are also found in early contexts in the latter three areas (Tsountas 1908, 322-333. PM II, 15. Hacılar fig. 172 and Braidwood 1960, fig. 250).

IV. STONE VASES

Five stone vases are known from our island group, four from Karpathos and one from Kasos. Some more fragments of MM-LM I stone cups and bowls were reported to have been found in the area of Pigadia (Jameson 1958, 122-124. Melas 1979, 148). All five pots are chance finds but their context is more or less known from associated finds. 55-56, 309 and 1043 allegedly came from LM chamber tombs, whereas 1442 was found on a site that exclusively produced MM-LM I surface pottery. Nevertheless, we have to keep in mind that, as in the case of metal implements and fine stone axes, the occurrence of a stone vase in a certain context gives not the slightest clue as to the date of its manufacture. The fact of their durability and the labour required to make them makes it probable that they were most often handed down from generation to generation.

Our examples were all evidently once lidded but their lids have been lost. The lid would have had a plain or flanged underside and a pawn handle (cf. Warren 1969, 68-71 with figs, on p. 259, and nos. P 17, 22, 26, 63, 66, 70, 86, 89-90, 147 and 262-263).

Without exception they are made of serpentine, which is the commonest material with Minoan stone vases, since 47% of the known examples are made of this rock (Warren 1969, 138-140). A serpentine source is known from Mount Lastos and elsewhere on Karpathos, but it seems doubtful whether stone vases were ever made in these three islands. They were probably imported from Crete as confirmed by their shape and decorative features, all of which find exact parallels in Crete, where various kinds of serpentine occur in abundance and specialized workshops appear to have existed (Warren 1969, 138-40, 157-158). We must remember, however, that closeness to Cretan forms is not by itself a guarantee of Cretan manufacture; colonial LM I pottery for instance, especially the purely Minoan conical cups, were made in many Aegean islands by Minoan (?) settlers.

All five vessels are too small for any practical purpose. Such stone vases occur in both domestic and burial contexts, but their usage and function must have been funerary and ritual rather than domestic. They seem too fine to have served household purposes, such as pestling; but they may well have been intended for precious powders, ointments, perfumes or spices. Their deposition in tombs was presumably meant either to provide the dead with dear objects or for ritual ceremonies, such as the pouring of libations at the time of burial or after (Warren 1969, 166).

1442 is a carinated bowl with horizontal lugs on the shoulder. It appears to correspond to Warren's type 7i and finds close parallels at Mallia, Phaistos and east Crete (Warren 1969, D48-49 and D50=P97, MM I. Levi 1976, pl. 232t, MM IB. Hag. Nikol. Mus. 2441, 2444 and particularly 3185).

The group that belongs to this type, whose purpose was certainly funerary, dates from the latter part of EM II to MM I/II. One or two Phaistian examples were found in an MM II context and a few others came from later contexts. The latter must rather be considered as survivals. Another such example was noted in an LM III context at Pachyammos (Warren 1969, 22). Most examples of this form come from Mesara and Mochlos, but fair numbers also turned up at Knossos and Mallia.

55 is a small cylindrical jar of Warren's type 18A. It is closely matched by several examples from Crete and elsewhere (Warren 1969, P238, 240. Hag. Nikol. Mus. 3180. Kythera pl. 82:L11). This kind of vessel is nearly always made of serpentine and is normally small, not above eight cms. high. Its diameter is usually little more than its height. The form dates from MM I or earlier to LM I. The bulk appears to be MM I or slightly earlier, while the LM I examples are probably survivals. This type of vase is well distributed all over Crete (Warren 1969, 41-42).

309 is a high shouldered blossom bowl with six relief flowers and corresponds to Warren's type 5. It falls into the regular variant of this form, with a vertical central rib on each flower. The rib has a groove down its centre. Our example finds exact counterparts at Palaikastro, Nirou Khani, Pseira and Knossos (Warren 1969, P60, 64, D20 Fitzwilliam Mus., Cr. 202.1907. Hag. Nikol. Mus. 263. Pseira fig. 15:j. Catling et al. 1979, fig. 41, S3=pl. 13b). Similar examples are known from Kythera (Kythera pl. 83:13-16), Thera (Thera V, pl. 74:a-b. Warren 1979, 89, pl. 18:b-c), and Troy (Dörpfeld 1902, fig. 373).

This type of vase was the most widely distributed in the Minoan world, but the bulk comes from Knossos and Palaikastro. The canonical type flourished in LM I, but it must be dated to MM III-LM I, for several variants known from LM I contexts turned up in the Knossos stratigraphical excavations 1957-61 in an MM III context. The form possibly goes back to MM I/II, when its possibilities were tried out in Mesara. Examples from LM III contexts are to

be considered as survivals (Warren 1969, 14-16).

1043 belongs to Warren's type 9A, which is a less common variety of the high-shouldered bowl than the blossom type. It has shallow, fluted horizontal grooves round the shoulder. Exact parallels are known from Pseira, Gournia, Knossos and Kythera (Warren 1969, P147, D100. Pseira fig. 15:g. Catling et al. 1979, 54, pl. 13:c=fig. 41. Kythera pl. 69:C39=fig. 84; fig 55:ω43, clay imitation).

The type began at MM I-II and flourished during MM III-LM I, most examples being LM I rather than MM III. A few examples turned up in LM II-III A1 contexts, but again they are certainly survivals continuing to be used in tombs. Outside Crete grooved bowls were also being exported to Kea, Kythera and Phylakopi (Warren 1969, 26).

56 is only known from a bad photograph and is therefore difficult to classify. It appears to be a high-shouldered bowl with an everted rim and horizontal grooving round the lower body. Most probably its profile was like that of the blossom and grooved bowls (Warren's types 5 and 9a). One vertical handle is preserved on the shoulder and a corresponding one on the other side is probably implied by what looks like an attachment of a broken handle.

Stone vessels with two strap or rolled handles are generally rare, the one-handled, especially the spouted, form being more common (Warren 1969, P57-58).

V. THE KARPATOS STONE FIGURE

This statuette (fig. 58:A) was found by Bent at Pigadia and presented to the British Museum in 1886 (Bent 1885, 235. BM Cat. of Sculpt, 6-7, fig. 2). It is broken and rejoined below the breasts, and the legs are missing from below the hips. The hips and thighs are badly damaged, especially the left one, whereas the arms and the left breast are partly broken. Its present height is 65 cms., its breadth 35 cms., including the arms, and its thickness 17.5 cms., including the breasts.

The figure is made of a thick slab of coarse grey and relatively soft limestone (poros) which, except for the rounded edges, has been worked flat. The only parts of the body protruding out of the plank-shaped statue are the beak nose, the conical breasts, the triangular vulva and the rear part of the head. Other details include the eyebrows marked by incised lines, the pubic hair represented by four incised lines above the slit in the vulva, and a horizontal groove below the genitals.

This statuette represents a female form in a stylised rendering. The arms appear to be depicted by mere projections at the shoulders. The heavy erosion of the limestone has made it difficult to visualise the exact original appearance

of the figure, but it seems pretty certain that the left, horizontal stump was rounded, whereas the right is sloping and angular. These stump arms and the standing posture seem to have a close and exclusive association. They are most common features in Egypt and to a lesser extent in Crete (Ucko 1968, 188). Apart from the rounded and projecting rear part of the head, the back is flat, sloping to the edges. The buttock is more markedly sloped and has no division.

All the features of the statue and particularly its size, the material of which it is made and the execution make it unique in the whole Mediterranean region. It has no close parallels but certain analogies can be detected here and there.

There are some rough similarities with several male and female terracotta figurines from Predynastic Egypt. They display similar standing postures, modelled arm stumps, small closely set breasts and normally undivided legs (Ucko 1968, nos. 6-7, 13-14, 26, 79; figs. 6-7, 13-14, 20, 46; pl. XVII). The buttocks in no. 26 are jutting downwards forming triangular projections and this may have been the case in our example. Similar clay figurines come from Pre-Minoan Crete, the only difference being that they are always female and many of them appear to display a seated rather than a standing posture. (Ucko 1968, nos. 25-26, 29, 31, 40, 43-45, 47-48; figs. 95-96, 99, 101, 110, 113-115, 117-118). No. 25 with its protruding conical breasts, sloping buttocks and rounded and equal lateral stumps appears to be very similar in profile to our example. A small marble male figurine from an EN I context at Knossos has a posture and configuration very similar to ours (Sakellarakis 1973, in Neolithic Greece, fig. 261). However, the similarities between the Karpathian and the Egyptian and Cretan figurines should not be overemphasized, for there are also remarkable differences in the material, the size and the complete lack or rudimentary representation of the vulva in the Egyptian and Cretan examples.

In the Aegean itself the Neolithic figurines were practically never of such large size. The only large examples are the seated ithiphallic one from Thessaly (Athens NM 3978, H. 48 cms. Papathanassopoulos 1981, pls. 41-45), and Kephala no. 96b (Kephala 105-106, pl. 71) which must have been about 50 cms. when complete. They are both made of clay.

The normal NL type was the steatopygous female figurine which occurs both in stone and clay and in various seated, squatting or standing postures. It normally has a heavy lower part with exaggerated buttocks and thighs, whereas the upper body above the waist is usually thin. This kind of figurine appeared in southern Greece and Thessaly from as early as EN and was probably an inheritance from the Mother Culture which was introduced to the Aegean from Asia Minor or north Syria (PM I, 48, fig. 13, nos. 10-18. Weinberg 1951, 121 f., 132-133).

In the following EBA several large figurines are known from the Cyclades, all made of stone. The largest comes from Amorgos and is 1.50 ms, high. The striking resemblance between the heads of ECycl, figurines and those from Kephala perhaps indicate the Neolithic ancestry of the former. It has been suggested that the Louros form of Cycladic figurines arose as a result of Thessalian-Melian connections. The three major figurine types of the Grotta-Pelos culture find convenient prototypes in the Cycladic and Thessalian Middle and Late Neolithic (Renfrew 1969, 30). In this connection it is worth noting that some of the Cycladic figurines, particularly the earlier ones, seem not to have succumbed completely to convention, retaining the steatopygous character of their Neolithic ancestors (Renfrew 1972, fig. 11.8).

The Karpathian example is stylistically close to Louros type III which appears to derive from a Neolithic original of the Dimini culture (Renfrew 1969, 8, fig. 2, pl. 2:f; 1972, fig. 11.8. Papathanassopoulos 1981, pl. 104). This Cycladic form has a featureless head and rounded face, arm stumps and rounded legs. Seven examples of this type were found in the Louros grave in Naxos with objects of the developed Grotta-Pelos culture. There is also some resemblance between our example and some of the Keros-Syros folded armed figurines, particularly in their roughly triangular head, the beak nose, the small breasts and the markedly depicted sexual triangle. This kind of figurine that is Renfrew's type IV appears to have evolved out of type III and ultimately of the Kephala terracotta head, which is also very close to the Karpathian figure (Renfrew 1969, 9 f., fig. 3, pls. 3-6; 1972, fig. 11.8).

In Aegean terms the statuette of Karpathos appears to stand stylistically between the plank-shaped Cycladic EBA form and the Neolithic standing steatopygous type. This may also be true with its chronological position, although schematic and "developed" figurines appear to be contemporaneous in some Cycladic contexts (Renfrew 1969, 9). The assumption that the Karpathian form might have arisen as a result of contacts between Karpathos and the Cyclades, well documented by Melian obsidian finds in the former, seems most unlikely. It would seem more reasonable to assume a Near Eastern ancestry of this form and thus a parental relation of it to the EC figurines. The distant affinities of our figure with Predynastic Egyptian and Cretan Neolithic equivalents have already been stressed, whereas the Syrian or Anatolian origin of some Aegean LN and EC forms has been widely accepted (Hawkes 1940, 89. Weinberg 1951, 13-14. Ucko 1968, fig. 193). The simple EC type of figurine is closely connected with seated Near Eastern examples, while the more developed forms probably have direct Asiatic connections. It seems most likely that the Aegean islanders brought the whole conception originally from Asia Minor (Hawkes 1940, 89). Given the geographical position of Karpathos, it is hardly surprising that a figurine type of oriental inspiration was developed in this island group, from where it was probably transmitted further north to the central Aegean and was

later transformed into the EC type. The same parental relation has been observed between the Cretan Neolithic and the Cycladic figurines (Mackenzie 1905-6, 227).

It has always been difficult to define with any certainty the use and function of the NL and EC figurines. Most of them, especially the very small terracotta ones, could have been toys rather than articles with any religious or magic significance, whereas those found in tombs may have been intended as a substitute for a human sacrifice to the dead or for his wife and servants (Nilsson 1950, 291 f.) There is little doubt though that some of the female figures and particularly the steatopygous ones represented the Mother Goddess, who certainly was an oriental invention. They probably entered the Aegean from the EN times through Crete and the east Aegean islands. The religious idea that they embody is distinctive of all oriental and eastern-derived cultures (Hawkes 1940, 89. Weinberg 1951, 121). The size of the Karpathian example as well as the material of which it was made appears to be unique in the Aegean world and both rather point to a cult statue of the Mother Goddess.

VI. METAL INDUSTRY

A. EARLY AND MIDDLE BRONZE AGES

Only five metal implements are known from these periods. Three are stray finds (1274-1276) and were reported to have been found on Saros, whereas the two others (78-79) were found at Pigadia, almost certainly in a Minoan context.

1275 is a flat axe with a convex cutting edge and concave sides narrowing to the butt, which is triangular in shape and bears a perforation for the shaft mounting. It corresponds to Deshayes (1960, I, 75-76), type K4 and to Branigan's type IIIB which cannot be dated from contexts, although its simpler version, type III, was in use at Sesklo and Thermi from EB 1-2 (Branigan 1974, 24). 1275 is dated by Deshayes (1960, II, 32) to the second part of the third millenium.

Similar axes, yet with a narrower cutting edge, have been found on Kythnos (Branigan 1974, pl. 29. Renfrew 1967, 8, pl. 5:34-36) and Naxos (Branigan 1974, nos. 615-616, 625). The type had a wide distribution in the eastern Mediterranean (Deshayes 1960, I, 75-76 and II, 32 and maps II-IV).

It seems likely that it was first developed in Syria rather than in Anatolia, although the Cycladic examples, being probably EB 2, appear to be earlier in date than the Syrian ones (Renfrew 1967, 8).

1276 is a chisel of a type common throughout the Bronze Age. With its divergent sides, straight heel and rounded cutting edge it corresponds to Deshayes' type B4 (1960, I, 59) and to Branigan's type III (1974, 25). It can be closely paralleled at many Aegean sites and particularly in Kythnos (Renfrew

1967, 8, pl. 5:37-39), Amorgos (Ashm, Mus, 1927, 1357), Naxos (AD 17A (1961-2) pl. 77:b), Kos (Morricone 1972-3, 200-201, fig. 234:2), Emporio period II (Chios II, 663, fig. 259:13=pl. 138), Troy (Dörpfeld 1902, fig. 267:d), Levkas and Crete (Branigan 1969, 2, 4-5, figs. 1-2; 1974, 25. PM I, fig. 141. Hag. Nikol. Mus. 4657, 4660, 4667, 4675, EM I-II). The earliest examples, possibly dated to EB 1, come from Thermi IV and Pyrgos in Crete, whereas several examples from Troy, Poliochni and from the Cyclades seem to be EB 2. Chisels dated to the MBA are known from Troy, Khamaizi, Levkas and Lerna (Branigan 1974, 25). Our example is dated by Dashayes (1960, II, 16) to the second part of the third millennium.

The chronological range of the Aegean finds in general is fairly wide, covering the period from EB 1-2 to the LBA (Renfrew 1967, 8, Branigan 1969, 2; 1974, 25). As to the origin of the type, there can be no question of its eastern derivation (cf. Dashayes 1960, I, 59 and II, 16). Copper chisels of this form were made in central Anatolia and particularly at Büyük Güllücek from as early as the Anatolian EB 1 (4000 - 3000 B.C.) (Koşay-Akok 1957, pl. XXXV:1).

78 and 1274 are tangless round-heeled or narrow-butted daggers. They are rivetted and have slightly convex or straight sides, a blunt point and a flat lozenge section. They correspond to Renfrew's Aegean type VI and Italian type B3 (1967, 11. Renfrew-Whitehouse 1974, fig. 2), as well as to Stronach's (1957, 100-101, fig. 2:21-23) and Maxwell-Hyslop's (1946, 18-19, pl. II) Near Eastern types 6 and 16 respectively. Although they are comparatively short, they may have been used as offensive weapons. Their date is probably EB 1-2 (Branigan 1967, 238; 1974, 98). Similar examples were manufactured in Crete from EM IIA, if not earlier.

1274 has a blunt rather trapezoidal butt, which appears to be the equivalent of a tang. It closely corresponds to Catling's form 9-10 (1964, fig. 3) and has been classified by Branigan (1974, 161:311) as type XIV which includes others similar in shape, as e.g. 308 from Koumasa B (ib. 161), but longer blades with thickened profile and concave edges. Typologically this type is dated to EM III-MM I (ib. 12). By its size 1274 could better fit in with Branigan's type Ib, which comprises smaller daggers with round or slightly flattened heel and a triangular arrangement of three rivets. A rivetless blade from Ayios Andonis in Crete has a similar trapezoidal heel (ib. 157, pl. 2:102). This kind of heel is common in Cyprus, the Levant and the western Mediterranean. The triangular rivet formation seems to be more popular in the Near East, whereas the Minoans preferred the two rivet and later the four rivet system (Branigan 1967, 211, 229, 236).

78 has a two rivetted and more rounded butt corresponding to Catling's form 11 and Branigan's type I (1967, 211, 2, fig. 1; 1968, 12, fig. 1:1;

1974, 8). A blade from Porti in the Mesara plain seems to be identical with our example, which is also closely paralleled in shape by three-riveted blades (type Ib) from Ayia Fotia in east Crete and from Amorgos (Xanthoudidis 1924, pl. XXXIX:b,1435=Her. Mus. 1435. Hag. Nikol. Mus. 4671 and 4674. Renfrew 1967, pls. 7:VI and 9:66, Branigan 1974, pl. 2:107).

This form of dagger seems to have been fairly popular in Crete, where it appeared as early as EM I. Four examples are known from EM I-IIA contexts, two of which (from Kanli Kasteli and Ayios Andonis) are of the Ia rivetless type. This type is archaeologically and typologically dated to the first half of the EBA and by its presence in Crete confirms the early introduction of the form to the island. Similar rivetless examples occur also at Askklupi on Kos (Morricone 1972-3, 266, fig. 216=Catling 1964, fig. 3; type 8, EB 3, Poliochni (Poliochni pl. CLXXIV:e), Thermi II/III (EB 1), Troy IIg (EB 2) and Khalandriani (EB 2). There are several more Cretan riveted examples similar to 78 in form, yet different in proportions and detail, such as the rivet system, etc. They were found at Kanli Kasteli (EM I, the earliest example in Crete), Pyrgos, Siva, Palaikastro, Kalathiana and Ayios Andonis (Branigan 1967, 211-212, 229; 1974, 98, 157, pl. 2:98-107. KCh. 5 (1951) 287. AD 4 (1918) 165, fig. 15). Other examples are known from Ayia Marina in Phokis and Sesklo (Renfrew 1967, 10, pl. 7. Tsountas 1908, 136, pl. 4:9).

Although it appears to be perfectly at home on Karpathos and Crete, the type in general is not very common in the Aegean. It seems to be more popular in Anatolia, Syria, Cyprus, Copper Age Italy and EBA Europe.

The round-heeled dagger appears in Anatolia before 2000 B.C., firstly in the simple rivetless form, not unlike the Aegean examples mentioned before. The west Anatolian forms were probably indigenous, whereas in central Anatolia and Cilicia Syrian types predominate, dating from 2200-2000 B.C. South Anatolia continued to use this type of dagger well into the second millennium. The latest example was found in LB I Tarsus, c. 1700-1650 B.C. (Stronach 1957, 89 f.). Our 1274 is closely paralleled by Stronach 1957, fig. 2:23, which is a straight-sided and pointed blade with three rivets.

Anatolia can be considered one of the main centres for the distribution of the round-heeled dagger and the techniques of metallurgy in general to the West via the Aegean (Maxwell-Hyslop 1946, 19. Branigan 1967, 14-15). Nevertheless, it is clear now that the type was borrowed from Syria. All Anatolian examples appear not to be descended from indigenous forms, for they proved to be derivatives from North Syrian prototypes, which antedate them. Such is the case with daggers found at Tarsus and Alishar III (Stronach 1957, 101 with refs.). Two triangular-heeled and riveted blades from Tell Amarnah in the Upper Euphrates (Br. Mus. WA 108738 and 116053) which are Maxwell-Hyslop types 21 and 22 (1946, 22 f., pl. II) date from the late EB 3, c.2400-2000 B.C., and appear to have been copied by Anatolian and Cypriot equivalents. It seems

fairly certain that type 6 spread from the Upper Euphrates region into Cilicia late in the EB 3 period following the foundation of the first merchant's colony at Kultepe c. 2100 B.C. The form was subsequently known in Karum II and Ib in contexts dated to 2000-1800 B.C. (Stronach 1957, 101).

The Syrian-Cilician region seems also to have been one of the main sources of inspiration for the EBA Aegean daggers and for the general development of metallurgy. This is more true of the south Aegean, including Karpathos and Crete (cf. Branigan 1967, 212, 228).

In Cyprus the type is known from Lapithos and elsewhere. There is little doubt that the Cypriot examples are of North Syrian derivation. Catling's types 7-8 (1964, 60, fig. 3) belong to a transitional stage from the butted to the tanged blade and exactly correspond to Maxwell-Hyslop's types 20 and 21 (1946, 22-24, pl. II). Catling's types 10-11 closely correspond to our 1274 and 78, the only difference being the flat lozenge section of the Cypriot daggers, a feature noticed in all known examples from Cyprus. This angular blade strengthening may have been a later element which subsequently developed into a mid-rib in Egyptian and Early Minoan daggers (Branigan 1967, 214-230, figs. 1-4).

79 belongs to the short round-heeled and roughly triangular form of dagger. It was found together with 78. This type of blade is considered to be parallel to the elongated dagger described above, which was probably the result of the evolution of the former. Apparently the short type was rivalled for a while by the new type until it became obsolete, its shortcomings being obvious, contrasted with the efficiency and capability of the longer blade (Branigan 1967, 238-239). It is difficult to explain the function of this kind of dagger. It is far too short to have been used as an offensive weapon, although the idea that it was a halberd transversely mounted onto a wooden shaft seems very plausible. It is rather unlikely that it was purely a votive object, while its usage simply as a domestic knife cannot be ruled out (Branigan 1968, 26-27).

Our example fits in well with Branigan's type IIB (1968, 21 f.; 1974, 8-9) which comprises round-butted and concave-edged triangular daggers with flat profile and three rivets in a triangular formation. The type has a wide date range and the earliest Cretan example appears to be EM IIA. There is also a vague correspondence with Branigan's Cretan type V, which is longer in size and displays a trapezoidal heel, convex sides and two rivets (Branigan 1967, 233-234, fig. 8). The form also corresponds to a variety of Maxwell-Hyslop's Near Eastern type 16 (1946, 18: flat triangular or rhomboid-shaped) and to Renfrew-Whitehouse's Italian type B2 (1974, 347, 374, figs. 2, 7 and 11).

It is fairly certain that what has been said of the provenance and distribution of the elongated dagger applies to the short type as well. Only a few examples of this form have been found in the Aegean and none can be

considered exact parallels to ours, The only close parallels known to us appear to be three two-rivettted and three-rivettted blades from Crete, dated to the EM I-III, two from Pyrgos and one from Ayia Fotia (Fitzwill, Mus. Cambr. Gr. 1901.19c-d. Hag. Nikol. Mus, 4659). A rudimentary one-rivettted example, probably earlier in date, comes from Samos (Samos I, pl. 50:17. Buchholz-Karageorghis 1973, 52, pl. 264:545). It is rather rhomboid in shape and even smaller in size than 79. The example from Ayia Marina, already referred to in connection with the elongated dagger, with which it seems more compatible owing to its size, can also, by its shape, be matched up with the short type of blade (Branigan 1974, pl. 3:142, EH III).

From the preceding analysis of the EBA and MBA metal implements found on Karpathos and Saros it becomes clear that they belong to types which appear to have originated in north Syria and Anatolia. These types, along with the metal working techniques, entered the Aegean early in the EBA period and enjoyed a wide distribution throughout this area. They all continued to be used well into the MBA, while the flat axe and the chisel were to have a much longer history. Most of these types appear to have spread westwards as far as Spain and Britain and northwards as far as Germany.

Two of our implements, nos. 78 and 79, have kindly been analysed by Mrs Helen Magou of the Chemistry Laboratory, Athens National Museum. The results are as follows: both daggers are basically made of copper (Cu) with small quantities of other elements like lead (Pb), arsenic (As), cobalt (Co) and iron (Fe), as detected by XRF (x-ray fluorescence analysis) at the Institute of Archaeology, University of London. It seems likely that the other three implements which have not been analysed, were also made of copper rather than of bronze.

The metallographic study of 78 and 79, made also by Mrs Magou, gave the following results: both daggers were cast and subsequently subjected to hot hammering. A secondary cold hardening by hammering is evident on both implements and particularly on 79, as shown by the arrangement of the cuprite inclusions.

B. LATE BRONZE AGE

Unlike the Early and Middle Bronze Age metal implements, which are invariably stray finds, all the Late Bronze Age ones come from chamber tombs and their context is more or less known. In contrast to the earlier objects, they are mostly broken and much decayed, some of them being swollen and split from corrosion. With only a few fragmentary exceptions, they all appear to be offensive weapons, namely five swords and five spearheads. The rest include a one-edged knife, two razors, a bronze mirror, a couple of broken ribbon finger rings and three lead and bronze pieces of unknown usage. Nearly all the metal implements appear to evolve out of Cretan forms of the First Palace period.

1. Swords

39 is very fragmentary but it is almost certain that it was part of a long and heavy sword corresponding to Karo's (1930, 200 f.) and Sandars' type A (1961, 17; for the ancestry of the form pp. 18-22). Some of these swords are up to one metre long. They have a rounded and unflanged shoulder and usually two rivet holes on the top of the blade. A high mid-rib, normally of rhomboid or rounded section, runs down the centre of the latter. The hilt was normally horned (Hood 1980, fig. 1).

The distribution of this kind of sword is confined to Crete, the Peloponese, the Cyclades and the Ionian islands. The best examples come from Mycenae and Crete. The type was evidently first produced and perfected in the latter. The examples from Mycenae seem to be Cretan derivatives and most of them may have been imported from Crete (Sandars 1961, 25-27, map on pl. 20; 1968, 119. Mylonas 1973, 315. Hood 1980, 237-238).

Several examples from Knossos and east Crete (PM IV, 848, figs. 827:a,b; 832:e. PTK fig. 109. Popham et al. 1974, pl. 39. Hag. Nikol. Mus. 1147) and two fragmentary swords from Levkas, with marked and round mid-ribs, seem to be the closest counterparts to 39. Other close parallels, yet with rhomboid mid-rib sections, come from Mallia, Kakovatos tholos B and Arka lokhori. The Cretan examples are MM II-III in date (Sandars 1961, pl. 17:1-3,5-6; 1968, pl. 23:12. Effenterre 1982).

The three following swords are of the short form and they would probably be called dirks or dagger-knives rather than real swords (Sandars 1968, 130. Weinstein 1981, 48 f.).

C102 is a shorter version of Sandars' type A sword. It is also flangeless and round-shouldered and has two rivet holes on the top of the blade and one further up on the short and simple tang. It has no mid-rib. Our example is perfectly matched at Knossos and elsewhere in Crete. The Cretan examples have a fourth rivet hole in a small projection intended for affixing the pommel. They are probably of LM IB-II date (KCh. 4 (1950) 109, pl. 3:355, from Yamalakis' collection. Hood 1956, 95-96, 98, fig. 3:6-7=pl. 15:a). An example from Mycenae is fairly similar in outline, but has a horn-like shoulder like C101 and five rivets (Karo 1930, pl. 95:906=Sandars 1961, pl. 19:1).

C101 corresponds to Karo's and Sandars' type B, which is also as short and stout as the second variety of type A but more elaborate. The tang of this type is often flanged and bears several rivet holes. The shoulders are rounded or slightly pointed and additional rivets are sometimes set horizontally across the top of the blade. It has been widely accepted that the idea of the flanged hilt for daggers and swords was first adopted by the Mycenaeans and Argolid has been considered to be the home of type B swords. But the flanged hilt, which originated in the Levant, was introduced to Crete long before the

period of the Shaft Graves. A few examples are known from the Dodecanese and even fewer from Crete. The latest examples from the Mainland are dated to LH II-III A and those from the islands to LH III B (Sandars 1968, 117; 1961, 17 f., map on pl. 20; for its ancestry 22-24. Hood 1978, 175 f.; 1980, 238 f. Weinstein 1981).

Our example is flanged and has a ribbed blade and a small projection at the back of the tang, like the Cretan swords mentioned in connection with Cl02. Exact parallels, but with four rivet system, are known from Knossos and Khersonissos in Crete, from Mycenae, Rhodes and Kos (Hood-De Jong 1952, fig. 12:V6=pl. 54:e. KCh.4 (1950) 111, pl. 3;500. Karo 1930, pl. 95;904=Weinstein 1981, fig. 2:c. Sandars 1961, pls. 18;5 and 19;2. Maiuri 1923-4, 199, fig. 124. Morricone 1965-6, figs. 63 and 64),

1273 is an advanced form of the short sword, which from the middle of the fifteenth century B.C. began to develop a flat ribless blade, flanged cruciform shoulders (instead of round or horned) and flanged T-shaped pommel (Smee 1966, 161). Some examples from Farmakokefalo in Siteia and one from Langada cemetery on Kos seem to represent a transitional stage of development from Sandars type A-B to D (Hag. Nikol, Mus, show case 17. Morricone 1965-6, figs. 226-227).

Our example has been classified by Sandars as type DII (1968, 130-131, 149, pl. 24:26). This type comprises a small group which is a continuation of DI. By its length 1273 could be classed within the intermediate group (30-40 cms.) which comes exclusively from Crete. It is a cruciform sword with a T-shaped flanged hilt and pommel. This kind of pommel was used in Egypt and Palestine from around the 17th century B.C. and in Syria from the 16th century B.C., usually on knives or daggers. It was subsequently adapted and modified in the Aegean. The flattish blade with grooves down the centre is a new feature to the Aegean and is probably also of Near Eastern inspiration, although a fine ribbing was applied to dagger blades by Cretan bronze-smiths as early as MM times. In view of the intense Rhodian overseas activity, especially towards the Levant, during the 14th century B.C., it seems likely that the flat blade and the T-shaped flanged pommel were first adopted on Rhodes, probably from Syria. However, a Cretan priority in this respect cannot be ruled out, whereas on the Greek Mainland these elements were introduced later (Sandars 1968, 131-132),

Type DII had a relatively short life-span, from LM/LH III A2 down into LM/LH III B, possibly even later. 1273 is rather to be placed in LM III B, both by context and typological features (BM Cat. I.1, 177. Sandars 1968, 149). The earliest example of this kind of sword appears to be Ialysos NT IV:19 (Sandars 1968, 131-132. Maiuri 1923-4, 100, fig. 15). This, however, may prove to be more apparent than real, for most of the DII swords and daggers have unsatisfactory contexts (Mee 1982, 20). It is sixty cms. long and has

a swelling in the blade section. Both length and swelling are reminiscent of a type A long sword. Similar swords come from Ialysos OT IV and Palaikastro (Sandars 1968, 149, pl. 24:24. Mee 1982, 20, PKU, 116, pl. XXX:i).

A sword from the Mycenae founder's hoard is so alike to 1273, both in dimensions and outline, that they almost certainly came from the same workshop, probably together with another fragmentary example from Korinth (Sandars 1968, pl. 24:27-28).

2. Spearheads

The spearheads are all of the socketed type, C104 and C105 preserve two rivet holes for affixing a wooden shaft. Remains of the latter were recovered from the socket of 37.

25, 37, 38 and C105 belong to a laurel-leaf form with slightly rounded shouldering at the junction of socket and blade. The socket is split at its top, an indication that it was probably formed by a tongue of metal beaten round a mandril. The blade in 37 and 38 is longer in proportion to the socket and has a hexagonal section, which is the result of a low and flat mid-rib running down the middle of the blade. The same probably applied to 25, where the mid-rib appears to have faded out as is always the case at the point of such spearheads.

The blade of C105 is shorter in proportion to the socket and appears to have a thin oval section. It is closely matched in Crete by examples from Knossos and elsewhere, and also in Ialysos, Eleona on Kos and Cyprus (PM IV, fig. 832:c. Hood 1956, fig. 4:12=pl. 15a:3. Sandars 1968, pl. 23:13. KCh. 4 (1950) 112, pl. D:436 from Yamalakis's collection. Jacopi 1930-1, 344, fig. 95. Morricone 1965-6, figs. 63-64. Buchholz-Karageorgis 1973, pls. on pp. 267-268. Catling 1964, fig. 14:7).

37 and 38 find their close parallels at Mochlos, Knossos and on Kos (Mochlos 1912, fig. 45:XX 10. PM IV, 842-843, fig. 821:c. Hood-De Jong 1952, 256, 262, fig. 8:AJ4=pl. 53B. Hood 1956, fig. 4:10=pl. 15a:2. Morricone 1965-6, 86-87, figs. 63:2-3 and 65-66; 1972-3, 258, figs. 205:1-2 and 206:1-3). The Mochlos example is dated to MM III and those from Knossos to LM II-III A1. 37-38 are also closely matched at Mallia, Gournia and on Rhodes and Astypalaia (Maisons II, pl. XX:1. Gournia 34, pl. IV:48, MM-LM I. Maiuri 1923-4, 133, fig. 54:25. Jacopi 1930-1, 267, figs. 9:42-43 and 95:3, AD 26, B2 (1972) pl. 559:4, LH IIIB-IIIC context). All these spearheads appear to have a low mid-rib, trapezoidal in section. The distribution of this type probably points to a Cretan origin. Another version which in other respects seems to be identical with the former one has a rather curved mid-rib and seems to focus more in the Mainland than in Crete. Mycenae produced several examples of this type (Karo 1930, 160 f., 206 f., pl. 96:902. Wace 1932, 190, pl. VII, MH III. PM IV, fig. 822). It also turned up at Prosymna and occasionally in Crete

(Prosymna 339, fig. 510, KCh.4 (1950) pl. D:435, Catling 1968, 92, fig. 2:7, pl. 23:c). From the beginning of the Iron Age the type was copied in the new metal (Lefkandi I, pl. 153:16,1). This kind of spearhead appears to have enjoyed a very wide distribution, as it turns up as far away as Bulgaria and the Danube, although in a shoulderless variety which is also seen at Knossos in an LM IB context and at Farmakokefalo in Siteia (Childe 1929, 253. Sandars 1968, pl. 22:6,8,11. PM IV, 850, fig. 832:a. Hag. Nikol. Mus. show case 17).

C104 is of a different type apparently derived from the previous one. The socket is a continuation of the blade and has a modestly raised ring along its mouth. This encircling ring appears as early as MM/MH III on Cretan and Mycenaean spearheads (PM IV, 842-843, figs. 821-822) and was intended to hold together the divided socket. Subsequently it was further developed in Crete and the Mainland.

This kind of ringed and socketed spearhead appears to be typical of Post Palatial Crete. Our example finds exact counterparts at Knossos, Ialysos and Kos (PM IV, 844, fig. 825, LM II. Hood-De Jong 1952, pl. 53B=fig. 12:II.4, III,4 and V,7. Hood 1956, fig. 4:8=pl. 14e:1. Maiuri 1923-4, 231, fig. 147, LH IIIA2 context. Morricone 1965-6, figs. 50-51 and 61-62). This type is also widely distributed and turns up as far north as Crasno Gratiste in Turnavo and as far east as Tarsus in Cilicia (Sandars 1968, 121, pls. 27:59 and 28:62-63).

3. Knife and Razors

40 is a one-edged knife belonging to the commonest form of the Aegean Bronze Age and corresponding to Sandars's class Ia (1955, 175-177, 183, 185-186) and Deshayes' type K (1960, I, 313 f.). It has a wedge-shaped section and its back and cutting edge are slightly curved. The haft is flangeless and has five rivet holes to hold the handle plates. It was moulded in a one-piece mould.

This type of single-edged knife was widely known throughout the Aegean and also in Cyprus, Anatolia, the Levant and as far west as southern Italy (Deshayes 1960, I, 313-314). Its origins can be traced in Asia, from where it appears to have spread into the Aegean by way of the east Aegean islands, including Lesbos and the Dodecanese. According to Deshayes, however, the type may have been developed by Mycenaeans in the Argolid (1960, I, 314). But it probably appeared as early as EM times in Mesara, where it was widely used in the MM period, especially at Koumasa and Porti (Xanthoudidis 1924, 67, pl. XXXIV:b. Branigan 1968, 33, fig. 9:5). It was also found in LM I contexts and its use does not cease even in the Iron Age, when it was worked in the new metal.

As this form of knife proved to be very convenient and perfectly efficient from its first appearance, there seems not to have been any need for

alteration of the type within LBA. A tendency is only observed in some later examples to develop the base of the blade broader than the haft. This is the case with 40, which should be LBA and this is confirmed by its find context.

Our example links up perfectly with knives from east Crete and Mallia (Hag. Nikol. Mus. 1504, also 1503 and 1137. Smee 1966, 162, pl. 34:8. Maisons II, pl. 29,2. Catling 1968, 94-95, pl. 23:f=fig. 3. KCh.4 (1950) pl. E:368); Ialysos (Trianda fig. 89, LH III. Sandars 1955, 190. Maiuri 1923-4, 153, 181, figs. 70 and 106); Kos (Morricone 1965-6, 214, fig. 226:230-231; 1972-3, 261, figs. 205:4, 208 and 239:3); Mycenae (Wace 1932, 189, 278, pl. VII:1); Prosymna (Prosymna II, fig. 512:3); Herason at Argos (Buchholz-Karageorghis 1973, 55, fig. 23:658); Chalkis (Hankey 1952, 94, fig. 9:536, LH II-III); and Troy (Deshayes 1960, II, pl. XLII:7).

C 103 is a razor rather than a knife. 41 appear to be fragments from a similar razor.

4. Other Metal Objects

42 are evidently fragments from a circular bronze mirror. C98-99 are two crescent-shaped strips of lead, which have an obliquely pierced hole at their ends. The latter end in a modest projection. Their function is difficult to determine, but they might be some kind of harness, e.g. cheek-pieces. C100 is a single rectangular plate of bronze, again of unknown use.

Finally, a couple of simple finger rings were recovered from Vonies. They were much decayed and swollen from corrosion. They were made of narrow copper or bronze ribbons and correspond to Branigan's type IV (1974, 45, 189, pl. 23), which was most common throughout the Bronze Age, both in the Mainland and the islands. LM examples similar to ours can be seen in Hag. Nikol. Mus. (nos. 1139-1141 and 1687-1688).

The preceding discussion of the LBA metal implements found on Karpathos leads to the conclusion that the bulk of them belong to Cretan types, which originated in the Middle Minoan period. The only exception appears to be the sword 1273, which was probably Mycenaean creation.

The analysis of 38, carried out by Dr N.H.Gale at the University of Oxford, showed that this spearhead is of a highish tin bronze and that the copper comes from Laurion. There is little doubt that the rest of the LBA metal implements are of a composition similar to 38.

CHAPTER FIVE: CONCLUSIONS AND HISTORICAL PERSPECTIVE

I. SETTLEMENT PATTERNS, SUBSISTENCE AND SOCIO-ECONOMIC DEVELOPMENT

In the following pages a general account will be given of the successive phases of settlement in the three islands concerned, during the Neolithic and Bronze Ages. The discussion will be accompanied by a brief catalogue of the sites, which correspond to each particular phase of Prehistoric occupation, as well as by a summary of criteria concerning the cultural sequence and the development of the settlements. In connection with the latter issue, various relevant problems will be considered, such as size, density, continuity, change and hierarchy of settlements (cf. Renfrew 1972, 226 f.).

It has been generally agreed that settlement patterns constitute a major source of information for the Prehistorian (e.g. Butzer 1982, 258 f.). The main requirements of the Neolithic and Bronze Age inhabitants can be deduced to a certain extent from their settlement patterns; social, economic and political matters were closely related to the setting and distribution of Prehistoric sites (Bintliff 1977, 111 f., 131 f.), which is why they are discussed here together with the patterns of human occupation. Once the basic settlement pattern is understood, the cultural sequence will be better known, leading to a greater knowledge of the economic and political conditions of the time.

The great majority of the sites listed have been ascribed to specific periods on the evidence of sherds collected on the surface. While the significance of archaeological finds from "surface sites" cannot be denied (Butzer 1972, 237-238), the limitations imposed by the nature of such material are obvious, and this often leads to the failure to recognize certain classes of sites. For instance, several sites on all three islands have only produced obsidian and are difficult to classify without the corroborative evidence of pottery, which may be revealed through excavation. Isolated finds or small scatters are often difficult to evaluate (cf. Butzer 1982, 259). Do they indicate an occupation site, or do they just reflect casual and passing visits to the site? On the other hand, the absence of finds does not document lack of occupation or abandonment, since excavation may reveal a different picture (Renfrew 1972, 245. Cherry in Melos 14). The cultural "gap", for instance, during EB 2-3, as reflected by surface finds, may prove through excavation to be rather apparent than real.

Consequently, the picture we have of the Prehistoric settlement pattern is bound to be incomplete and haphazard without proper excavation. Other factors to be taken into account in this connection are the complete destruction of some sites, and the different intensity of archaeological survey in different regions. Most often figures concerning distribution and size of archaeological sites merely reflect the intensity of research and the state of

our knowledge rather than the actual settlement (cf. Cherry-Torrence in Melos 33). The rarity of cave sites, for instance, on the distribution maps of Karpathos, Kasos and Saros does not imply that the Neolithic inhabitants of these islands did not favour this kind of settlement. This may just be due to the limited exploration carried out in this direction. There is little doubt that future research will alter the present picture.

Good agricultural land and pasture as well as the proximity of the sea must have been the greatest factors in choosing a site for settlement. It is thus hardly surprising that Prehistoric sites are more densely concentrated in the comparatively fertile coastal regions of the islands, such as Pigadia, Afiartis and Lefkos.

As might be expected, the great majority of Neolithic and Bronze Age sites on the islands under discussion are situated on or near the coast. In a total of seventy-one Prehistoric sites (fig. 3) only eight can be considered as really inland ones (B13, D32-34, F42, J55, K58, L54), while another eleven lie at a relatively long distance from the sea (F41, G45-49, G52, L65, M69-71). Throughout the Prehistoric period there was a strong predilection for coastal areas and sea accessibility was of great importance in choosing a site (cf. Butzer 1972, 236-237). In the LN and EB times this must have been due more to the importance of fishing than to seafaring interests which appear to develop later, from the MBA onwards.

Apart from a good and well protected sandy or pebble beach, a reasonably fertile hinterland and proximity of water sources were the main requirements of the coastal inhabitants. Access to water, however, - long regarded as of paramount importance in semi-arid environments - is now considered by some scholars to be of secondary significance in settlement location (Demageon 1962). Their economy was certainly of a composite nature, the exploitation of the sea resources being combined with cultivation of the coastal areas.

The bulk of the sites discovered so far are open sites. Only two caves have shown positive signs of Prehistoric occupation, Tsulakis' cave and Ais Minas, both on Karpathos (A1, D27). The latter is a coastal site, while the former is near the sea. Another two caves and a possible rock shelter (G45-46, L65) were probably also occupied in Prehistoric times. All three are situated in comparatively inland areas.

The majority of the sites are elevated ones. Defensive reasons are possible only in a few cases and there is no conclusive indication that an easily defensible position was the main reason for site selection. Flat open sites are very rare and their choice suggests a lack of concern for defence, although they are almost invariably situated close to defensible hills and mountains. There can be little doubt, however, that considerations of space

and proximity to arable land were the basic factors which influenced the choice of rocky elevated sites. With the one exception of site D19 which is Neolithic or EB 1, the flat sites belong to the common MM-LM I series (A7-10, C14, D24, D26, E34). The last one is an inland plateau site, while the others are coastal or near the coast.

Two main types of open site setting were typical on the three islands throughout the Prehistoric period: the promontory and the inland hill site. As in the Cyclades, Crete and Mainland Greece, the promontory site was much favoured in the LN and EBA. As might be expected the proximity of arable land and of good water, as well as the existence of leeward beaches, were the determining factors in choosing such sites for settlement. Later, in the Mycenaean times, promontories were again occupied, especially if they were of the type with a steep rocky acropolis and harbours on either side.

Four promontories on Karpathos were definitely settled during the Prehistoric times (D18; E35-37) and six others produced slight relevant evidence, chiefly in the form of isolated obsidian finds (A2, A12, C15, D28, G51, J56).

The hill appears to have been the most favoured type of site. Even the promontories already referred to were actually nothing but low rocky hills jutting into the sea. Both promontory and inland hill sites were the most common in the LN and EBA Aegean, particularly in the Cyclades (Saliagos 81. Kephala 104). The hills chosen for settlement are usually low and very close to a good harbour or anchorage. Reasonably fertile land in the vicinity was also necessary, as well as sufficient water supply. Prehistoric people were attracted to these sites by their natural advantages, which offered them the opportunity for solid foundations for houses avoiding the use of valuable arable land. Yet there may have been other reasons too, such as security. Piracy seems to have been a serious problem in the Aegean from relatively early in Prehistoric times (Renfrew 1972, 262-264, 392-399). For the purpose of easy defence strategically located and isolated heights were often chosen from as early as Neolithic times. These hills were sometimes fortified (cf. our D18 and probably also A12, E36 and M71).

The inland hill sites can be divided into four categories:

- (a) high conical hills or rugged and naturally defensible ridges. These appear to have been favoured by LN-EBA people, as well as by the Mycenaeans (C16-18, D32, E35, E36-37, M69-71).
- (b) low flat-topped hillocks or ridges, normally close to the sea (A3, A5, B13, B25, M66-67). These present a few traces of occupation on their plateau-like top and were apparently preferred by LN and EBA people. D25 is a small rocky knoll in the middle of a plain.
- (c) low hill-slope or ridge-side sites, usually bordered by a small plateau and always well protected from the prevailing winds. They are often flanked by

ravines and river beds and bounded by steep or low terraces running parallel to the coast which is not far (E40, F41, F43, G52-53, H54, K57, L60-63). This type of siting is typical of Minoan settlements during the Palatial periods. With only three exceptions (F41, G53, K57), all these sites are MM-LM I.

(d) plateau and valley-side sites. As a rule these sites are situated quite far away from the coast, often among mountain-ridges and hills which could offer a resort in case of attack (E38-39, G44, G47-50, J55, K58-59, L64). Such sites were occupied throughout Prehistoric times.

We come now to the period-by-period analysis of the evolution of Prehistoric settlement. The comparison of occupied sites in different periods will show why different types of site were occupied preferentially in different times. By doing so it will be easier to follow the gradual economic, social and political development which is otherwise little known through the meagre material remains.

I(A). Neolithic and Early Bronze Ages

As in most parts of the Aegean, the oldest evidence of settlement appears to belong to the Late Neolithic. It is from this period that signs of an expanding population are observed throughout the neighbouring island of Crete (Lasithi 1982, 9). As yet twenty-three sites have produced positive signs of human activity during the LN, FN and EB periods (fig. 4). On present evidence only twelve of them can definitely be considered as settlement sites, since the rest are represented by only a very few sherds and obsidian chips. These settlement sites are: D18, D25, E35-37, G44, G50, K58, M66-67, M69, M71. Several others yielded slight and inconclusive evidence, usually in the form of isolated obsidian finds.

Of the twenty-three sites one is a cave (A1), four are promontories (D18, E35-37) and eighteen are hill sites (A3, D17, D19, D25, D32, F41-42, G44, G46, G50, G52, K58-59, L63, M66-67, M69, M71). Six of the inland hill sites are plateau sites (D19, G44, G46, G50, K58-59).

On present evidence there is extremely scanty, if any, EB 1 settlement; and with the possible exception of Saros where three copper or bronze implements were found, probably dated to the second half of the third Millennium (Deshayes 1960, II, 16, 32), none of the sites appears to have been occupied during the EB 2-3 periods. This is hard to believe, since there seems to be no reason for such a cultural discontinuity. The EBA settlement in general should have been built upon the pattern established in the LN and FN periods (cf. Wagstaff-Cherry in Melos 248); the setting of most EBA sites must have been predetermined and was in no way related to any new factors operative in this period. It is our belief that the majority of LN and FN sites continued in occupation into EB 1, which is largely indistinguishable from the preceding FN, and most often into EB 2-3.

The apparent EB 2-3 cultural "break" could be accounted for on three grounds: (a) lack of stratigraphical evidence; (b) the peculiarity of the EBA period in some Aegean regions where it does not develop gradually and uniformly and a great part of it is often little more than an extension of the LN (Renfrew 1967, 1). "While it is useful to continue to make typological and stylistic distinctions, and thus to recognize 'cultures' of regional and chronological significance, it is still largely the case, as Belmont and Renfrew observed (Mykonos 398), that technologically and economically there is no distinction to be made between the Late Neolithic in Greece, where copper was already sparingly used and an Early Bronze Age where bronze was virtually unknown and copper ... no commoner. In the Cyclades, however, in terms of site type and density and the activities these sites imply, there are fundamental differences" (Cherry-Torrence in Melos 33). Until further evidence is available, the criteria of Belmont and Renfrew seem to apply to the islands under discussion. (c) the difficulties of dating Prehistoric coarse ware should not be overlooked; some of the pottery identified by us as LN-FN or EB1 may well be EB 2-3 or even MBA. This is corroborated by the fact that at provincial centres in Crete, Kos, Kalymnos and elsewhere in the Aegean were found coarse handmade ware, rough-surfaced, polished or burnished, in association with fine "Kamares" or MM III pottery. Furthermore, on the plain of Lasithi Trapeza ware, which is FN, was often found together with EM-MM I pottery (Palaik. II, 299-300. Furness 1956, 153. Morricone 1972-3, 280-281, 384). This implies that in these areas the Neolithic tradition of ceramic techniques continued well into the MBA.

The figures show a marked preference for open coastal sites, which were always small and apparently often short-lived. As already stated, the preference for open sites may be partly due to the neglect of caves in our survey. However, the preponderance of hill sites throughout the Aegean in FN and EBA cannot be denied (Vagnetti-Belli 1978, 140-143. Lasithi 1982, 9). The tendency towards the abandonment of cave sites in Crete from the FN has been related to climatic changes or perhaps to security reasons and new economic patterns. The latter is connected with the fact that the cave dwellers were primarily engaged with pastoral activities (Vagnetti-Belli 1978, 141 and Vagnetti 1972-3, 133). It seems very likely that before the cave sites fell completely out of use there was an intermediate stage when they were used only as winter shelters. They may then have been occupied on a seasonal basis, perhaps with alternating use of open sites, probably as a result of seasonal transhumance.

The predilection for hill sites during the FN and EB ages was a general rule in the Aegean (cf. Warren-Tzethakis 1974, 338-339. Vagnetti 1972-3, 132. Bintliff 1977, 133). As elsewhere in the Aegean and west Anatolia, the main NL and EBA sites on the islands concerned are either promontory sites or are

situated close to the coast (cf. Wagstaff-Cherry in Melos 138 and Treuil 1983, 358, 362 f.) As already stated, in this early period overseas activity must have been very limited and the concern for sea accessibility was due rather to fishing interests.

It seems pretty obvious that the economy of these coastal hillock sites was primarily dependent upon the land and to a lesser extent upon the exploitation of the sea-resources (for fishing in the Prehistoric Aegean, Bintliff 1977, 117 f.). Shellfish of various kinds were favourite foods, as shown by the many shells discovered at the sites of Vouno and Leftoporos, while the arrow-heads found at the latter site and at the site of Tripes were probably used as leister-tips for harpooning (cf. Treuil 1983, 151).

However, and despite the assumption that the bow was perhaps not used in Greece until the Bronze Age (Renfrew 1972, 280), the possibility remains that the above objects were used as actual arrow-heads by the Neolithic hunters of Karpathos. There is little doubt that the practice of hunting formed a supplementary source of subsistence for the Prehistoric inhabitants of these islands, which even today possess good hunting territories.

Although today all three islands look more or less rocky, barren and desolate, in remote antiquity they were more fertile and much more forested. Ever since the first settlers arrived, the trees have been felled and ravaged by goats, while erosion of the soil accounts for the bleakness of the hillsides. There was thus nothing about the soils, the landforms, the water supply or anything else in the natural environment that would discourage human settlements in those times. The economic life of the latter is difficult to reconstruct, but it seems fairly certain that it was based on mixed farming. The economy must have been largely food-producing, although hunting, fishing and the gathering of wild fruits, wild vegetables, snails and shellfish would have supplemented the diet (cf. Treuil 1983, 375 f.).

As far as agriculture is concerned, it is impossible to know its exact character without excavation, which may reveal evidence for the kind of plants cultivated in those times (cf. Treuil 1983, 375 f. and esp. 379 f.). Nonetheless on the evidence of stone equipment, particularly from Vouno and Leftoporos, it becomes quite clear that some kind of domesticated cereals would have been produced on these sites. The mill-stones in particular are indicative of familiarity with the grinding and cooking of grain and probably also of pulse crops. Some of the obsidian flakes collected on several sites and displaying wear-marks may have been affixed to wooden sickles, and the large storage jars evidenced at Leftoporos may well have held agricultural products.

Other plant species such as the olive, the vine, the fig and the pear may have contributed to the diet, although probably in a non-domesticated form during the Neolithic. From the EBA onwards, however, the exploitation of the olive and the vine in the Aegean has become systematic, giving rise to the

so-called Mediterranean Polyculture (Renfrew 1972, 278, 280 f.).

Much less is known of the stock-breeding. Various kinds of domestic animals must have been kept, which can be specified only through excavation (cf. Treuil 1983, 383 f. and esp. 388 f.). There is little doubt that animal husbandry formed one of the prime economic activities on these islands, whose territory is largely a grazing one. Some, if not most, of the sites may have been occupied on a seasonal basis by small communities of agriculturalists and pastoralists (cf. Warren-Tzethakis 1974, 336. Bintliff 1977, 116-117. Lasithi 1982, 10). This kind of seasonal transhumance is still practised today in the islands under discussion.

Although there is no relevant evidence, weaving may also have been included in the domestic economy, perhaps only to meet family needs.

In this early period one would expect a marked isolation of these islands. Relations with other Aegean areas would have been shadowy and slender at the beginning (cf. Renfrew in Melos 223). However, their key position on the maritime and trade routes of the east Mediterranean (fig. 23) rather suggests that they must have had an increasing involvement in the cultural and economic interactions in the area once trade with the Near East was established. This seems particularly likely as Prehistoric trade tended to operate over relatively short distances.

Interconnection between the islands, that is "intra-systemic" relations within the Karpathos island system (cf. Melos 135 f. and 248-249 with fig. 19.2), seem to be easy on geographical grounds, and are in fact documented by the common material culture they appear to share throughout the Prehistoric period. It would be reasonable to assume that some kind of barter exchange may have been in operation between the three islands and even with some more remote ones, as well as with east Crete and the south-west of Asia Minor. There must have been, in other words, a balanced reciprocal exchange, that is exchange of the surplus of a certain community in return for a different product (cf. Treuil 1983, 395 f.). Raw materials like obsidian and other igneous rocks which are not native to the three islands were perhaps, at least partially, acquired by this process.

However, it seems very likely that the inhabitants of this island group were sailors from the very beginning. The major communications were probably by sea, even among settlements on the same island, between south and north Karpathos for instance. The presence of obsidian and other volcanic rocks is the best proof for external trade during this period. Such "inter-systemic" relations between the island systems of the Aegean may have involved exchange of goods or information and services, material or symbolic (Melos 181 f.) Obsidian trade in the Aegean is the earliest in the world for which we have concrete evidence (Renfrew et al. 1965, 238. Johnstone 1980, 55-56). The evidence of Melian obsidian from the Franchthi cave suggests that men were

crossing the Aegean sea at least as early as the Upper Paleolithic times, that is from at least 10,000 B.C. (Johnston 1982, 1. Cherry-Torrence in Melos 31). The people on the islands in the discussion obtained abundant supplies of unworked obsidian from Melos, and manufactured tools. This testifies to the efficient contact with the Cyclades, an adventure which requires competent geographical knowledge, nautical skill and experience in long-distance navigation. However, ships from the islands under discussion need not necessarily have been involved, for it is as yet unknown whether obsidian was indeed acquired directly from the Melos quarries or through a commercial marketing system (Shelford in Melos 220). Similar contacts were apparently maintained with Nisyros, as shown by the importation of Yali obsidian. There can be little doubt that the coasts of Asia Minor were also frequented by navigators and merchants of the three islands, as probably was east Crete. The obvious Anatolian and Cretan features in the material culture of these islands may be of relevance.

As far as political and social organization is concerned, there must have been a gradual development from the primitive systems of the LN and FN towards the complexity of the MBA and LBA. The tiny isolated farming communities, scattered about the coastal fringes and the inland hillocks, evidently constituted small social units with separate houses, each presumably the home of a particular family or of a small clan. There can be little doubt that the settlement in this period was exclusively of "a dispersed farmstead character" (cf. Bintliff 1977, 132, 134-135 and Renfrew in Melos, 36-37). This was certainly due to the desire of the islanders "to live in settlements distributed in such a way as to make effective use of land that is both suitable and available for cultivation or grazing. In practice, this means that such settlements would be situated either on or near the resources, in least-coast locations ... for cross-cultural comparisons suggest that increased distance from the residential base to the field translates directly as loss of labour time and thus as reduced productivity" (Wagstaff-Cherry in Melos 246, 251. Chisholm 1968. Bintliff 1977, 111). It is doubtful whether these farmsteads and hamlets formed any political units and there can be no question of a systematic centralized organization, as witnessed in Minoan and Mycenaean society. Nevertheless, some measure of community organization may have existed from this early period, despite the non-complex social organization and selfsufficiency of the small settlements which would correspond to Renfrew's Model I (Wagstaff-Cherry in Melos 251. Renfrew in Melos 270).

The site of Vouno, which is located on the top of a rocky promontory, was enclosed by a perimeter wall of cyclopean appearance. This is of considerable interest and, if it really served a defensive purpose, probably testifies to the occasional unsettled conditions of the time and the existence of warfare in such an early period. Whether this was due to the hostility of neighbouring

tribes or to piratical attacks, is difficult to say. The latter seems most likely, given the exposed situation of the site.

Defensive walls were known in the Near East from as early as Pre-pottery A Jericho (stage III), Hacilar IIA and Mersin XVI (Jericho 6 f., pls. 4 f. Hacilar 25-28, figs. 19-28, pls. XXVII:b and XXXV:b. Garstang 1953, 2, 7, fig. 4, pl. I:d. Treuil 1983, 368-373). In the Aegean area they first appeared in the Neolithic Dimini and on Saliagos, the latter possibly being nothing more than a defended farmhouse (Tsuntas 1908, pl. II. Saliagos 9, 23, 81, fig. 11 and pls. IV:c, IX-X). Yet they became widespread in the EBA, as exemplified by Troy, Khalandriani, Askitaro, Lerna etc. (Troy I, 145-149 etc. Tsuntas 1899, 115-120. Renfrew 1972, 228, 390 f., fig. 18.11). The small fortified site of Panormos on Naxos appears to be very similar to that at Vouno (Doumas 1964, 411, fig. 2, pl. 483). Both were probably no more than single fortified farmsteads.

Little can be said about the social organization because of the nature of the evidence. The peasants were apparently living in hamlets and isolated farmhouses. They were presumably bound by ties of tribal kinship throughout Prehistoric times.

The social importance of women throughout Neolithic and Minoan times is reflected by the dominance of the female deity (Willetts 1962, 79). A division of labour may possibly have developed from the earliest times, appearing first within the limits of the family (Treuil 1983, 400). Social differentiation may also have existed from these times, with certain elites enjoying special rights and privileges. This would have resulted in an accumulation of wealth in a few hands or perhaps vice versa. The discovery, for instance, of small bronze hoards at Pigadia and Saros is perhaps good evidence for certain social transformation in the course of the EBA. This was probably related to the development of trade, which evidently appeared in association with some craft specialisation (Treuil 1983, 401-402). The appearance of the latter implies an adequate surplus of agricultural produce. It has been established that from the beginning of the EBA important changes took place in the Aegean, including the emergence of ranked societies and some centralized activity or redistribution (Renfrew 1972, 170-185, 296, 390 and in Melos 37).

Although these changes cannot yet be documented in the Karpathos group, it seems very likely that the new factors may have led to the development of a kind of tradesmen and specialist craftsmen class. Those trading in raw materials, such as obsidian and copper, would have formed the wealthiest of the new classes, the landowners certainly retaining their first rank. The same probably applies to the metal-smiths, whereas specialist artisans and craftsmen such as potters, lapidaries and carpenters must have been less prominent. However, there is no evidence for full-time employment and most

of them would have been involved in other occupations too (cf. Treuil 1983, 401-402).

Be that as it may, the NL and EBA artisans' activity, as reflected by the stone, ceramic and metal finds, is of great importance for our understanding of the economic and social standards of the time, the more so since they always involve a certain amount of technical specialization, the appearance of which in the Aegean from LN times is well documented (Renfrew 1972, 339 f; and in Neolithic Greece, 196 f.). The latter appears sometimes to be fairly advanced, to judge from some elaborately worked artefacts, such as projectile points, stone axes, burnished ware and bronze implements.

It must, however, be borne in mind that the process of social, economic and political evolution was slow and long-term. While the knowledge of agriculture and ceramics appeared at an early stage, social organization at first must have been in terms of small nuclear families, each self-sufficient, without specialist workers.

I(B). Middle Bronze and Late Bronze I Periods

It is not until the beginning of the MBA that a different settlement pattern emerges. As might be expected on these rocky islands with limited resources and little agricultural potential, the same general areas continued to be occupied, namely the small coastal plains and terraced fringes. Yet special factors now came into play, which induced a population increase and a multiplication of settlements, and created a new distribution of different settlement types within the same regions (cf. Lasithi 1982, 14, 69). This process started perhaps early in the MBA and was consolidated during the MM III-LM I period.

Twenty-five sites were certainly occupied during this period (fig. 5). Of these only four continued to be settled from the last LN-EBA periods (D25, G44, K58-59). All four are situated close to the bays of Makris Yalos, Lefkos, Palatia and Alimounda and this was probably the reason for their continuity. On the contrary, promontory sites (D18, E35-37) and high-hill island sites (M69, M71), typical of the previous period, were either completely abandoned (E36-37, M69) or were occasionally frequented, in the latter case probably for religious reasons (D18, E35).

Furthermore, a total of five sites produced slight evidence of Minoan Presence (D17-18, F43, G49, E35). Two of them were occupied in the preceding period (D17-18, M71). Another twelve sites showed positive or dubious signs of MM-LM I presence in the form of isolated sherds, while another two yielded similar evidence of MBA activity.

The evidence is significant. Apart from the change in the settlement pattern, the abrupt and overall increase in the number of settlements and the large concentration of the new ones in specific areas, perhaps implying

new needs and requirements, was certainly related to new factors operative during the MBA. The latter are not difficult to explain: of forty-one positive or possible MBA-LB 1 sites thirty-nine have produced definite or uncertain Minoan pottery. Of the twenty-five indisputable settlement sites, twenty-one appear to be new ones, which may prove, after excavation, to be of exclusively Minoan character. The remaining four are Minoan too, but also show traces of apparently earlier occupation. The latter evidence may well reflect the continuation of a local, perhaps Anatolian, cultural tradition into the MBA and probably also some sort of coexistence between Minoans and natives.

It seems very likely, therefore, that the arrival of Minoan settlers was responsible for this change. Apart from the material remains which form the strongest argument for this assumption, the distribution and location of the sites chosen by the new settlers point in the same direction. As in Lasithi and elsewhere in Crete (Lasithi 1982, 12), a low slope at the edge of a plain was now preferred to the earlier hill-top site. Nearly all sites are situated just where the Minoans would be expected to settle, notably on elevated and well sheltered places on or near the coast with a sandy or pebble beach. The latter was indispensable, for the Minoans did not construct a harbour and their ships had to be beached. The size of the ships would not present problems in this respect.

In general, the new settlement pattern appears to be identical, although on a smaller scale, to that emerging in the contemporary Cretan countryside, where many similar new villages were founded, perhaps after an economic revolution which resulted in a decentralized administrative system (Cadogan 1971, 147). The picture of the latter, as described by Hood et al. (1964, 52), matches remarkably that of Kasos, Karpathos and Saros: "Outside the towns the countryside was dotted with farms and villas, isolated or in small groups or hamlets of two or three houses". It is most likely that the occupants of these dispersed farmsteads were met in communal centres for administrative purposes and social, economic and religious activities; or even possessed two homes, a field and village one, as most of modern islanders do (Cadogan 1971, 146. Bintliff 1977, 132). It is interesting to note that the way Watrous explains the function of the small Middle Minoan sites on the basis of the continuity of agricultural practices from Prehistoric times to the present day perfectly applies to the Karpathos group: "Most villagers cultivate land within an hour's walk of their village. The farmers, however, also own land which lies more than an easy walk from the village. This land will frequently have a structure, called a metochi, built on it. In Crete, a metochi is used to store produce and tools and, at harvest time, is used as a temporary residence. In some cases, a small garden may be kept at the metochi, permitting it to be used as a seasonal farmstead. It is likely that some of the small

Middle Minoan sites also were metochia. Several were situated within view of a larger contemporary settlement, and one imagines that the farmstead belonged to one of the inhabitants of the main settlement" (Lasithi 1982, 14-15).

As in Crete, there are no signs of security problems which evidently troubled Messenia and other areas on the Greek mainland, and led to a marked preference for acropolis sites and fortified settlements (Renfrew 1972, 257-258).

The basic features of EBA economy may be assumed to have survived. Yet the new settlement patterns imply new economic, social and political developments and this is in concordance with the picture emerging from the material remains, which reflect a markedly more advanced material culture.

While the subsistence system would perhaps have continued to be based on farming supplemented by fishing, hunting and gathering (cf. Bintliff 1977, 115-116), trade seems to have gained considerable prominence. Agriculture was still the prime economic activity, of which grain presumably remained the basic product; relevant stone equipment has been noted in abundance, particularly at the sites of Manolakakis, Palio Mitato and Trapeza.

As far as trade is concerned we can only guess at the commodities which might have been exchanged. There is little doubt that oil and wine, both considered to have been native to Crete and the whole of Greece (Hood 1971, 87. Renfrew 1972, 282 and 285) were also produced at this time. They may have been exported, as was probably the case in contemporary Crete (Furumark 1950, 248). The abundance of conical cups found on all MM-LM I sites of the islands concerned, as well as the frequent occurrence of spouted hole-mouthed jars, jugs and pithoi, form indirect evidence for the production of wine and oil (cf. Renfrew 1972, 281-284). Another indirect evidence for viticulture is perhaps provided by the fact that most of the Minoan remains on Karpathos are found in close proximity to modern flourishing vineyards.

Stock-breeding is well documented by the abundance of animal bones noted in the section of the Minoan deposit at Pigadia. Sheep and goats are represented while bones from bigger animals, apparently pigs and cattle, are not lacking. Wool from sheep and goats would have been very important for the domestic economy, probably being the chief fibre for weaving. Evidence for the latter appears in Crete as early as the LN (Evans 1964, 223). Sporadic clay loom weights from the sites in the discussion indicate that weaving was one of the activities of the occupants.

While self-sufficiency was perhaps almost imperative in the previous period, now the diversity and surplus of various commodities was able to promote long-range commerce, in addition to the pre-existing local markets. It is obvious that the presence of Minoans on these islands should be considered in connection with their trade activities. The Minoans were increasingly involved in trade and the invention of the sailing boat, along with the foundation of

harbour towns on the east of Crete, must have given further impetus to their overseas expansion and commercial enterprise.

Given the conditions of the time, any sort of Minoan overseas activity to the east must have been extremely dangerous without landing on the three intervening islands which on a clear day are visible from the east Cretan coasts (figs. 3 and 23). It is from this perspective that Cretan presence on these islands must be seen. The first Minoans to arrive would have been merchants using the harbours of the islands as ports of call and presumably trading with the locals. The permanent settlements must have come as a result of the growth and expansion of the Minoan maritime and commercial power during the New Palace period. This probably led to the colonization and political domination of the neighbouring islands.

Having seen the economic background which lies behind the new developments, it is now easy to explain the fact that for the first time individual sites did show special exploitation of certain resources, and also the fact that two contrasting types of settlement emerge: the relatively inland hill site on the one hand and the harbour settlement on the other. The former carries on the Neolithic and EBA rural tradition and is represented by only two sites out of twenty-five (D33, G52). The coastal site is the prevailing one and is represented by twenty-three examples. Its economic basis was evidently a combination of agriculture, fishing and trade. All these sites are situated close to protected bays or coves with sandy beaches. The majority are concentrated near excellent harbours like Pigadia, Makris Yalos, Lefkos, Palatia, Alimounda and Khelatros. Perhaps only very few of them were actual harbour settlements in the proper sense of the word, and only excavation will reveal the exact function of each individual site. This will have to be borne in mind in any discussion of the nature of these sites.

Only two settlements were strictly coastal: Pigadia, comprising sites A7-10, and Trapeza (L60). Both are situated on the innermost part of the best harbours of Karpathos and Kasos, and evidently were actual harbour settlements. The first appears to have been large enough to be called a town and was certainly the most important Minoan settlement in the Karpathos group. The second is comparatively small and may have been almost exclusively a trade post, for it possesses little and poor agricultural land.

The comparative prosperity of both settlements, as reflected in their material remains, would have been dependent on commercial wealth resulting from their nature as posts for maritime trade. The standard of living was evidently higher at Pigadia, where the rising prosperity is illustrated by architectural and domestic features such as painted plaster, which points to well finished rooms, and the variety and abundance of utensils for domestic purposes. However, painted decoration was rare and this emphasizes the provincial character of the sites.

In general, pottery imported from Crete appears to be exceptional and there is a possible Cycladic import. Most of the pottery was apparently locally made and this rather testifies to the existence of craft specialisation, for the ceramic industry now shows a relatively high degree of quality, which requires special skills. The same applies to other industrial activities such as the production of purple dye which is well documented by the abundance of Murex-shells in the Minoan deposits at Pigadia (cf. Branigan 1972, 757, and a discussion of the murex industry in Kythera 36-37). Dye-works would have been particularly prominent in connection with the manufacture of textiles. As already stated, weaving was not unknown in these islands and was probably the work of specialized craftsmen.

As already said, the majority of Minoan sites on the three islands formed single farmhouses or small hamlets rather than densely occupied settlements. This generally conforms with the earlier tradition, despite the overall increase of settlements and the demographic growth. There is only one exception: the settlement at Pigadia which suggests the emergence of a dominant coastal town, to which the smaller settlements around the island perhaps transported their surplus produce destined for export (cf. Wagstaff-Cherry in Melos 250 and fig. 19.2.3a). By its size and other standards, Pigadia evidently represents a Proto-urban development, where craftsmen and rich landowners lived and worked in comparatively comfortable surroundings. This development seems to have taken place throughout the Minoan world and beyond (Renfrew in Melos 37-38), and lies at the end of a slow and gradual process which at the end of the MM and the beginning of the LM period led to a sort of proto-urbanization based on industry and trade (cf. Branigan 1972, 753). Trade must also have been the most important factor for the rise of a new wealthy class and the marked social differentiation which was unknown in the previous period.

These signs of urbanization should not be overestimated (Renfrew in Melos 38). Aegean standards must always be borne in mind as opposed to the developments in the Near East, where analogous settlement growth had a ratio five times bigger than in the Aegean (McDonald-Hope Simpson 1969, 175. Renfrew 1972, 244). "Urban" settlements like Pigadia were in fact not vastly bigger than the Neolithic villages of the Near East.

It seems very likely that some kind of "systematic hierarchical organization" existed among the scattered Minoan communities (cf. Renfrew in Melos 270-271) which may have constituted political units. This will be even more likely if we accept that these islands were politically dominated by some Cretan town at this time. The Minoan colonization and political control at least over part of the Aegean, as reflected both in the archaeological record and in the tradition for the "Thalassocracy of Minos", seems very likely (Furumark 1950. ⁵Sholes 1956, 37-39. Buck 1962, 129 f. and espec. 136-137.

Hood 1971, 52-53, fig. 27. Branigan 1981). Some scholars, however, express scepticism about this assumption. While accepting the overwhelming influence of Crete on some of the islands, as reflected in the large quantities of imported Minoan pottery and the Minoan character of their material culture, they doubt whether the island 'colonies' were ever under any effective political control from Crete (Starr 1954/5, 282 f. and espec. 287-291). The main argument is that Crete itself was probably not politically united, being divided into several chiefdom-states. The latter is shown by the co-existence of different and apparently independent palace centres (Renfrew 1972, 367). The possibility remains, however, that at least during the Late Minoan period a large part of Crete was under Knossian control. This is perhaps implied by the picture of a centralized bureaucracy, which is created by the discovery, in widely separated Cretan sites, of sealings made by the same ring or by practically undistinguishable replicas of the same ring. It has been suggested that the sites on which replica seal-impressions have been found - the latter probably used by the ruler's representatives within his dominion - were in some relation of subservience to a single central authority, most probably identified with Knossos (Betts 1967, espec. 15, 21, 24, 26). Moreover, the Knossos Linear B tablets appear to reflect a similar political picture; the *Ko-re-te*, for instance, seem to have been in charge of settlements as majors (Cadogan 1971, 147).

Another explanation could be that different islands were dependencies of different Cretan chiefdom-states (cf. Renfrew in Melos 41 and Wagstaff-Cherry in Melos 254). Our island group, for instance, may have been under Palaikastrian control, as might be expected from its geographical position and is suggested by material evidence.

According to Renfrew, in Crete as well as at Mycenae at this time the social organization was based on the model of hierarchical minor states and principalities. In Crete in particular the Neo-palatial polities have been regarded as early state societies where "a hierarchy of palaces, villas and scattered settlements was established ... and demanded and brought about a measure of peace and internal security" (1972, 258, 364 f. Also Cadogan 1971, 146, Bintliff 1977a and Cherry 1978). The same absence of defensive problems is noticed in the Karpathos group in this period and the continuous growth of coastal settlement was evidently facilitated by peaceful conditions. The latter were probably the result of adequate control of the seas by the Minoans.

The various developments referred to above evidently reflect a demographic expansion, an increase in population density which may partly be due to successive arrivals of Minoan settlers.

I(C). Late Bronze III Period

The familiar pattern of scattered villages or hamlets continues in this period, but now they are concentrated in fewer sites. There is an apparent shift in the settlement pattern from dispersed to nucleated. It appears that the islanders now tend to confine themselves to more secure places abandoning the minor sites, which on account of their smallness and number were exposed and difficult to defend. The signs of transformation of the habitation pattern are obvious. The picture is much the same as that in contemporary Crete, where a similar sequence of events has been postulated: population decrease, desertion or severe reduction of MM III-LM I settlements, followed by a reoccupation of some of them or by the foundation of new ones in LM IIIA-B (Lasithi 1982, 17-18).

There is a strong presumption that most of the Minoan settlements in this island group were severely affected by the eruption of the Santorini volcano around 1500 B.C. The extent and the consequences of this destruction are unknown. Yet the evidence from the site distribution figures clearly points to an abrupt decrease in the number of settlements and to a general decline following the alleged damage caused by the explosion. The picture is much the same on most south-eastern Aegean sites and on the coastal areas of north and east Crete, where most of the sites were devastated in LM IB and re-occupied in LM IIIA1 (Popham 1980). The destruction in Crete, however, appears to have taken place a generation or so after the eruption, and seems "to imply a complete overthrow of the existing social order as a result of invasion and conquest" (Hood 1971, 58, fig. 28). Be that as it may, both settlement pattern and material remains appear to reflect new factors operating in this period, such as ethnological, political and economic.

As far as the problem of continuity into LM II is concerned, there seem to be three explanations: first comes the defectiveness of the surface survey already referred to; second and more important, is the fact that LM IB and especially LM II pottery has but rarely been found outside Knossos itself, the Knossian imports of course excepted (Pendlebury 1939, 208. Analysis 151, 164 f. Chronology 81 f. Maisons II, 153; III, 68 f. Palaik VII, 217 and n.15. Popham 1970A, 87); and moreover, the assumption that LM IB elsewhere was contemporary with LM IIIA1 and even LM II at Knossos (but see Popham 1975 and Watrous 1981). At Trianda, for instance, a local provincial Sub-LM IA class of pottery was still current when the site was deserted during LM IIIA1 (Furumark 1950, 260 f.). We have already referred to relevant figures from north and east Crete, where the bulk of the sites were apparently deserted and reoccupied in LM IIIA1, during which period there was an influx of imported Cretan pottery in Karpathos. The third explanation is that the label LM II may not have a chronological validity, since it appears not to be stylistically distinct from the LM IB. It has recently been argued that these two periods

seem to coincide or to largely overlap chronologically, and that a division between them is not viable (PM IV, 297 f. Vermeule 1964, 146 f. Niemeier 1979).

The preceding transitional LM II/III A1 period is represented by very few Minoan imports and the same picture is seen in the Argolid, Cyprus and elsewhere (Furumark 1950, 260).

The LM/LH III A2 period is the most overwhelmingly represented by Minoan as well as by a few Mycenaean imports. This is hardly surprising given its comparatively long time-span. In the course of LM/LH III B1 Minoan and Mycenaean imports continued, whereas from the following periods III B2 and III C they seem to be wholly absent, with the exception of some "possible" fragments.

Thirteen sites belong to the LM II-LM/LH III period (fig. 6). Of these eight are burial sites and only five settlement sites. One of the cemeteries and four of the settlements continued in use from MM III-LM I (A7, A 11, D29, E34, G52). One site (M71) which is an inland steep-sided acropolis, was again occupied during FN-EB 1. Ten sites have produced both Minoan and Mycenaean evidence, and the remaining three only Minoan. Only one of the settlements is clearly a harbour town continuing from the last period. Seven sites belong to the familiar hill-side type and are situated close to the coast. The other five are inland sites.

With the exception of D31, all six sites which yielded probable LM/LH III evidence appear to be Mycenaean rather than Minoan. Three of them (A12, E36, J56) are rugged promontory sites with a Mycenaean-looking acropolis and remains of "cyclopean" walls on two of them. The other three (A1, D31, L65) are inland sites, two of which are caves. The latter were probably occupied in the LN-EB 1 period as well.

It is thus interesting to note that in a total of nineteen certain or possible LB 3 sites only five were in use during the preceding MM-LM I period (A7, A 11, D29, E34, G52), whereas three sites were occupied in the LN-EB 1 (A1, E36, M71). The remaining eleven appear to be new sites, if not all at least the great majority of them. The same picture was observed in Messenia and Crete, where there are more new sites at this time than sites continuing from the last period (Renfrew 1972, 257). Three of our new sites are inland sites (E40, D31, F42) and so are another four sites which were also occupied in the preceding periods (A1, E34, G52, M71). If we now add the Mycenaean-looking promontories A12, E36 and J56, we have a total of ten sites, the location of which is incompatible with the familiar model of Minoan settlement pattern in the previous period.

The change in the settlement pattern is a striking one. The preference for a concentrated as opposed to a scattered settlement pattern might be related to political conditions or even overall population increase (cf.

Bintliff 1977, 133 and Wagstaff-Cherry in Melos 258). Another explanation could be that emerging unsettled conditions induced a shift away from the sea and a quest for defensible sites. Security seems now to be preferred to accessibility of economic resources, and strategically located and isolated heights or "hill fortresses" became fashionable as in Middle Helladic Greek Mainland (McDonald-Hope Simpson 1969, 174). Most sites show by their location that defence was now of primary importance. Piracy may well have been responsible for this change in settlement distribution and type (cf. Renfrew 1972, 262-264. Wagstaff-Cherry in Melos 259 f. and Thucydides I.4 and 8.1-2). On the other hand Mycenaean aggression seems a very persuasive, although simplistic, explanation. The fact that five of the sites which were already occupied by Minoans in the preceding period, seem to be rather unsuitable for the Mycenaeans to settle does not exclude the presence of the latter there. On Rhodes, Kos, Iasos, Miletus and elsewhere the Mycenaeans settled first at sites colonized by Minoans (Mee 1982, 83).

Besides the figure presented by the settlement pattern, the material evidence is also very instructive in this respect, documenting the increasing diversity and specialization of the economy, as well as the marked social differentiation. As in contemporary Crete where the old communal tombs were replaced by relatively small family tombs (Hood 1971, 147), the introduction of the chamber tomb may have been stimulated by the increasing wealth and complexity of the society, which resulted in the loosening of clan ties (ib. 57). The gap between rich and poor must have become wider now, the former being able to furnish their burials in a more expensive and lavish way.

The presence of powerful rulers and of a military aristocracy, either Mycenaean or local Minoan, seems very likely. The rise of wealthy social classes and dominant families, who probably controlled industry and trade, is well evidenced in the cemeteries of Karpathos. Among the fine pottery deposited in the tombs the most prominent, both in quality and number, are drinking vases and pots apparently used for the mixing and pouring of wine. This is hardly surprising given the popularity as well as the economic and social significance of this commodity in the LBA Aegean, especially among the rich classes (Renfrew 1972, 281-285, 290).

The wealth of the chamber tombs in various parts of Karpathos stresses the social importance of the individual and perhaps reflects Mainland tastes (Hooker 1969, 64). Furthermore, the presence of sophisticated weapons among the tomb furniture implies the existence of a local warrior aristocracy. These warriors were also probably landowners and rich farmers at the same time (cf. the evidence of the linear B tablets: Palmer 1965, 105, 143-144. Ventris-Chadwick 1973, 232 f.). It appears that the picture in our island group is much the same as in Crete, where after a long period of peaceful development society begins to acquire some distinct characteristics, even before

there was any considerable degree of Mycenaean influence: there is a marked turn to militarism and to a more rigidly hierarchical social system with, perhaps, a central authority to which the peasants were rendering services and tribute (Furumark 1950, 259. Willets 1969, 138. Hood-De Jong 1952, 243 f. Hood 1971, 59-60). These signs of centralization and settlement hierarchy in the society of the islands concerned is now more in evidence than ever before (cf. Bintliff 1977, 136 f.).

The centralized political organization probably accounts for the decrease in the number of settlements. It seems that the tendency towards a kind of proto-urbanization, which started in the previous period, now becomes more intensive. This, along with the rising prosperity in the LM/LH III communities, probably led to the growth of population which perhaps went on increasing until the end of the IIIB period, as in Messenia and Crete (Renfrew 1972, 257).

While the great majority of the population would have continued to live in a relatively modest way, by means of a combination of farming, herding and hunting, the higher standard of living, at least of the ruling classes, is clearly reflected in the technical perfection of the vases found in the chamber tombs of Karpathos. Most of them were imported from east Crete and Rhodes. Intensive trade relations must have existed between these two areas and the islands in discussion. In addition, relations with the Peloponese and particularly the Argolid also seem likely. The ability to acquire such high quality pottery along with expensive weapons seems to suggest that Karpathos acted as an emporium.

II. RELIGION AND BURIAL CUSTOMS

Religion and burial customs both formed an integral part of Prehistoric life. The more we know about them, the better our understanding becomes of the social behaviour of Prehistoric man. With regard to the islands under discussion the relevant evidence is meagre, although future excavation may add to our poor knowledge of Prehistoric religion and burial customs.

The islands of the east Aegean have been regarded as stepping stones in the transmission of ideas and cults from the East. This is especially true of our island group and Rhodes, which together form a natural bridge between Crete and south-west Anatolia (fig. 3). It was probably from Anatolia that most of the oriental religious ideas were introduced into the Aegean during the Early and Middle Bronze Ages, when Minoan Crete was the major Aegean centre. During this period strong cultural interactions between the Near East and the Aegean led to the formation, within the latter region, of a civilization with its own distinctive character, although apparently very dependent on oriental models. This debt of the Aegean to the Near Eastern cultures is best exemplified by the religious beliefs of the Prehistoric Aegean. It should be borne in mind,

however, that the basic cultural elements of the Aegean were probably native to this region and their development and transformation in the course of time was due to local evolution rather than to diffusion or migration from the Near East.

As far as our islands are concerned, their religious and burial customs both appear to have been influenced by the Near East as much as by Minoan Crete. As might be expected, the influence of the latter is more markedly felt. Yet it should be remembered that certain elements of Minoan religion were nothing but an adaptation of oriental ideas. This dual influence on the cults of the islands under discussion was still in existence during Historical times (Craik 1980, 170-172, 183-185, 188).

II(A). Neolithic and Early Bronze Age Religion

Little can be said about the religious customs during the Neolithic and Early Bronze Ages (cf. Treuil 1983, 505 f.). The stone figurine from Pigadia was a stray find, not related to any context and is therefore difficult to interpret. There can be little doubt, however, that it had some religious significance, probably connected with a belief in supernatural forces which affect the life of man particularly in the matter of fertility.

The figure portrays a nude female in a schematized rendering. The posture is familiar in the Neolithic and Early Bronze Age Mediterranean, while its size and the markedly pronounced features such as the nose and genitals, are unique in the Aegean.

Among the many interpretations suggested for these figures, the most likely appears to be that they represent the Mother Goddess, who was venerated in Asia Minor and north Syria from earliest times. The cult of this goddess was evidently introduced to the Aegean from these areas (Nilsson 1950, 392 f. Weinberg 1951, 121 f.). According to Nilsson (1950, 2) "Nature religion is associated to the soil" and this certainly was especially true in the earlier Prehistoric periods, when the worship of the Mother Goddess seems to have been extremely popular throughout the Near East and the Mediterranean. In Crete, the Neolithic Magna Mater was later transformed into the Minoan Goddess who appears in various aspects, such as the Mother of the mountains, Mistress of animals, Snake or Dove Goddess, Tree Goddess, Poppy Goddess, etc. (Nilsson 1950, 389 f.). It must be noted, however, that emphasis on maternity is less marked in Minoan Crete than elsewhere.

The Anatolian and Near Eastern affinities of our figurine have already been stressed. This confirms the assumption that various oriental elements, including religious ideas, were being transmitted into the Aegean by way of the east Aegean islands, in particular the Dodecanese. The most common and distinctive of these ideas was evidently that embodied in the Mother Goddess.

If the Karpathian figurine was really meant as an image of this deity,

its size rather suggests that it was probably a cult statue, especially as similar figurines of much smaller size have been regarded as cult idols. In view of the recent discoveries on Kea (Caskey 1981, 129 f.) and elsewhere in the Aegean, it seems possible that the Karpathos figure came from a sanctuary.

There is no general agreement on the function of the Prehistoric Aegean idols (Treuil 1983, 498 f.); as Nilsson put it, "it is a commonly accepted view that these figures are idols in the sense of images of a Goddess who, owing to the material forms of the figures, is termed a Mother Goddess ... This supposition does not reckon with the artistic and other impulses of man, which may have caused him to model an image of a woman ... Images are also used for magical purposes by primitive man and this magic use precedes on the whole the religious representation of gods. Secondly, images, especially of women, are often placed in graves by the side of the dead" (1950, 290-291). In this connection it should be borne in mind that ^{most of} the Cycladic marble idols were certainly grave offerings designed to serve the dead in the after-life (ib. 293).

II(B). Middle Bronze Age and Late Bronze Age Religion

The evidence from this period can be divided into two categories:

(a) Cult Places and (b) Cult Objects.

(a). Cult Places

The evidence for cult places on the islands under discussion is slender and shadowy. It consists of possible traces of some kind of ritual which was perhaps taking place in four particular sites. Two of them are caves and the other two promontory summits. Despite the lack of convincing evidence their identification as cult places is not unlikely, especially if we consider "how large a part the worship of certain natural features such as mountain-peaks, caves and rock-shelters played in the Cretan religion" (PM I, 151). In what follows we will consider each of these sites in turn and argue the merits of the individual identifications.

The cave of Ais Minas on Karpathos is a coastal site situated not far from the MM-LMI sites of Lakos and Midi. A couple of small sherds found outside the cave may be Middle or Late Minoan and so may also have been some of the internal features already referred to. The ritual use of this cave in Minoan times seems possible and its sacral character in modern times may well reflect an uninterrupted continuity of the cult from Prehistoric times. In Crete as well as in the rest of the Aegean hundreds of caves were used as dwellings from Neolithic times and continued to be used as cult or burial places (Evans 1931, 5 f. Nilsson 1950, 53 f. and 458 f. Marinatos-Hirmer 1960, 36-37. Rutkowski 1972, 40-44. Faure 1964. Willetts 1962, 141 f.; 1969, 179. Leuven 1981, 13-14).

Ellinokamara is another cave site lying at a fairly long distance from the major Minoan settlement of Khelatros on Kasos. The evidence is again extremely meagre and dubious, consisting of a few possibly Minoan or Mycenaean sherds, as well as stone blocks with alleged Linear A or B signs (Susini 1963-4, 206-208 and fig. 6). Both the location of the cave and the material remains are too insufficient for the site to merit identification as a cult place.

We come now to the two promontory sites, namely Vouno and Leftoporos. They were intensively settled in LN-EB 1, but evidence for later occupation is confined to a few Middle Minoan cups. The identification of these sites as Peak sanctuaries appears to be possible, especially if we apply the criteria of Blackman and Branigan (1977, 41-44, 71-72). The features which conform with these criteria, assuming the latter are correct, are summarized as follows:

- (1) both are standing close to Minoan settlements and tombs. The pottery from these settlements (D20-22 and E38-39) is contemporary with the Minoan ware found on the promontories. If the latter were actually peak sanctuaries, apparently they served the adjacent settlements and were probably related to specific areas of territory occupied by a certain clan or extended family.
- (2) the situation of both sites is very prominent, especially in relation to the neighbouring Minoan settlements; and moreover, their bare limestone sides are very conspicuous, for they catch plenty of sunshine.
- (3) on both sites there are abundant remains of walls, both perimeter or retaining ones as well as foundations of buildings. Nearly all of them have already been tentatively ascribed to the LN-EB 1 periods, but only excavation can definitely decide their date. The site of Vouno seems to be more compatible with the general criteria. Its rocky peak is enclosed by a cyclopean-looking wall which may prove not to be LN-EB 1 as we think, but Minoan. There is analogous evidence from Leftoporos, where traces of cyclopean-looking retaining walls are seen lower down on the hill-slope. The tops of both hills are strewn with wall foundations and stones from ancient structures. The bulk of the associated finds consists of obsidian, LN-EB 1 pottery and stone querns. Yet the possibility remains that some of these walls belonged to a 'temenos' related to the cult which was probably practised on these peaks.
- (4) on both sites there are only very few MM III conical cups, with no other Minoan pottery associations, implying domestic activity. This is very significant, especially in view of the nature and size of the sites themselves, which are utterly unsuitable for Minoan occupation. Furthermore, some of the stone querns and stone rubbers found on the sites may be contemporary with the cups. Such stone equipment has often been found in Minoan Peak sanctuaries. To return to the importance of the cups, the evidence from Leftoporos is of interest: the cups were all found concentrated on one spot and this probably

suggests the location of the ritual.

In addition to these main points, one minor detail may be of relevance: many sea-shells of all sorts were noted on both sites. Such objects were found in the Knossian Temple Repositories (i.e. the Shrine of the Snake Goddess) and elsewhere, and may have been associated in some way with Minoan ritual (Pseira 25-26. Sakellarakis in Neolithic Greece, 145). It should be borne in mind, however, that while the actual sites do conform with the criteria referred to above, the material evidence is inadequate. Only excavation may perhaps reveal more convincing data, such as figurines and other obvious votives, fires, burnt deposits etc. (cf. Rutkowski 1972, 45-48 and Sanctuaries and Cults 209 and 216).

The peak sanctuaries were perhaps intended for the veneration of the Minoan Mountain Goddess (PM I, 154. Nilsson 1950, 76). Along with the sacred caves, they should be considered typical of Minoan popular religion (Nilsson 1950, 56 n. 11. Marinatos-Hirmer 1960, 36. cf. Hägg 1981). Modern investigation has shown that the peak or "high place" sanctuary, taken in the broad sense of an elevated place of worship, was not confined only to Crete (Leuven 1981, 13). It is interesting to note that today the villagers of Menetes in Karpathos climb up each year, on the first Tuesday after Easter Day, to the peak of Profitis Elias (elev. over 400 ms.) where they spend the day with celebrations, in honour of Christ's resurrection (cf. Lasithi 1982, 13).

(b). Cult Objects and Symbols.

This kind of evidence consists wholly of complete or fragmented ritual clay vessels and vases with religious scenes. The ritual vessels have already been divided into rhytons, composite vessels and bird-vases.

The rhytons 1268 and 1269 are both of Minoan manufacture and probably came from a chamber tomb. According to Koehl (1981, 187), these vessels were used by the Minoans from MM IIB to LM III in both secular and cult contexts. The first is in the form of a bull's head and the second bears a bull's head attachment on the shoulder. "The lasting importance of animals and birds in the Cretan mythological and religious tradition has long been recognized" (Willetts 1962, 71); and despite Nilsson's doubt whether this kind of vessel had a pre-eminently religious function and his assumption that they may have been just "fanciful vessels of luxury" (1950, 145-146), there can be little doubt that our rhytons were ritual objects. They were evidently used for sprinkling and pouring libations to a certain deity related to the bull. The latter may have been one of the symbols of the divinity and was perhaps the most common animal sacrificed to that particular god. That this kind of rhyton was used to hold the blood of the sacrificed bull remains to be proven.

While it is unlikely that the bull symbolised a female divinity, there

is a strong probability that this animal was somehow related to the Minoan Mother Goddess, whose worship goes back to Neolithic times. However, the possibility remains that the bull was eventually nothing but a symbol of fertility.

The presence of such vessels in tombs may be explained in two ways: either they were related to the cult of the dead who were thought to share divine nature with the Mother Goddess; or they were used in annual memorial ceremonies, taking place in or near the tomb, with the purpose of appeasing the gods of the underworld. In either case, Mycenaean influence cannot be questioned. This is also corroborated by the presence of rhyta in Mycenaean graves from LH I and their absence in Minoan tombs before LM III (Koehl 1981, 187).

While the special prominence of the bull in Minoan religion cannot be disputed (PM II, 324, 676; III, 203 f.), its exact position within the cult framework remains to be discovered. Was it worshipped even in Crete? Or was it just an animal attribute of the god? In either case it seems likely that priests or worshippers, dressed in bull's skins, were performing some rite connected with the cult (Nilsson 1950, 155). Furthermore, the sacrifice of a bull would have been thought of as the supreme gift to the deity. Bull sacrifice in funeral rites is well documented by the Hagia Triada sarcophagus (PM IV, 43). It seems clear that for reasons of economy most people considered it sufficient to offer to the divinity only choice parts of the bull or its blood in bull's head rhyta "just as in the early Chinese ritual the blood was offered in a bronze vessel made in the shape of the animal that was sacrificed" (Gournia 52).

The cross-shaped decorative motifs on one of our rhytons may be of interest, given the position of the cross as a religious symbol in the Minoan ritual (Nilsson 1950, 421 f.).

As well as the bull, birds and particularly doves were also held in high esteem as religious symbols in Minoan times. As Nilsson put it, "the bird as well as the snake is the embodiment of the deity, a form of its epiphany and is added to the anthropomorphic representations to make its significance clear in the same way as an attribute is added to the image of Greek God" (1950, 332-333). The bird continued in the Historical periods to be regarded as a symbol of religious character (Pollard 1977).

Two "bird" vases are known from Karpathos. Both came from chamber tombs and probably served the same function as the rhytons. One is a coarse bowl with bird's head attachments and is not illustrated here. The other (36) is a neck-and-head fragment from a dove-vase which bears signs of burning inside.

According to Nilsson (1950, 334-335), it is uncertain whether every vase with birds is of religious value, for animal bowls were probably made

for votive purposes as well. Yet the discovery of terracotta birds in Minoan house sanctuaries in association with female figures makes it possible that they may have been meant as one of the attributes of the goddess. We have already referred to the shrines of Knossos, Gournia and Palaikastro, where a Dove Goddess of a chthonic and fetish character was probably worshipped (PM I, 180, 222-223, 508, 576, 635; II, 336-340; IV, 391, 405-407. Nilsson 1950, 77 f., 334 f.).

Clay doves were also sometimes dedicated to divinities on Peak sanctuaries and their votive character here cannot be disputed (PM I, 153. Nilsson 1950, 70, 335). The dove may have had religious connections in Crete from as early as the Middle Neolithic period and this is hardly surprising, given the early and widespread distribution of the Dove cult in the east Mediterranean (PM I, 43-44 and fig. 11. Nilsson 1950, 336).

The association of the dove with fetish forms of deities is exemplified by the discovery at Knossos of various kinds of "sacred" pillars or posts surmounted by doves. These probably impersonate the alighting of the divine spirit onto the pillars, that is the descent of the celestial influence upon the fetish form of the deity (PM I, 222-223; IV, 25-26). The posture of the doves is of significance: their wings are neither extended nor closed for rest (cf. Palaik. III, 219-220). Doves in a similar position often occur in Cretan-Mycenaean religious contexts, such as the gold imitation of a tripartite shrine from the shaft grave III in Mycenae (Evans 1901, fig. 65). This posture probably implies the movement of perching after a flight, that is an epiphany of the deity (Nilsson 1950, 330 f.). This descent of the spirit of the divinity may be in response to some appeal in the ritual that the deity should draw near.

Some of the birds, so frequently depicted on Minoan vases (such as C21 and C97) in various positions and contexts, may represent divine manifestations or forms of the spirits of the dead (Nilsson 1950, 330 f.). The latter were sometimes provided with dove figures, which were believed to serve as talismans (Glantz 1925, 239).

Two small jars from Karpathos (48 and C97) belong to composite vessels, the sacral character of which seems very likely. As Nilsson put it in his discussion of the function of Minoan-Mycenaean composite vessels, "they are for the most part of a shape which makes them unfit for practical use ... The shape taken together with other circumstances is a strong argument for the sacral character of these vessels. On the other hand it must be remembered that the same vessel may have been used in daily life as well as in the cult" (1950, 143-144).

C97 is decorated with two birds feeding on flowers and flanking chequer-board patterns. Their tails fan out and their feet were drawn up underneath

them, suggesting that the birds still hover in the air. It has already been seen that this posture may represent a model of a celestial aspect of the deity. The ordinary theme of feeding birds, so common in Minoan wall paintings, has evidently been converted here to a sacral scene, probably a representation of divine epiphany (Vermeule-Karageorghis 1982, 158). Another bird appears incidentally on the piriform jar C21, in the context of papyrus plants and argonauts. Its function appears to be purely decorative, without any religious meaning.

The decoration of the fragmentary crater C82 has certainly a symbolic meaning "in some mute ritual sphere" (Vermeule-Karageorghis 1982, 125). Two of the objects depicted seem to be purely symbolic: (a) the rod-shaped object on the left, which looks like a rattle or sistrum, probably should be identified as a kind of sceptre. Nearly identical objects are carried by the "priests" on the Episkopi Ierapetras larnax (Kanta 1980, fig. 63:1). (b) the isolated four-spoked wheel next to the "sceptre" is identical to two chariot wheels, which appear on the same larnax. Similar isolated wheels can be seen on the Mycenaean "circus pot" (Vermeule-Karageorghis 1982, no. VIII.8). The wheel when found in a burial context, either on larnakes or pots offered as grave goods, is probably meant to represent the voyage of the dead to the isles of the blessed (Rutkowski 1968, 226-227). Yet in its general religious content it may have incorporated wider symbolic meanings, such as those represented by the relevant cult symbols of the cross and the star. The latter may be related to the moon aspects of the Great Minoan Goddess. The moon and the sun had a significant position in the religious ideas of the Minoans, but it is unknown if they also had a cult (Evans 1901, figs. 4 and 41. PM I, 514-517; IV, 94, 441 and 589. Gournia 51. Nilsson 1950, 412 f. and figs. 55, 158, 189-195).

Next to the wheel there are four vases: two pilgrim flasks, both decorated with a central rosette and radiating spokes or reserved ladder-patterned circles, apparently imitations of a wheel. Between the flasks there are two high-handled kylikes, plain or monochrome, stacked one above the other. Similar kylikes are carried by men on the Episkopi larnax (Kanta 1980, fig. 63:1). The presence of pots in pictorial vases is generally rare. They usually appear in association with human figures. "Since the flask and the kylix are regarded as funerary gifts to important persons as well as objects that play ritual roles, their associations with the wheel and the rattle or mirror suggests a fairly elaborated set of funeral images in the early Mycenaean world" (Vermeule-Karageorghis 1982, 159).

It seems most likely that the designs on our crater are indeed symbols of a funerary character. And they appear to symbolise the dead's departure to the other world rather than a funeral procession in honour of the dead (cf. Kanta 1980, 157). The analogies with the famous sarcophagus from Episkopi are of

significance and Vermeule's comments on the latter may apply, to a certain extent, to our crater too: "The panels are like a handbook of funerary imagery which is now beyond us to decode ... These images are harder to understand than the lovely naturalism of the Palace Age, but there is perhaps more thought at work behind them than before. They were certainly passed on to Cretans after the Dark Ages, perhaps the kind of rich vision of the supernatural which gave these Cretans so formidable a reputation as sagest religious experts" (1968, 92-93).

II(C). Burial Customs

Nothing is known about the burial customs on our island group before the LM II/III period. There is only a reference to a few MM III-LM I vases allegedly found in a chamber tomb at the Karpathian locality of Sisamos (Hope Simpson-Lazenby 1962, 160). This is hardly surprising in view of the fact that, even in Crete, tombs are remarkably scarce in the Palatial Periods and this led Nilsson to presume that "evidently the Minoans cared little for their dead" (1950, 440). Nilsson's assumption, however, appears not to hold good and the scantiness of graves before LM II is an insufficient argument to prove that the Minoans neglected their dead. The evidence from the Minoan colony on Kythera, for instance, points to the opposite: the bulk of the Prehistoric graves discovered there, fall within the Golden Age of the Minoan Civilisation and were well equipped (Kythera 220 f.)

Furthermore, the idea of an Elysion, of isles of the blessed, is considered to be a legacy from Minoan Crete (Nilsson 1950, 623 f.); and from the very beginning the Minoans seem to have believed, like the Egyptians, in the after-life, although many of the burials in the old large collective tombs were unaccompanied by grave goods. Some kind of cult of the dead was probably practised from Early Minoan times, as witnessed by the cult rooms attached to some of the Mesara domed tombs. There is more concrete evidence for such a cult in the same area in the period around 1600 B.C.: a clay model from a tomb at Kamilari portrays two couples with offering tables in front of them, where food and drink is offered. A similar scene with the deification of a man is depicted in a more elaborate way on the Ayia Triada sarcophagus which is over two centuries later in date (Hood 1971, 139. Nilsson 1950, 426 f.)

The whole body of evidence we have for the Prehistoric burial customs on the islands under discussion comes from Karpathos. Due to the circumstances of the grave discoveries it appears to be rather insufficient. The evidence comes exclusively from burials made in chamber tombs. This kind of burial place is normally a collective one, for whole families were interred in it over a fairly long period of time.

No complete plan or section of these tombs has survived and the length of their dromos could not be determined. It is fairly certain, though, that

they belonged to the standard type with a rounded chamber carved deep into the rock and approached by a narrow passage which, as a rule, had its sides sloping inward. In Crete this kind of tomb appears in LM II, bringing about a revolution in burial customs and becoming the almost exclusive new style of burial place in the Aegean. According to Hood (1971, 58-59, 147 and fig. 29) the Cretan chamber tomb "may have been evolved there under the influence of Egyptian and Cypriot models. The dispatch of captive architects and artists to the Mainland after the conquest (of Knossos) could have been responsible for the rapid spread of this type of tomb and other Cretan fashions there".

As elsewhere at this time, the usual rite was inhumation. The bodies were normally laid on the floor of the chamber in an extended position. The quantity and quality of the grave goods, some of which may have held food and drink, testifies to a growing belief in the after-life. This may also indicate some kind of cult of the dead, a fact which is also implied by the presence, among the tomb furniture, of bull's head rhyta or vases painted with scenes related to funerary rituals, which have already been discussed, as well as fire boxes, incense burners etc. In this connection special reference should be made to the five Minoan stone vases found on Karpathos and Kasos, most of them in chamber tombs. These small vessels have a receptacle which is very small in proportion to their bodies and they may have been perfume boxes or even offering tables. According to Nilsson (1950, 130), "it is most probable that these objects had a cult purpose". Their frequent occurrence in graves appears to indicate certain associations with the cult of the dead. The custom of continued funeral cult has been considered to be of Mycenaean origin. It has been proposed that in the Ayia Triada sarcophagus the Mycenaean veneration of the mighty dead and Egyptian divinization of the dead were mingled with the Minoan divine cult (Nilsson 1950, 441-442, 616. Mylonas 1948, 56 f.). The evidence suggests that "in some manner not yet clear to us there seems to have been a peculiarly close connection between the worship of an Earth Goddess and the honours paid to the dead who had descended to her realm" (Gournia 51).

As a rule, the chamber tombs were reopened from time to time to accept a new interment and perhaps for ceremonies in honour of the dead. Some of the vases found on Karpathos among the tomb furniture were evidently related to the fumigation and purification processes which were taking place at that time. The bones of the preceding burial were swept aside or perhaps even thrown out of the tomb. This would suggest that it was no longer of any importance after the decomposition of the body and was subsequently treated with less respect (Mylonas 1948, 70).

In the chamber tomb at Vonies, besides the floor inhumations there was a larnax burial, as well as traces of a partial cremation (fig. 16). It is one of the rare cases in the Aegean world where these three burial practices

appear side by side.

Burial within a clay larnax was exclusively a Cretan practice in the earlier times, but in LM III it spread throughout the Aegean, especially in areas more exposed to Minoan influence (Pendlebury 1939, 65. Rutkowski 1968, 225). The earliest examples are dated back to the EM I period and the practice continued throughout Minoan times without interruption (Pyrgos: AD 4 (1918) 136 f. Sphoungaras 48. Pachyamnos pls. XII and XVII:C. Lasithi I, 90-91. Nilsson 1950, 55-56. Rutkowski 1966, 129-130; 1968, 220).

It has been suggested that the custom may have originated from Egypt and Mesopotamia, where a use of sepulchral chests earlier than in Crete is attested. However, a local development seems more likely, the clay chest being a cheaper substitute for the wooden coffin. On the other hand the use of clay larnakes for domestic purposes in Crete probably preceded its use as a sarcophagus and it is very well known how household items were often put into funerary use (Rutkowski 1966, 135-136; 1968, 220 f.).

In our larnax only part of a skeleton was found, namely the skull and certain leg fragments which were associated with a few vases. This probably suggests the practice of secondary burial which in Crete was common in the EM and MM times, as shown by the discovery of many ossuaries belonging to these periods. The custom appears to have persisted in the LM III period with infrequent instances and in a new form: the skull and the principal bones were placed in a clay coffin together with grave offerings. In the earlier larnax burials the latter were placed outside the coffin (Palaik. IV, 290 f., fig. 17; V, 2-3. PKU 141-147, 160).

About one metre west of the coffin there was a thin layer of ash and black earth containing small pieces of burned bone, mainly from a skull. The bones were charred rather than calcined and this implies that the cremation was quite short. Similar depositions of cremated and often incompletely burnt bones on the floor of chamber tombs beside inhumations, although without traces of ash or charcoal inside the tombs, have been found at Ialysos (Mee 1982, 27-28) and Perati (Iacovidis 1970, 31 f.) as well as at Múskebi in Caria, all areas in some sort of contact with Karpathos during late Mycenaean times. At Múskebi there was also a single example of a layer of ash on the floor with no skeletal remains (AJA 71 (1967) 16). Combination of larnax burial, floor inhumation and cremation has also been observed at Praisos on east Crete and at Assarlik in Caria (AR 1960-1, 23. JHS 8 (1887) 70).

There may perhaps be a second Late Minoan cremation from Karpathos: the LM IIIA2 pots from Tou Stavrou To Kefali (our nos. 363-370) were reported to have been found within a large vessel, which probably is our amphoroid crater 362. No further details are known, but it seems that the crater may have been used as a cremation urn exactly as at Moulia on east Crete (Desborough 1964, 187-188). Analogies are also presented by the pithos cremations of Olous and

Vatolakos in Crete (Hutchinson 1962, 231. Mavriyannaki 1967-8, 167 f.). It is equally probable, however, that the burial in the crater 362 was a simple inhumation, as was a similar crater burial from Ephesos (Mee 1978, 127).

At Vonies the grave offerings, which were associated with the cremation, date predominantly from LM IIIA2-IIIB1, so that the practice of cremation within the tomb might be considered contemporary with those at Mūskebi (Boysal 1967, 37-38 and 1967A, 79) and earlier than those at Ialysos and Kos which are LH IIIC (Mee 1982, 27-28. Morricone 1965-6, 204). There is little doubt that cremation was introduced to the Aegean from Anatolia by way of Mūskebi and the south Dodecanese (Iacovidis 1970, 43 f. Snodgrass 1971, 157-158 with fig. 68. Melas 1981, 132 f. with map 4, and 1983B). It made its first appearance in LBA Greece well before 1300 B.C., with isolated examples on Kos, Rhodes and Karpathos. The transmission to Crete appears to have been rapid and there followed the spread into the Cyclades and the Greek mainland. The route along which the custom spread into the Aegean is well illustrated by the distribution of Mycenaean cremations within this area (Iacovidis 1970, fig. 3). The majority of them are either situated in the south-east Aegean or else facing that direction.

III. RELATIVE CHRONOLOGY, POPULATION AND EXTERNAL RELATIONS

With this concluding section we come to the main objective of our study, which is of a synthetic nature, that is to reconstruct the Prehistory of the three islands in its chronological sequence and in relation to other Aegean cultures. The synthesis will be based on the preceding analysis of the archaeological facts (Chapter Four) in conjunction with results obtained from other disciplines, such as linguistics, etc. Much will also be gained from relevant data resulting from the previous discussion of the settlement patterns, the economic and social background, as well as the religion and burial customs (Chapter Five, I-II). Our primary concern will be about the origin and character of the Prehistoric population of the islands and their external relations other than trade, which has already been discussed. This can only be achieved by determining the cultural position of the three islands within the framework of the Prehistoric Aegean.

The relative chronology of the archaeological evidence, which has already been discussed in Chapter Four, will be the principal means of defining the cultures of the islands in relation to neighbouring ones. We must remember, though, that the evidence is at best circumstantial and by no means provides conclusive answers to specific questions.

III(A). Neolithic and Early Bronze Ages

Eighteen sites on Karpathos, Saros and Kasos have produced pottery and lithics which have been identified as Neolithic or EBA. The relevant pottery

sherds cannot be described as particularly diagnostic, and their dating cannot be conclusive until Neolithic and EBA sites are excavated. On the present evidence, the earliest traces of occupation can be dated back to the Late Neolithic. Only two sites appear to have been occupied during that period, namely Tripes (D25) and Leftoporos (E35) on Karpathos. The evidence is rather scanty and inconclusive; it consists of a few retouched obsidian artefacts, including two bifacially worked arrow-heads, a stone chisel and some pottery fragments such as 785-787. These fragments present certain affinities with Saliagos, Kalymnos and the lower cave of Ayio Gala. The site of Poli on Kasos (M71) may also have been occupied during the LN period, as suggested by the potsherds 1553-1554, which could be dated to this period.

More significant seem to be the arrow-heads which have been regarded as typical Late Neolithic types (Melos 27 f.) and occur exclusively in the Cyclades, the east Aegean islands and to a lesser extent on the Greek Mainland (Hood 1974, 26). It is interesting that none have been found in Crete or on western Anatolia.

Some of the fine stone axes found on Karpathos and Saros may be Late Neolithic rather than later. They find exact parallels in Crete where they abound. They are also common in western Anatolia, but are extremely rare in the Cyclades. Although these facts may be coincidental, they appear to confirm the assumption that, as with the other local Aegean cultures (cf. Saliagos 91) and despite the cultural affinities, the Late Neolithic culture in this group was indigenous. Yet there were certainly antecedents sharing common features with the ancestors of the Late Neolithic Aegean cultures. These antecedents remain to be found in the future. Until this is done, all that can be said is that the first inhabitants of the islands under discussion, like those of Crete (Hood 1971, 28) came from the east by sea, some time within the Neolithic period, if not earlier. As Evans put it (PM I, 14) "Neolithic Crete may be regarded as an insular off-shoot of an extensive Anatolian province". This is of course even more true of the islands concerned.

It has recently been suggested that, as the evidence from settlement patterns and pottery affinities shows, there was probably during the Late Neolithic an influx of immigrants from Anatolia into Crete (Warren 1973, 41-43). As far as the Aegean as a whole is concerned, until 1962 there was general agreement that it was the EBA Aegean cultures that were directly derived from south-west Anatolia by the immigration of people and ideas through the eastern islands. Matz (1962, 53 f.) was the first to conclude, on the basis of Hacilar V-I, that the so-called EBA Aegean Koine should be rejected, and that there were only minor racial influxes, if any, into the Aegean during that period. On the other hand the strong cultural connections between Late Neolithic Aegean and Early Chalcolithic Hacilar might suggest a Neolithic Koine, during which period immigrants from south-west Anatolia brought with

them place-names with -ss and -nt or -th suffixes which spread into the Aegean (see also French 1968, 1-6). Kretschmer was the first to draw attention to these widespread similarities of place-names which imply a linguistic continuum extended from south Anatolia to Greece and Crete (Haley 1928. Schachermeyr 1955, 329 f. Hooker 1976, 14). It must be remembered, however, that many of the pre-Greek place-names, which were thought to be of west Anatolian origin, are now regarded as Indo-European (Carnoy 1960. Georgief 1973). The likelihood of such an early immigration is perhaps corroborated by anthropological evidence: in Aegean tombs of this time the broad-headed Anatolian type is in competition with the long-headed and long-faced Euro-African type (Myres 1949, 198).

To return to the question of the islands, if one had only as a basis (figs. 3 and 23) the physical evidence of their setting, one would accept that they would have been one of the first areas to be settled by Anatolians in those early times. Given their intermediate place between Crete and Asia Minor, they should have been important commercial entrepôts for the Aegean, and their role in the transmission of people and ideas across the Aegean cannot be questioned (cf. Pendlebury 1939, 1. Furumark 1950, 252. Sandars 1968, 131. Vermeule-Karageorghis 1982, 158). According to Craik (1980, 23), "it may be conjectured that Rhodes, Karpathos and Kasos, lying in the path of travellers from the East to Crete, were familiar to seafaring bands throughout the Neolithic period". Karpathos, Saros and Kasos are readily accessible from the coasts of Caria, since the wind and currents are favourable in this respect (fig. 5).

Consequently we may assume that Neolithic farmers arrived in these islands probably from Anatolia, bringing their technical knowledge and equipment with them, certainly before the Late Neolithic period (cf. Evans 1977, 14, and Cherry 1979 and 1981). These first immigrants probably came from Caria or from Cilicia. The latter area seems less likely, since the linguistic and racial affinities of Carians and Aegeans have long been accepted (Mackenzie 1905-6, 216 f.). The distribution of certain non-Greek place-names indicates a homogeneous population to which must correspond a homogeneous civilisation. This was first brought out by Haley and Blegen (1928, 141 f.).

According to Thucydides (I, 4. 8) Carians were the occupants of the Aegean islands until they were expelled by Minoans, probably at a time when the former were undergoing further pressure from the north by the first Greeks. And the Greek tradition, as reported by Herodotus (1, 171), said that they manned the ships of Minos after he had subdued them.

Place-names of mainland Caria are echoed in our island group and this, if associated with the literary tradition, forms an oblique corroboration of the presence of Carians there (cf. Craik 1980, 512). The name of Karpathos may be of Carian rather than of Lycian or Cilician derivation (Craik 1980, 51. Fick 1905, 42-43), although Carnoy (1960, 335 f.) suggests that Karpathos

may have derived from an Indo-European root (ger-b-, that means elevation, round summit, mountain). In this context it may be not irrelevant to note the obvious linguistic connection between Karpathos and the Karpathian mountains. The name of Vrykous is also thought to be of Carian origin (Fick 1905, 42. Susini 1963-4, 230. Laumonier 1958, 682, 700). According to Fick (1905, 43 f.), the islands of Karpathos, Saros, Kasos, Rhodes, Syme, etc. were occupied in early times by peoples related to Carians, Cilicians and Cretans; and both archaeological and linguistic evidence suggest racial affinities between the inhabitants of south-western Anatolia and Crete (Nilsson 1950, 8).

The name of Saros enjoyed a fairly wide distribution in the east Mediterranean, both as a place-name and as a personal name. The legendary founder of Adana, for instance, was called Saros. The word has been regarded as of Cilician origin (Hommel 1926, 562. Susini 1963-4, 246). The name of Arkasa has also been considered to be of Cilician or of Pisidian origin (Fick 1905, 42).

During the Greek Late Neolithic the population movements from western Anatolia to the Aegean may have continued. This is suggested by general cultural affinities between the two areas. Yet, as we believe, the first and largest colonization of the islands, including Crete, must already have occurred before that time. Any new arrivals will have been on a small scale and without considerable significance for the evolution of the particular cultures which had already begun to develop along strong local lines. Relations now will have been largely in the form of the exchange of materials and ideas, a fact that contributed to the persistence of the Aegean Neolithic Koine. As already stated, this Koine was to break up during the following EBA of Greece, when Anatolian influence was not powerful and the Aegean-Anatolian contacts, apart from sporadic imports which came as a result of trade, were apparently limited to mutual interchange of ideas. The old view that the Early Minoan, Early Cycladic and Early Helladic cultures had a common origin from south-western Anatolia ("Anatolisierung", "Kultur-trift") is no longer maintained.

That the Late Neolithic people of the islands under discussion were in some contact with south-western Anatolia seems very likely. The evidence from the Yali obsidian suggests that they probably travelled as far north as Nisyros, which lies very close to the Anatolian coast.

Finds of Melian obsidian testify to efficient contact with the Cyclades. As already noted, the latter may well have been acquired by trade and there is no need to presume that ships from our island group were involved, especially as the prevailing wind during the sailing period is almost invariably north-westerly (fig. 5). It seems quite clear from the very beginning that overseas

trade and cultural intercourse were chiefly directed towards the east Aegean islands and Anatolia on one side and towards east Crete on the other.

The bulk of our early material appears to fall within the range of the Greek Final Neolithic period, which is just an extension of the previous Late Neolithic and forms the prelude to the Early Bronze Age. Very little could be assigned to the Aegean Early Bronze I (EM I), whereas Early Bronze 2-3 appears not to be represented at all if we except the three metal implements from Saros. The latter were stray finds and they probably date from the second part of the third millennium. The problem of this apparent gap has already been discussed.

It seems that the FN period in these islands was one of isolation, the local Late Neolithic element persisting and developing independently along traditional lines. Such a cultural continuity is a constant tendency in Crete and elsewhere in the Aegean (Renfrew 1964, 119).

The only certain evidence for direct outside contact during this period is obsidian and other volcanic rocks. Cultural associations certainly did exist and are well reflected in the parallel evolution of pottery forms; but they seem to have been neither strong nor frequent. The faint resemblances may be understood as simple exchange of ideas and technology among groups, which shared a common background and level of achievement. It is clear that during that period we have to deal with parallel phenomena, the operation of which is traceable throughout a geographically continuous region extending from Crete to the Elmali plain and Beycesultan and further north to the Troad and Lemnos.

It was probably during the FN period that Crete began to come out of its isolation. Contacts with western Anatolia and the Cyclades are evidenced by parallel pottery and figurine forms and by common fashions (Warren 1969A, 156. Branigan 1981, 23). Consequently, it comes as no surprise that the neighbouring islands of Karpathos, Saros and Kasos should present affinities with Final Neolithic Crete. Relatively closer contacts appear to have been maintained with the east of Crete, as indicated by the associations of the Trapeza ware from Lasithi and the close links with pottery and stone axes from Magasa and elsewhere. Given the strong contacts between Karpathos and Palaikastro in the Late Bronze age, it could be argued that throughout Prehistoric times, as far as we know, our island group was culturally and economically orientated towards east Crete. The contribution of the latter to the development of these islands, at least from the FN onwards, would have been more significant than any influences from elsewhere.

Links with central Crete are evidenced by pottery associations with Final Neolithic Phaistos and to a lesser extent with Gortyna and Knossos. The circular hut found at Phaistos was the only complete building on the site and provides an architectural link with the apsidal building at Leftoporos on

Karpathos (Vagnetti 1972-3, 27-28, 49, 148-149, fig. 17-18, pl. III, 1:a-b).

Very little can be said of relations with Crete in the EM, during which period the latter was apparently developing along local lines, without new population influxes from the East. It is most likely that new and remarkably distinct features, like settlement and population increase, metallurgy and new styles in pottery and burial customs, were independent achievements. There is, however, no general agreement on that, and some scholars still maintain that these changes might point to new groups coming into the island (Kantor 1947, 17. Warren 1969A, 156-157; 1973, 41 f. Hood 1971, 49). There are only three pottery sherds from Karpathos (341, 800-801) which might be EM I, whereas some of the bronze implements from Pigadia and Saros (78-79, 1274-1276) could be EM II-III. However, there can be little doubt that this island group was frequently visited by Minoan travellers from that time. Cretans certainly used the ports of the islands in their commercial enterprises with Anatolia and the Levant, especially after the invention of the sailing boat and the foundation of the east Cretan harbour towns. Evidently this took place after EM II, when trade and contact throughout the Aegean is documented by the overall adoption of common artistic forms (Branigan 1981, 23). Future excavation may reveal that Cretan settlers established themselves on the islands under discussion well before the Middle Minoan period, as they did on Kythera (Kythera 309).

As already stated, Crete was culturally orientated towards south-western Anatolia and the east Aegean islands throughout Neolithic and even in Early Minoan times. The position of our island group between these major cultural areas implies that they had a part in all sorts of interactions taking place, in the Aegean. The evidence of the pottery suggests close connections during the FN period between our islands and the rest of the Dodecanese, including Rhodes, Kos and Kalymnos. Direct contacts with Nisyros are shown by finds of Yali obsidian.

There are also signs of intercourse with islands lying further north on the east Aegean, such as Samos (Tigani), Chios (Emporio and Ayio Gala) and Lemnos (Poliochni black and blue). The latter which has pottery affinities with the Dodecanese in general, as well as with western Anatolia, Thessaly and Macedonia, also produced architectural features recalling the apsidal building at Leftoporos: huts with a curvilinear plan turned up in Poliochni black period. They were the first houses to be built on this site (Poliochni I.1, 53-57, 538, figs. 25-28 and 45-55. Poliochni I.2, pls. 4 and 22).

As already mentioned, connections between the east Aegean islands and western Anatolia were intimate from well back into the Neolithic. Anatolian influence on the Neolithic Dodecanese in particular has long been recognized at excavated sites in Kalymnos, Kos and Rhodes. There is less evidence for EBA links: one sherd from Seraglio on Kos has been identified as Anatolian

EB 3, whereas the Cycladic pottery and marble vessels of the Grotta-Pelos type found at Iasos and elsewhere testify to Aegean-Anatolian contacts during the EBA.

So far as the islands under discussion are concerned, south-western Anatolian connections are implied by pottery affinities with Chalcolithic Elmali and Late Chalcolithic 2-3 Beycesultan. The plain of Elmali also produced pottery which is paralleled at Emporio X-IX, Tigani I, Kalymnos, Kos and Saliagos (Elmali 9-10). Relations may also have existed between the Karpathos group and the Troad, as shown by pottery which can be paralleled at Kum Tepe IA and IB. Kum Tepe IB pottery in particular had a wide distribution over the Aegean islands and as far west as Thrace, Macedonia, Thessaly and Attica (French 1961, 104, fig. 2).

It is worthy of note, however, that the curvilinear type of building which appears to have a fairly wide distribution in the Final Neolithic Aegean, does not occur in the corresponding cultures of western Anatolia, where it appears from the succeeding Early Bronze period (Warner 1979).

Direct contacts with the Cyclades are documented by the importation of Melian obsidian. According to recent research, there are indications that "small groups of consumers from coastal communities all over the Aegean probably travelled to the Melos quarries either on special expeditions or in combination with other trips" (Shelford in Melos 220). Otherwise Cycladic connections appear not to be very strong, although there are some parallels with Kephala and to a lesser extent with Saliagos, Mykonos and Naxos. At Saliagos and at Paoura on Kea there are traces of curvilinear structures among rectangular buildings which predominate (Saliagos 15 f., fig. 7. Kephala 156). However, one might expect a more considerable Cycladic presence in these islands in the course of EBA, in view of the commercial expansion of the Cyclades throughout the Aegean, from Attica and Euboea to Crete and western Anatolia (Glantz 1925, 198. Matz 1956, 30).

III(B). The Middle Minoan I to Late Minoan I periods and the Minoan Colonization.

Apart from a certain number of Middle Minoan settlements, there is an apparent scarcity of Middle Bronze Age sites on Rhodes and the rest of the Dodecanese (Mee 1982, 79). The reason for this may be related to the lack of excavation and the difficulty in dating Prehistoric handmade ware: as Furness put it (1956, 153) "there is nothing to show that dark burnished ware ... did not continue until Mycenaean times".

From around 2000 B.C. there was in the Aegean a complex network of trading relationships: Minyan and matt-painted ware are often found in association with Trojan, Cycladic and Minoan Pottery. The evidence suggests that there were, between the Greek mainland, Crete and Troy, extensive trade

contacts operating by way of the Cyclades (Hooker 1976, 29). It appears that at this time the Cyclades entered into the commercial orbit of Crete which now took the lead in Aegean trade (Glantz 1925, 198). The foundations of the Palatial period in EM III/MM IA were apparently related to this fact, which led to a marked increase in settlements and prosperity, especially in the east of Crete (Branigan 1970, 66). The rapid development of the latter area came as a result of the establishment of harbour towns, which were engaged in trade with the east Mediterranean. The main motive of this commercial expansion must be related to the quest for raw materials which arose especially after the foundation of the palaces (Cadogan 1979, 65. Branigan 1981, 23).

The evidence suggests that during the MM I-II period Minoans travelled as far east as Cyprus in search of copper (Catling-Karageorghis 1960, 109-112. Cadogan 1969 and 1979. Åström 1979, 63) and up to Nisyros to acquire Yali obsidian (Renfrew 1972, 348). Minoan pottery of this date has been found in the Levant and Egypt (Pendlebury 1939, 53-55, 74-75, 89-90. Kantor 1947, 18 f. Kamp-Merrillees 1980, 1 f. Culican 1966, 27-28). Similar evidence comes from Kalymnos, Ialysos and probably also from Knidos and Iasos (Maiuri 1928, 114-115, 117. Coldstream 1969. *AJA* 82 (1978) 321. Davis 1982, 39. Hope Simpson-Lazenby 1973, 172. Laviosa 1974, 34). Furthermore, the Cyclades appear to have been drawn into the sphere of Minoan influence from as early as MM II, if not already from MM IB (Furumark 1950, 192. Davis 1980).

But, as already stated, the islands under discussion form a natural bridge and harbour station between east Crete and the rest of the Dodecanese. And Minoan navigation to the East would not have been possible without landing on these islands, which would inevitably have been the first to receive attention by Cretans as intermediate bases with convenient ports of call (cf. Morricone 1972-3, 385 and our figs. 3 and 23). It is thus not surprising that the earliest evidence of Minoan presence on this group should come from near landing places convenient to Minoan travellers. The harbour of Khelatros in the southern part of Kasos was without doubt the first outpost for Minoans travelling to the east. It is near this bay that the earliest positive traces of Minoan occupation have been noted; at the sites of Trapeza, Kefala and Tou Stamati Ta Lakia there were, among other finds, a few pottery sherds and a stone vase which can be assigned to MM I-II (nos. 1333, 1374, 1383, 1405, 1442). The bay of Makris Yalos, at the south-east corner of Karpathos, appears to have been the port of call second in importance for the Minoans at this early stage; and the sites of Palio Mitato and Lakos, both situated very close to this harbour, produced positive or probable signs of MM I-II occupation (nos. 488, 490-491, 671-672). There is little doubt that many other fragments, among the less diagnostic pottery recovered from the surface of the three islands, may belong to the same period, as probably do some of the rest of the stone vases and of the bronze implements from Pigadia and Palatia (nos. 78-79,

1274-1276).

The present evidence is too meagre for any definite conclusions to be drawn as to the nature of the first presence of Minoans on the islands. It remains to be settled by excavation whether they were colonists from the outset or merely small groups of merchants establishing enclaves within or near local communities. Nevertheless, on the analogy of Kythera, which became a Minoan colony from as early as EM II (Kythera 276, 309. Coldstream 1973, 35), one might regard a colonization of these islands from MM I-II as likely and an even earlier Minoan settlement as possible. The similar position of Kythera and Karpathos, the one between Crete and Peloponese and the other between Rhodes and Crete, would seem to imply a similar historical pattern (Furumark 1950, 252. Hope Simpson-Lazenby 1962, 174). An MM I-II settlement at Ialysos has been considered quite likely (but cf. Davis 1982, 34 and 38). Furthermore, the pottery of this period which was found on the islands under discussion is domestic and it would be unlikely to have been brought by trade.

A few fragments of MM IIB-III A pottery turned up at the sites of Tou Stamati Ta Lakia (no. 1387), Amoudiarides (no. 1457), Palio Mitato (no. 489) and probably elsewhere.

The bulk of the material found on the islands falls within the MM III-LM I range, that is the period of the Second Palaces. As elsewhere in the Aegean, this period marks the climax of Cretan activity and witnesses the greatest prosperity under Minoan influence. The pottery is normally coarse and of purely Minoan provincial character. That this was made by Minoanised locals seems highly improbable. As at Trianda and Kos (Mee 1982, 80), the character of the domestic pottery must betray the presence of Minoans, whereas intensive trade between the islands and Crete would have existed also and political control from Crete cannot be ruled out. The existence at Pigadia of an MM IIIB-LM IA colony or at least of a settlement under strong Minoan influence has already been conjectured by Furumark (1950, 201) and Hope Simpson and Lazenby (1962, 151, 173).

It appears extremely likely that by MM III-LM I the islands under discussion, as well as most of the other islands in the Dodecanese (Cadogan 1971, 146), became completely Minoanised by successive waves of settlers from Crete, who brought with them many details of the Minoan way of life. It seems that the newcomers landed on the south coasts of the islands and then gradually penetrated inland and northwards establishing small communities in all areas. The only exception, with respect to the size, is the settlement at Pigadia, which developed into an actual harbour-town.

Applying the criteria of Branigan (1981), most of the settlements appear to correspond to the type of settlement colony, for they seem to have been founded on virgin soil. However, future excavation may change this picture. On some sites, such as Moutsouna on Karpathos, Argos and Katoyi on Saros and

Amoudiarides on Kasos, there are signs of coexistence between locals and newcomers, which implies kinds of community colonies. This holds good especially if we allow for some of the coarse handmade pottery found on these sites to be dated to EB 3 and later.

The great majority of the pottery was evidently locally produced, although there are examples which were clearly imported. Among the latter there is an isolated case of a matt-painted juglet which was probably imported from the Cyclades. This juglet, along with rare occurrences of Melian obsidian flakes, is the only sign of contact with an area other than Crete after the islands entered into the Minoan sphere of influence. Contacts with the Cyclades at this stage may have been indirect, via Crete where Cycladic presence was relatively strong; Middle Cycladic materials from the Temple Repositories and the House of the Sacrificed Oxen at Knossos show that the currents of trade in this period moved both ways (PM I, 557-559. PM II, 309, 540).

For geographical reasons and in view of the LM III evidence, it must be assumed that the majority of the newcomers came from east Crete and particularly from Palaikastro. The possibility remains, however, that some of them originated from central Crete. Certain linguistic evidence may be of relevance; the Idaean cave was called by the ancient Cretans Arkesion (Kostakis 1961, 154-155) and one of the MM III-LM I settlements on Karpathos was established in the area where the classical town of Arkesia was located. The area is still called Arkasa.

The Greek historical tradition appears to reflect the events related to Minoan colonial expansion during the Second Palace period (Huxley 1969), although some scholars believe that the myth of the Thalassocracy of Minos was an invention of the classical Greeks (Starr 1954/5). According to Thucydides (I.4. cf. Herodotus I. 171 and Diodorus 5, 54, 58), Minos established his sons as rulers of the Aegean islands after his navy had expelled Carians, who were previously occupying them. Diodorus (5, 54, 4) speaks more specifically of the Minoan colonization of Karpathos: "Karpathos was first settled by the Minoans who were on an expedition under Minos during his Thalassocracy".

As already discussed (Chapter Five, I(B)), most of the Minoan settlements in the Karpathos group, as elsewhere in the south Aegean, appear to have been abandoned after the LM I period. The abandonment seems to have been sudden as though the settlements were struck by a natural disaster. It may be conjectured that the desertion was due to destruction linked with the Minoan eruption of the Santorini volcano. This assumption is corroborated, besides the archaeological evidence, by geological data as well as by evidence from comparisons with relevant historical events. As far as the islands under discussion are concerned, we have already referred to signs of dislocation possibly related

to geological upheaval and fire destruction in LM I contexts on Karpathos, notably on the sites of Sfayia at Pigadia and Palio Mitato in Afiartis. It is to be hoped that future excavation will reveal traces of Minoan tephra on some of the islands in the discussion. Minoan tephra from Thera has already been identified further to the east, on the islands of Kos and Rhodes (Keller 1980, 49-52. Doumas-Papazoglou 1980, 322-324).

The second millennium B.C. explosion of Thera occurred around 1500 B.C. or soon afterwards. As might be expected from the dispersal pattern, any serious effects on settlements outside Thera due to the tephra fall will have been concentrated to the east of this island. Ash accumulations were particularly thick (up to forty cms.) on Rhodes and the rest of the Dodecanese, as well as on the south-western coast of Anatolia (McCoy 1980A, 67, 75, fig. 5= our fig. 22).

On the evidence of deep-sea cores around Karpathos, Kasos and Saros taken by Vema 10 and Trident 171, 172, a maximum thickness of forty cms. for the three islands can be calculated. Saros and North Karpathos must have been more severely affected, whereas Kasos and South Karpathos may have received no more than ten cms. The cultural consequences may have been very significant for this part of the Aegean. The destructive effects on the inhabitants could have been enormous, compared with its effects on Crete. The remains of human skeletons found in the debris of Trianda IIA on Rhodes, which was destroyed around 1450 B.C. - possibly by an earthquake - were ascribed by some scholars to victims of the great eruption (Trianda, 82 f., 167 f. Furumark 1950, 179. Stubbings 1951, 7. Luce 1969, 109-110, 121). In the light of modern research, however, this seems unlikely, since there appears to be a considerable gap of time between the eruption and the destruction of Trianda IIA.

As shown by Thorarinsson (1971, 213-236), examples of the damaging effects of a modern tephra fall in Iceland can be useful for the study of the Minoan eruption of Thera and its consequences. Applying these criteria regarding the effects of freshly fallen tephra, the heavy outfall over Saros, Karpathos and Kasos could have resulted in severe damage and abandonment lasting for decades. In mountainous islands like these, it is possible that the bulk of the ash would have weathered away within a comparatively short space of time, perhaps after it had caused serious damage and dislocation adding to the destructive effects of the strong earthquakes which probably preceded the ash fall. Most probably the rain of ash was accompanied by darkness and by volcanic gas, one of the chemical properties of the ash, which may have poisoned the atmosphere resulting in loss of life among people and animals (Thorarinsson 1971, 230. Hood 1978A, 687).

Although the overall effects of volcanic ash were minimised by several scientists in the 1978 Thera congress (esp. Blong 1980), the tephra appears to have been thick enough on our island group to ruin agriculture by killing

vegetation and rendering the soil temporarily uncultivable. This disaster in farming may have resulted in a recession which probably lasted for quite a long time. Depopulation, famine and disease may have been the final blows to the settlement (Thorarinsson 1971, 230. Stubbings 1969, 168. Rackhan 1978, 760-762).

The spiritual and psychological effect will also have been tremendous. Even in areas less directly affected by the explosion, it probably had a great effect on the spirit of the people, as witnessed by the LM IA votive deposits on east Crete, probably related to the eruption (Hood 1978A, 681). The later tradition that the Rhodians had built on Thera a temple of Poseidon Asphaleios after the great explosion of the volcano in 198 B.C. may reflect similar practices in the Dodecanese during Hellenistic times (Craik 1980, 183).

The rate of recovery may have been slow owing to the dry climate of these islands (cf. Thorarinsson 1971, 232. Blong 1980, 217-226), although a speedy recovery cannot be excluded. Evidence from Phylacopi indicates that occupation continued without interruption at the time of the Santorini eruption (Renfrew 1978, 403).

Whatever the reason for the catastrophe and the following recession, as reflected in the archaeological record of the islands, the fact remains that there is an apparent break in their pottery sequence. The same phenomenon was observed elsewhere in the south-eastern Aegean and particularly in the north and east of Crete (Pseira 10. Maisons II, 151-152. Palaik. VII, 234. Furumark 1950, 205). The problem of this "gap" which appears to have lasted for about one generation, that is from the end of LM IB to the end of LM II, has already been discussed (Chapter Five, I(B)).

III(C). Late Minoan II/III to Late Minoan IIIA2: Period of Recovery and Rhodian Contacts (table 1)

It is not until c. 1410 B.C. that the wealth of the cemeteries at Pigadia and Vonies indicates an economic recovery. About 90% of the pottery found in the LM II/III-III A1/2 tombs is Minoan, either imported or locally made. There are only nine vases, i.e., 10% of the total, which may be Argolid products imported via Rhodes, as well as five apparently Rhodo-Mycenaean imports. But there is nothing to show any change in the material culture and population component of the islands.

Only four vases are dated to the transitional period II/III A1 and are all Minoan. At least three of them appear to be imports from Palaikastro and this is hardly surprising given the proximity of the two areas. Links with Palaikastro remained strong throughout LM III, during which period fifty-two vases were imported from this region, that is more than 23% of the LM/LH III pottery found on Karpathos and Kasos. It is significant that all three of these LM II/III A1 Palaikastrian vases are large stirrup jars, which were probably

SHAPE	II/IIIA1	IIIA1	IIIA1/2	IIIA1-2e	IIIA2	IIIA2e	IIIA2late	IIIA2/B1	IIIA2-B1	IIIB1	IIIC1	TOTAL
Cups			3		2	2	6	15	9	6		43
Bowls									11+3		5	19
Basins									3			3
Goblets and Kylikes	1			5	8	5			9	5		33
Crater and Amphoroid Craters	3			3	4	4						14
Piriform Jars			2	6	5	2	1		9	1		26
Stirrup Jars	3	2		7	10	5			2	5		34
Jugs	1	1	1	7	4	6	1		3	3		27
Pilgrim Flask						1						1
Side-Spouted Jar				1								1
Alabastron and Pyxis	1			1	1							3
Ritual Vessels				2	1	1						4
Basket Vases				2								2
Stands		1		2								3
Coarse Side-Spouted Jars									4			4
Tripod Vessels									4			4
Fire Boxes									2			2
TOTAL	4	9	5	1	38	33	31	18	59	20	5	223

	SUSPECTED PROVENANCE											
Palaikastro	3+1?	2			16+1?	8	13+2?		3	3		52
Episkopi						1?				1?		
Farmakóhöfáló:					4?							
Crete (except above three)		5	1	1	13	13	5	7?	15	7?		
Rhodes (Mycenaean)					2		3?		3	1?		
Argolid (Mycenaean)		1?	2?		1?	4?	1?	1?	12?	1?	5?	
Local (Minoan)		1?	2?		1?	7?	7?	10?	26?	7?		
TOTAL	4	9	5	1	38	33	31	18	59	20	5	223

TABLE 1. The Chronological Distribution of LM/LH III Vase Shapes

imported to Karpathos filled with a certain liquid commodity. This is confirmed by the fact that one of these pots bears holes probably intended for the string which was used for the seal attachment.

Nine pots are ascribed to the IIIA1 period. Of these seven appear to be imports from Crete, including two definite Palaikastrian specimens. Of the remaining two one is perhaps an Argolid product, while the other could be of local Minoan manufacture.

To the transitional stage IIIA1/2 belong five vases. One is a Cretan import, two are Mycenaean and two possibly local Minoan. One example which is a Cretan import dates from IIIA1-III A2e.

A hundred and two vases are IIIA2 in date. Ninety-one of them, that is 89%, are either imported or local Minoan. Of the rest, five appear to be Rhodo-Mycenaean and six Argolid imports. Among the Cretan imports forty were apparently from Palaikastro. Furthermore, certain decorative elements such as the foliate band on jugs and stirrup jars, and the blob decoration, are extremely popular both at Palaikastro and Karpathos. Both importation of goods and artistic inspiration imply intensification of contacts between the two regions. These links probably did not develop simply as a result of trade, although trade relations at this stage would largely have accounted for the strong cultural influence from Palaikastro.

Trade contacts with other east Cretan centres, like Farmakokefalo, Episkopi and Myrsini, are evidenced by a few possible imports and by decorative elements common in these areas and on Karpathos.

The evidence of the pottery clearly suggests that the islands continued to be Minoan during the IIIA2 period. It seems likely that the population largely consisted of a stock which resulted from a mixture of the old Cretan immigrants with local people and their descendants. It is however possible that new Cretan immigrants came to these islands in the period following the great upheavals and disturbances in the middle of the 15th century B.C., and the beginning of the 14th century B.C. (cf. Palaik. VII, 234). The Minoan element may have been smaller in size, but was certainly culturally superior. The latter factor evidently accounts for the total cultural assimilation of the locals. This is again implied by the pottery evidence: there are a number of vases, normally of light brown fabric, which may have been produced on Karpathos. The bulk of this pottery is of pure Minoan character, as are the household wares which must also be local products. However, certain specimens among the fine ware seem to be a compromise between the conflicting influences of Mycenaean Rhodes and of Crete (Charitonidis 1961-2, 75).

As is to be expected, the closest connections appear to have been with the east of Crete. Relations with central Crete and with the Argolid, as reflected by imports and influences in the pottery style, were probably indirect. The Mycenaean imports in particular may have been a result of

commerce between Rhodes and Karpathos (Mee 1975, 331-332).

It is interesting that the Mycenaeans should have ignored these islands at this stage. It was certainly due to the proximity of Crete that the culture of the latter remained essentially Minoan at a time when the Minoan settlements at Trianda, Iasos, Miletus and on Kos were either abandoned or lost their Minoan character with the arrival of Mycenaean settlers from the Greek mainland (Furumark 1950, 180-181, 201-202, 262. Mee 1980; 1982, 82). It must be remembered, however, that in some areas, like Kythera and Kos, Minoan imports were still substantial during IIIA1 and even later, whereas trade relations between Rhodes and Crete as well as Minoan cultural influence on the former survived into LM III (Stubbings 1951, 17).

III(D). Late Minoan IIIA2 to IIIB and IIIA2/IIIB to IIIC1:
Mycenaean Arrival and Minoan Continuity (table 1).

These periods are represented by a hundred and two vases. Of these, sixty-nine, that is 67.6%, are imported or locally made Minoan. The remaining thirty-three, that is 32.4%, appear to be imported Mycenaean. Four of the latter are probably Rhodo-Mycenaean, while the others seem to be Argolid imports.

To the IIIA2-IIIB1 and to the overlapping transitional period between IIIA2 and IIIB are attributed sixty-seven vases. Of these, fifty-one, that is 76.1%, are local or imported Minoan, thirteen, that is 19.4%, appear to be Argolid products and three, that is 4.5%, are probably Rhodo-Mycenaean.

Twenty specimens seem to belong to the IIIB1 period. Of these, seven, that is 35%, are probably local, three, that is 15%, come from Palaikastro, one, that is 5%, probably from Episkopi, and seven, that is 35%, from elsewhere on east Crete. There are only two Mycenaean vases, that is 10%, of which one appears to be an Argolid product and the other Rhodian. The figures thus show that there is an apparent decrease of Mycenaean imports during the IIIB period. The same picture was noted on Rhodes and at Múskebi in LH IIIB, which has been considered as a period of decline (Mee 1982, 87). As far as Karpathos is concerned this phenomenon may be related to a revival of Minoan trade in the eastern Mediterranean, as reflected especially in the wide distribution of Minoan storage Stirrup jars (Cadogan 1969, 158. Popham 1979, 190. Hankey 1979, 144 f., 154).

There is no pottery attributable to IIIB2 and the IIIC period is hardly represented, notably at Poli on Kasos and at Pigadia. Five possible LH IIIC1 sherds from the former site look rather Argolic in fabric. Without excavation it is difficult to clarify the apparent IIIB2-IIIC gap, but it may be related to destructive occurrences such as those noted on mainland Greece and perhaps also on Rhodes (Mee 1982, 88). It must be remembered, however, that LH IIIB2

pottery in particular is considered to have had a limited distribution outside the Argolid and appears to be virtually absent in the Ionian islands and the Dodecanese (French 1978, 168. Sherratt 1980, 192 f., 199 f., fig. 10 and table 1).

The figures from the pottery distribution, along with the evidence from religion and burial customs, show that unlike the rest of the Minoan colonies in the eastern Aegean, which had been absorbed into a Mycenaean Koine, the Minoans still constituted the major element in the three islands, since the material culture of the latter remains essentially Minoan. There are, however, certain features which might be of historical significance: if the distinction we have made between local and imported Minoan pottery is valid, it appears that imports from Crete are now relatively fewer and nearly equal the local Minoan ware in number. There are, for instance, only six imports from Palaikastro, as opposed to forty-six in the previous period II/III-III A2 late. On the other hand the proportion of Mycenaean imports increases, especially in the III A2-III B1 and III A2/III B1 period, when it represents 23.8% of all the pottery found and 39% of the imported pottery. In effect Mycenaean imports at this stage are fairly substantial, indicating a gradual Mycenaean infiltration of the islands. This may well have been the result of the rise of Mycenaean trade, which was gradually replacing the Minoan during the so-called Mycenaean Koine. But there is other evidence suggesting some kind of Mycenaean settlement and perhaps even political domination over the three islands: we have already referred to new tastes and fashions now appearing, such as Mycenaean drinking habits, cult practices and religious beliefs, etc. The evidence from Cyclopean walls, probably of Mycenaean date, is also of relevance. Moreover, Greek tradition seems to have preserved these events in the words of Diodorus (5, 54, 4) who says that "many generations after Minos had taken Karpathos, the Argive Ioklos, son of Demoleon, according to an oracle sent and colonized the island". It must be borne in mind, however, that Diodorus' statement about Argolid settlers may well refer to the re-peopling of the island in the Early Iron Age.

It seems most unlikely that the Karpathos group, lying in a very strategic position, will have escaped the notice and interest of the Mycenaean, who had already taken over the rest of the islands as well as Crete itself, and founded Emporia on the Carian and Levantine coasts (French 1978. Mee 1978 and 1980). The most likely motive behind the Mycenaean presence in the south-eastern Aegean is commerce, and our island group could not have been better positioned for trade with the east Mediterranean (fig. 6).

There is evidence for insecure conditions and for warlike trends, exemplified by warrior tombs at Pigadia and Diafani (cf. similar LM II-III graves from Knossos: Hood-De Jong 1952, and Palaikastro: Palaik. I, 304-305), and probably also by the fortified citadels at Pigadia, Arkasa and Poli on

Kasos. Perhaps there was in Karpathos and Kasos in this period some kind of Mycenaean military elite, which may have formed the core of the contingent that took part in the Trojan expedition under the rule of the Koans Phaedippos and Antiphos (Hom. B676-680).

Mycenaean table habits are documented by the ever increasing occurrence of kylikes and bowls (cf. Popham 1969, 299 n. 3). During the IIIB1 period the kylikes nearly equal in number the cups which are the typical Minoan drinking vessels.

All these features which now appear on the scene could hardly be the result of local evolution. They seem to confirm the assumption that at least a certain number of Mycenaeans came and settled in specific areas, such as Pigadia, Diafani and Poli. Yet the bulk of the population will have continued to consist of the old stock. This is confirmed by the overall Minoan character of the material culture, and by the fact that certain sites, such as Tou Stavrou To Kefali, Psorari and the area of Vonies, which had been occupied at least from MM III, appear to have continued being occupied exclusively by Minoans.

In general we are probably dealing with a small scale immigration rather than with invasion and conquest resulting in the complete overthrow of the existing social order. As at Trianda and elsewhere, these two elements probably maintained good relations (Charitonidis 1961-2, 76), which in the islands under discussion may have lasted until the Mycenaeans were totally assimilated by the local Minoans.

Most probably the Mycenaeans settled the islands some time after the final destruction of Knossos (Popham 1970A) which may have been due to new Mycenaean invasions (Starr 1962, 39. Hood 1971, 60). These invasions may have brought the Minoan commercial and political power, whose deterioration had started from the middle of the fifteenth century B.C., to a definite end with the replacement of the Cretans by Mycenaeans throughout the Aegean and the east Mediterranean market (Kantor 1947, 79 f., 103). A date between 1350 B.C. and 1300 B.C. for the Mycenaean arrival in our islands would seem plausible. This coincides with the introduction of cremation into Karpathos. The new custom implies new tastes and it seems possible that the Mycenaeans had adopted it before the Minoans. It must be remembered, however, that in the LBA cremations in the Aegean are the exception rather than the rule.

The picture of Karpathos and Kasos that emerges from the archaeological data appears to be similar to that of Crete after the Mycenaean takeover (Pendlebury 1939, 228 f. Hood 1971, 60. Starr 1962, 38-39. Popham 1975, 374). But what was the situation in Crete after the alleged arrival of the Mycenaeans? There is strong evidence for a political change and militarism,

as well as signs of an administrative and social reorganization. These changes are reflected in the tablets of the linear B script, which was evidently introduced to Crete by the newcomers. But despite wide similarities between Minoan and Mycenaean cultures (Analysis 497 f. Popham 1970A, 67 f. and Popham et al. 1974, 210), there was no real change in the material culture, which continued to develop along local Cretan lines (Furumark 1950, 256 f. Popham 1964, 9. Hooker 1969, 60-63).

While the general cultural continuity is undeniable, present anthropological evidence suggests that there was no modification of the composition of the local Cretan population during LM III (McGeorge 1983, 169). The architectural tradition continued unbroken, perhaps with the exception of a Mycenaean megaron at Hagia Triada and of a couple of mainland-looking houses at Gournia and Palaikastro (Pendlebury 1939, 240.241. Hood 1971, 58-60). In this connection it is worth mentioning the megaron-type building at Plati, on the plain of Lasithi. Based on this evidence Watrous comments that "it is difficult to avoid the conclusion that Mycenaeans lived at Plati among the remnants of the Minoan population in Lasithi" (Lasithi 1982, 18). Moreover, the burial practices are also basically Minoan, despite the apparent Mycenaean influences (Nilsson 1950, 440-442), whereas the continuity of religious customs is documented by house sanctuaries at various sites (Nilsson 1950, 77 f. Hooker 1969, 62 f.); the furniture and arrangement of the Shrine of the Double Axes at Knossos, for instance, is purely Cretan.

The Mycenaean imports to Crete are proportionally few, whereas the Minoan artistic tradition remains strong and in most cases genuine. Nevertheless Mycenaean art was exerting sufficient influence to bring Minoan art through gradual stylization and degeneration, which was in evidence already from the so-called Palace Style period after 1450 B.C. (Analysis 178. Popham 1967, 347; 1979, 190. Kanta 1980, 154, 178, 222-223, 258-259).

As in the case of Triada (Furumark 1950, 181, 262. Stubbings 1951, 7-8), there are no signs of conflict between the local inhabitants of Karpathos and the newcomers. The latter were evidently comparatively few and kept themselves fortified in such sites as the steep-sided citadels of Acropolis, Paliokastro and Poli, apparently ignoring lower and undefended sites, which were favoured by Minoans (cf. Palaik. VI, 280). Two of these citadels have produced positive or possible Mycenaean pottery, and all three preserve traces of cyclopean-looking circuit walls which could be Mycenaean.

Where the new arrivals came from we cannot say with certainty. However, an Argolic origin is suggested both by archaeological and literary evidence; as we have already seen, most of the Mycenaean imports are attributed to Argolid workshops on stylistic grounds. This assumption is corroborated by the fact that twenty Mycenaean sherds from Pigadia, examined by Dr. R. Jones

of the Fitch Laboratory in the British School at Athens, proved to be of Argolic composition. And Diodorus (5, 54, 4) testifies that those who settled Karpathos a long time after the Minoans colonized it, were Argives, as were those who colonized Rhodes (Mee 1982, 82). The occurrence of the place-name Argos in Saros and Kasos may also be of relevance. Both the sites which bear this name produced certain evidence of Minoan presence, but nothing that could be Mycenaean.

Certain connection with other Mycenaean centres of the Peloponese seems likely. On several linear B tablets from Pylos (PY Eb338; Ep704, 7; Ep539, 9; Un443, 3; Vn851, 12), there is a reference to the name Ka-pa-ti-ja or Ka-pa-si-ja in connection with the community of Pa-ki-ja-na, which was situated close to the palace. Tablet Eb338 reads as follows:

(A) Ka-pa-ti-ja Ka-ra-wi-po[-ro pa-ki]-ja-pi e-ke-qe to-so-de pe-mo

(B) Ke-ke-me-no Ko-to-no dwo o-pe-ro-sa-de wo-zo-e o-wo-ze.

The passage could be deciphered as follows: Karpathia (= Karpathian woman), key-bearer at Pakijapi (cf. Pakijana and Pakijanes), holds a certain quantity of seed and two plots of land; and perhaps she takes part in some cult practice. If the spelling is correct, the word may be interpreted as the ethnic Karpathia. The associated place-name may well have been located in Pylian territory, as the place-names Corinthos, Amnissos etc., probably were (Palmer 1965, 159). But this might also imply the presence at Pylos of a woman from Karpathos, who seems to have been a high-ranking religious official, probably a key-bearer or temple superintendent holding communal plots and controlling her own slaves (Ventris-Chadwick 1973, 253-254, 257).

The evidence of the linear B script suggests that there were Cretan imports or even Cretan artists working at Pylos (Palmer 1965, 203-207). Messenia was perhaps the first area of the Mainland to come into close contact with Minoan Crete, perhaps as early as MM III-LM I (Cadogan 1969, 158). By this period Karpathos and the neighbouring islands had already entered into the Minoan orbit, where they remained to the end of the Bronze Age. Therefore a link between Messenia and Karpathos in LM III should come as no surprise. Some other linguistic evidence points in the same direction: the place-names of Korifi and Korfasia, which occur in the area of Olymbos on Karpathos, are certainly related to the Pylian place-name Koryphasion, which probably dates back to Mycenaean times.

The place-name of Vassae which is referred to by Homer (B532) as Vessa occurs in Arcadia, Karpathos and Cyprus. This may have been due to the arrival of refugees from Arcadia, perhaps on their way to Cyprus. The place-names of Kourion and Pyla, which occur in Karpathos and Saros respectively, are also encountered in Cyprus. Both the Cypriot sites to which they correspond produced evidence of Mycenaean and Minoan occupation. Linguistic and literary evidence indicate that most of the Mycenaean who settled Cyprus, came from

Arcadia and Messenia. Since Karpathos, Saros and Kasos form convenient stepping-stones towards Cyprus, it may be assumed that Mycenaeans from Arcadia and Messenia probably landed on these islands on their way to Cyprus.

As we have already seen, the Mycenaean imports in the IIIA1-III A2 late period probably came to Karpathos via Rhodes, where a thriving Mycenaean community was already established from LH IIB (Furumark 1950, 262). These imports, as well as those of the period under discussion, were either of Argolic or of Rhodian manufacture. Two basket vases and three perforated tripod vessels found on Karpathos were certainly made on Rhodes. The latter three were found in tombs and if they really were symbolic objects, their presence cannot be explained only by trade (Mee 1982, 16). By LH IIIA2 Rhodes was flooding Cyprus and the Levant, and to a lesser extent Egypt, with Mycenaean pottery and particularly stirrup jars, including some of Minoan type (Stubbings 1951, 30 f.). This perhaps implies that this island had taken over the shipping of oil to the Near East. Moreover, Rhodian trade was active at this time as far as Italy, where a colony was probably established by Rhodians at Taranto (Taylor 1958, 128 f. Sandars 1968, 131).

It is therefore highly probable that the Mycenaean immigrants to the islands under discussion came via Rhodes, perhaps two or three generations after they had settled there. In the meantime they developed their own distinctive pottery style and acquired new habits, such as that of cremation, which they probably took from the Mycenaeans of the Carian coast and subsequently transmitted to the rest of the Aegean, including Karpathos.

That Karpathos, Saros and Kasos should have been Minoan in culture down to the end of the Bronze Age is certainly due to the proximity of Crete. Like Crete itself, they remained basically Minoan at a time when the rest of the Aegean, including the Dodecanese and the south-western Asia Minor, was filled with the remarkably homogeneous Mycenaean pottery and passed into the Mycenaean sphere of influence (Furumark 1950, 241-271). The evidence for Mycenaean settlement in the islands under discussion is not totally convincing and there must be some scepticism as to whether they ever came under Mycenaean control. The great majority of Minoan settlements were probably not superseded by Mycenaean strongholds, unlike the rest of the Minoan colonies on the eastern Aegean (cf. Hope Simpson-Lazenby 1962, 174; 1973, 173. Mee 1978). Similar doubt, however, has been expressed about Kythera (Coldstream 1978, 289) and even about Rhodes; according to Mee (1982, 85) "the possibility that an existing community might have taken on a Mycenaean identity is not out of the question, although the use of chamber tombs does suggest otherwise".

Those buried at Pigadia and Vonies were evidently Minoans, as the domestic pottery, with a few exceptions, is Minoan. Likewise the locally produced pottery as well as religion and burial customs are Minoan. Nevertheless, the

arrival of small groups of Mycenaeans seems likely. They were probably too few to cause great changes on the islands they settled. Rather the reverse: their numerical and cultural inferiority probably caused them to conform to local traditions. And even if they really became the ruling class of the islands due to their military power, they seem to have accommodated themselves to native customs and fashions. Any cultural ideas they may have introduced appear to have been thoroughly assimilated, assuming a basically Minoan character.

The evidence we have about the IIIB2 and IIIC periods in the island group under discussion is extremely tenuous, consisting of a few "possible" sherds found at Xenona on Karpathos and at Poli on Kasos. Therefore we know virtually nothing of the very end of the Bronze Age in this area, and evidence for human activity is lacking for at least three centuries, including the Proto-geometric period. It is to be hoped that future excavation will shed light on this obscure period of the Prehistory and Proto-history of Karpathos, Saros and Kasos.

ABBREVIATIONS AND BIBLIOGRAPHY

BM	= British Museum	LB	= Late Bronze Age
D.	= Diameter	L Ch.	= Late Chalcolithic
Dims.	= Dimensions	LH	= Late Helladic
EB	= Early Bronze Age	LM	= Late Minoan
E Cycl.	= Early Cycladic	LN	= Late Neolithic
EH	= Early Helladic	MB	= Middle Bronze Age
EM	= Early Minoan	M Cycl.	= Middle Cycladic
FM	= Furumark Motif	M Cyp .	= Middle Cypriot
FN	= Final Neolithic	MH	= Middle Helladic
FS	= Furumark Shape	MM	= Middle Minoan
H.	= Height	MN	= Middle Neolithic
Hag.Nik.Mus.	= Hagios Nikolaos Museum	NL	= Neolithic
ib.	= ibidem	Thick.	= Thickness

AA Archäologische Anzeiger.

AAA Athens Annals of Archaeology.

AD Ἀρχαιολογικόν Δελτίον.

AE Ἀρχαιολογική Ἐφημερίς.

Agora S.A.Immerwahr, *The Athenian Agora XIII: the Neolithic and Bronze Ages*. Princeton 1971.

Ahrweiler, E. 1966. *Byzance et la Meer*. Paris.

AJA American Journal of Archaeology

Alexiou, S. 1954. Ὑστερομινωικός Τάφος Παχιάμμου. *KCh.* 8, 399-412.

Allen, T. W. 1921. *The Homeric catalogue of ships edited with commentary*. Oxford.

AM Athenische Mitteilungen.

Analysis A. Furumark, *Mycenaean Pottery: I, Analysis and Classification*. Stockholm 1972.

Anapliotis, K. A. 1961. Τό Πλεισκαίον της Κάρπαθου. *PAA* 36, 143-148.

——— 1961A. Ἡ ἀνάπτυξις τοῦ Τυρρηνίου εἰς τὴν νῆσον Κάρπαθον. *PAA* 36, 248-253.

——— 1963. Τὰ Τυρρηνία στραῦματα εἰς τὴν νησίδα Ἀρμαθίαν (περιοχῆς Κάσου). *PAA* 38, 137-143.

——— 1968. Συμβολή εἰς τὴν μελέτην τοῦ Νεογενῶς τῆς νήσου Κάσου. *PAA* 43, 276-283.

Angelier, J. 1973. Sur la néotectonique égéenne: failles anté-tyrrhéniennes et post-tyrrhéniennes dans l'île de Karpathos (Dodécanèse, Grèce). *Bulletin de la Société Géologique de France*, suppl. au tome XV, no. 5-6, *Compte Rendu Sommaire des séances de la Soc. Géol. France*, 105-108.

Annuario Annuario della Scuola Archaeologica di Atene e delle Missioni Italiane in Oriente.

AR Archaeological Reports.

AS Anatolian Studies.

- Asine O. Frödin and A. W. Persson, *Asine: results of the Swedish excavations 1922-30.* Stockholm 1938.
- Aspripetra D. Levi, *La Grotta di Aspripetra a Coe. Annuario* 8-9 (1925-6) 235-312.
- Åström, P. 1979. The find contexts of some Minoan objects in Cyprus. *RCC* 56-62.
- Aubouin, J. et al. 1975. Aubouin, J., Bonneau, M. et Davidson, J., Contribution à la géologie de l'arc égéen: l'île de Karpathos. *Bulletin de la Société Géologique de France*, (7), XVIII, no. 2, 385-401.
- and Dercourt, J. 1970. Sur la géologie de l'Égée: regard sur le Dodécannèse méridional (Kasos; Karpathos; Rhodes). *Bulletin de la Société Géologique de France*, (7), XII, 455-472.
- AWO Admiralty and the War Office: Notes on Climate and other subjects in eastern Mediterranean and adjacent countries.
- BAR British Archaeological Reports.
- Barrier, E. 1979. Étude Neotectonique des îles de Karpathos et Kassos—Étude Géologique de l'île de Kassos (Dodécannèse, Grèce). Unpublished these de 3ème cycle, Université Pierre et Marie Curie, Paris.
- et al. 1979. Barrier, E., Muller, C. et Angelier, J., Sur l'abondance du quaternaire marin ancien dans l'île de Karpathos (arc hellénique, Grèce) et ses conséquences tectoniques. *Bulletin de la Société Géologique de France*, suppl. au tome XXI, *Compte Rendu Sommaire des séances de la Soc. Géol. France*, 198-201.
- Bass, G. G. 1963. Mycenaean and Protogeometric Tombs in Halicarnassus peninsula. *AJA* 67, 353-361.
- BCH Bulletin de Correspondance Hellénique.
- Beauduin, M. 1880. L'île de Karpathos. *BCH* 4, 261-284.
- Benson, J. L. 1961. Coarse Ware Stirrup Jars of the Aegean. *Berytus* XIV.1, 37-51.
- Bent, T. 1885. The islands of Telos and Karpathos. *JHS* 6, 233-242.
- Berckhemer, H. 1978. The Geological Evolution of the Aegean Region. *TAW* I, 21-31.
- Betancourt, P. P. 1980. Cooking Vessels from Minoan Kommos. University of California, Los Angeles, Institute of Archaeology, Occasional Paper 7.
- Betts, J. H. 1967. New Light on Minoan Bureaucracy: a re-examination of some Cretan sealings. *Kadmos* VI, 15-40.
- Beycesultan Lloyd, S. and Mellaart, J., *Beycesultan I: the Chalcolithic and Early Bronze Age levels.* London 1962.
- Bialor, P. A. 1962. The Chipped Stone Industry of Çatal Hüyük. *AS* 12, 67-110.
- BICS Bulletin of the Institute of Classical Studies, University of London.

- Bintliff, J. L. 1977. Natural Environment and Human Settlement in Prehistoric Greece. BAR 28 (i).
- 1977A. The History of Archaeo-geographic studies of Prehistoric Greece, and recent fieldwork. Mycenean Geography, 3-16.
- 1982. Palaeoclimatic Modelling of Environmental Changes in the East Mediterranean Region since the Last Glaciation. Palaeoclimates, Palaeoenvironments and Human Communities in the Eastern Medit. Region in Later Prehistory, J. L. Bintliff and W. Van Zeist eds. BAR Int. Ser. 133, 485-527.
- Blackman, D.-Branigan, K. 1977. An Archaeological Survey of the lower catchment of the Ayiofarango valley. BSA 72, 13-84.
- Blegen, C. 1928. The Coming of the Greeks II. The geographical distribution of Prehistoric remains in Greece. AJA 32, 146-154.
- 1963. Troy and the Trojans. Thames and Hudson, London.
- Blong, R. J. 1980. The possible effects of Santorini tephra fall on Minoan Crete. TAW II, 217-226.
- BM Cat. Catalogue of the Greek and Etruscan vases in the British Museum, vol. I, part I (London 1925) by E. J. Forsdyke; vol. I, part II (London 1912) by H. B. Walters.
- BM Cat.Br. Catalogue of the bronzes (Greek, Roman and Etruscan) in the British Museum, by H. B. Walters. London 1899.
- BM Cat. of Sculpt. F. N. Pryce, Catalogue of Sculpture in the department of Greek and Roman Antiquities of the British Museum, vol. I, part I, Prehistoric and Early Greek. London 1928.
- Boll. D'Arte Bollettino D'Arte del Ministero dell pubblica Istruzione. Milano-Roma.
- Borda, M. 1946. Arte Cretese-Micenea nel Museo Pigorini di Roma. Roma.
- Boreadis, D. G. 1940-9. 'Η Γεωλογία τῆς Κρητικῆς, in Michailidis-Nouaros 1940-9, 104 f.
- Boysal, Y. 1967. New Excavations in Caria. Anadolou 11, 31-56.
- 1967A. Vorläufiger Bericht über die Grabungen 1963 in Müskebi. Belleten 31, 77-83.
- 1969. Katalog der Vasen im Museum in Bodrum, I: Mykenisch-Protogeometrisch. Ankara.
- Braidwood, R. J. and L. S. 1960. Excavations in the Plain of Antioch, I. Chicago.
- Branigan, K. 1967. The Early Bronze Age Daggers of Crete. BSA 62, 211-239.
- 1968. Copper and Bronze working in Early Bronze Age Crete. SIMA 19, Lund.
- 1968A. A Transitional Phase in Minoan Metallurgy. BSA 63, 185-204.
- 1969. Early Aegean Hoards of Metal Work. BSA 64, 1-11.
- 1970. The Foundations of Palatial Crete: a survey of Crete in the Early Bronze Age. London.
- 1972. Minoan Settlement in east Crete. Man, Settlement and Urbanism, edited by P. J. Ucko, R. Tringham and G. W. Dimbleby. London.
- 1974. Aegean Metalwork of the Early and Middle Bronze Ages. Oxford.
- 1981. Minoan Colonialism. BSA 76, 23-33.

- Broneer, O. 1939. A Mycenaean fountain on the Athenian Acropolis. Hesperia 8, 317-433.
- BSA Annual of the British School of Archaeology at Athens.
- Buchholz, H. G.-Althaus, E. 1982. Nisyros, Yali, Kos: ein Vorbericht über archäologisch-Mineralogische Forschungen auf griechischen Inseln (Archäol. Obsidian Forschungen, 1). Mainz.
- Buchholz, H. G.-Karageorghis, V. 1973. Prehistoric Greece and Cyprus. London.
- Buck, R. J. 1962. The Minoan Thalassocracy re-examined. Historia 11, 129-137.
- Bukowski, G. 1889. Der geologische Bau des Insel Kasos. Sitzungsberichte Akad. der Wissenschaften, Wien, vol. 98, 1: 653-669.
- Bursian, C. 1862-72. Geographie von Griechenland. Leipsic.
- Buttler, W. 1935-6. Vorgeschichtliches in der Stadt Samos. Nachträge. AM 60-1, 184-200.
- Butzer, K. W. 1970. Physical conditions in eastern Europe, western Asia and Egypt, before the period of agricultural and urban settlement. CAH I. 1, 35-69.
- 1972. Environment and Archaeology, an ecological approach to Prehistory. London.
- 1982. Archaeology as human ecology. Cambridge University Press.
- Cadogan, G. 1969. Evidence for the Minoans outside Crete. BICS 16, 157-158.
- 1971. Was there a Minoan Landed Gentry? BICS 18, 146-148.
- 1979. Cyprus and Crete c. 2000-1400. RCC, 63-68.
- CAH Cambridge Ancient History.
- Carnoy, A. 1960. Les suffixes toponymiques pré-grecs. L'Antiquité Classique 29, 319-336.
- Cary, M. 1949. The geographical background of Greek and Roman history. Oxford.
- Caskey, J. 1972. Investigations in Keos, part II: A conspectus of the pottery. AJA 41, 357-401.
- Caskey, M. E. 1981. Ayia Irini, Kea: The terracotta statues and the cult in the temple. Sanctuaries and Cults, 127-135.
- Çatal Hüyük J. Mellaart, Çatal Hüyük: a Neolithic town in Anatolia. London, Thames and Hudson, 1967.
- Catling, H. W. 1964. Cypriot Bronzework in the Mycenaean World. Oxford.
- 1968. Late Minoan vases and bronzes in Oxford. BSA 63, 89-131.
- 1979. Copper in Cyprus, Bronze in Crete. Some economic problems. RCC, 69-75.
- and Karageorghis, V. 1960. Minoika in Cyprus. BSA 55, 109-127.
- et al. 1979. Catling, E. A. and H. W., and Smyth, D., Knossos 1975: Middle Minoan III and Late Minoan I houses by the Acropolis. BSA 74, 1-80.
- Cauvin, J. 1962. Les industries lithiques du Tell de Byblos (Liban). L'Anthropologie 66, 488-502.
- Chalikiopoulos, P. L. 1901. Sitia, die Osthalbinsel Kreta's: eine geographische Studie. Berlin.

- Charitonidis, S. 1961-2. Θαλαμοειδής τάφος Καρπαθού. AD 17A, 32-76.
1963. Μυκηναϊκό 'Εκ Ρόδου. AD 18A, 133-140.
- Cherry, J. F. 1978. Generalization and the archaeology of the state. Social Organization and Settlement, D. Green, C. Haselgrove and M. Spriggs eds., BAR 47, 293-320.
- 1979. Four problems in Cycladic Prehistory. Papers in Cycladic Prehistory, 22-47.
- 1981. Diachronic island archaeology in the Aegean: a case study on Melos. Ph.D. dissertation, Southampton University.
- Childe, G. 1929. The Danube in Prehistory. Oxford, Clarendon Press.
- Chios I-II. S. Hood, Excavations in Chios 1938-1955: Prehistoric Emporio and Ayio Gala. London 1981-1982.
- Chisholm, M. 1968. Rural Settlement and Land Use. London.
- Christodoulou, G. 1959. Geologische und mikropaläontologische Untersuchungen auf der Insel Karpathos (Dodekanes). Auszug aus der Inaugural-Dissertation zur Erlangung der Doktorwürde der Hohen Naturwissenschaftlichen Facultät der Ludwig-Maximilians - Universität zu München.
- 1960. Geologische und mikropaläontologische Untersuchungen auf der Insel Karpathos (Dodecanese). Palaeontographica 115A, 1-143. Stuttgart.
- 1961. The occurrence of *Neovalveolina Melo* (Fichtel and Moll) in Miocene formations of Kasos island and some remarks on the geology of that island. Bull. Geol. Soc. Greece, 4, 1: 156-162.
- 1963. Geological map of Greece: Karpathos. Athens.
- Chronology A. Furumark, Mycenaean Pottery, II: Chronology. Stockholm 1972.
- Churchill Semple, E. 1932. The geography of the Mediterranean region - Its relations to ancient history. London.
- Cl.Rh. Clara Rhodos.
- Coldstream, J. N. 1968. Greek Geometric Pottery. London.
- 1969. The Phoenicians of Ialysos. BICS 16, 1-8.
- 1973. Kythera: the change from Early Helladic to Early Minoan. Bronze Age Migrations in the Aegean, R. A. Crossland and A. Birchall eds., 33-36. London.
- 1978. Kythera and the southern Peloponese in the LM I period. TAW I, 389-401.
- Craik, E. M. 1980. The Dorian Aegean. London.
- Culican, W. 1966. The first Merchant Ventures: the ancient Levant in History and Commerce. London.
- CVA Corpus Vasorum Antiquorum.
- Davidson Monnet, J. 1974. Contribution à l'étude géologique de l'arc égéen: l'île de Karpathos; thèse de 3 cycle, Université de Paris VI.
- Davis, J. L. 1980. Minoans and Minoanization at Ayia Irini, Keos. TAW II, 257-260.
- 1982. The earliest Minoans in the south-east Aegean: a reconsideration of the evidence. AS 32, 33-41.

- Dawkins, R. M. 1902-3. Notes from Karpathos. BSA 9, 176-210.
- Della Seta, A. 1924-5. Relazione sulla R. Scuola Archaeologica Italiana di Atene. Boll. D'Arte 4, 77-93.
- Demangeon, A. 1962. The origins and causes of settlement types. Readings in Cultural Geography, P. L. Wagner and M. W. Mikesell eds. Chicago, University Press.
- Desborough, V. R. d'A¹⁹⁶⁴. The last Mycenaeans and their successors: an archaeological survey c. 1200-c.1000 B.C. Oxford.
- Deshayes, J. 1960. Les outils de bronze, de l'Indus au Danube (IV^e au II^e millénaire). Paris.
- Desio, A. 1924. Spostamento di centri abitati nel Dodecaneso. Atti IX Congresso Geografico Italiano, II, 54-71. Genova.
- 1931. Le isole Italiane dell'Egeo. Studi geologici e geografico-fisici. Memorie Descrittive della carta geologica d'Italia XXIV, 370-402. Roma.
- 1931A. Caso-Scarpanto. Encyclopedia Italiana IX, 310-311 and XXXI, 12-13.
- Diamant, S. R. 1974. The later village farming stage in Southern Greece. Ph. D. dissertation, University of Pennsylvania.
- Dörpfeld, W. 1902. Troja und Ilion, I-II. Athen.
- Doumas, C. 1964. 'Αρχαιότητες καὶ μνημεῖα κυκλάδων. AD 19B, 409-412.
- 1968. A Mycenaean rhyton from Naxos. AA 1968, 374-389.
- and Marangou, L. 1978. Exhibition of Ancient Greek Art from the N. P. Goulandris Collection. Benaki Museum, Athens.
- and Papazoglou, L. 1980. Santorini tephra from Rhodes. Nature, vol. 287, 322-324.
- Effenterre, H. van 1980. Les palais de Mallia et la cité Minoenne - Étude de synthèse II. Paris.
- 1982. Peut-on dater les épées de Mallia? BCH 106, I, 163-164.
- Elmalı C. Eslick, Middle Chalcolithic Pottery from south-western Anatolia. AJA 84, 5-14.
- Evangelidis, T. and Michailidis-Ncuaros 1935. 'Ιστορία τῆς νήσου Κάσου. Ἀθήναι.
- Evans, A. J. 1901. The Mycenaean Tree and Pillar Cult and its Mediterranean relations. London.
- 1931. The earlier Religion of Greece in the light of Cretan discoveries. London.
- Evans, J. D. 1964. Excavations in the Neolithic settlement of Knossos, 1957-1960. BSA 59, 132-240.
- 1971. Neolithic Knossos: the growth of a settlement. PPS 37, 95-117.
- 1977. Island archaeology in the Mediterranean: problems and opportunities. World Archaeology 9, 12-26.
- Faure, P. 1964. Fonctions des cavernes Crètoises. Paris.
- Fick, A. 1905. Vorgriechische Ortsnamen als Quelle für die Vorgeschichte Griechendlands. Göttingen.
- Flemming, N. C. 1972. Eustatic and Tectonic factors in the relative vertical displacement of the Aegean coast. The Mediterranean Sea, D. Stanley ed., 189-201. Pennsylvania.

- 1974. Changes of land and sea level in the Aegean area since the Bronze Age. BICS 21, 155-157.
- Forsdyke E. J. 1926-7. The Mavrispilia cemetery at Knossos. BSA 28, 243-296.
- French, D. H. 1961. Late Chalcolithic Pottery in North-west Turkey and the Aegean. AS 11, 99-141.
- 1968. Anatolia and the Aegean in the third Millenium B.C. Ph. D. thesis, Cambridge University.
- French, E. 1964. Late Helladic IIIA1 pottery from Mycenae. BSA 59, 241-261.
- 1965. Late Helladic IIIA2 pottery from Mycenae. BSA 60, 159-202.
- 1966. A group of Late Helladic IIIB1 pottery from Mycenae. BSA 61, 216-238.
- 1967. Pottery from Late Helladic IIIB1 destruction contexts at Mycenae. BSA 62, 149-193.
- 1969. A group of Late Helladic IIIB2 pottery from Mycenae. BSA 64, 71-94.
- 1978. Who were the Mycenaeans in Anatolia? The Proceedings of the Xth International Congress of Classical Archaeology (Ankara 1973), E. Akurgal ed., vol. I, 165-170.
- Furness, A. 1953. The Neolithic pottery of Knossos. BSA 48, 94-134.
- 1956. Some early pottery from Samos, Kalymnos and Chios. PPS 22, 173-212.
- Furumark, A. 1950. The settlement at Ialysos and Aegean history c. 1550-1400 B.C. OA VI, 150-271.
- Garstang, J. 1953. Prehistoric Mersin: Yümük Tepe in southern Turkey. Oxford.
- Georgief, V. I. 1973. The arrival of the Greeks in Greece: the linguistic evidence. Bronze Age Migrations in the Aegean, R. A. Crossland and A. Birchall eds., 243-254. London.
- Georgiou, H. S. 1979. Late Minoan Incense Burners. AJA 83, 427-435.
- 1980. Minoan Fire Boxes: a study of form and function. SME XXI, 123-192.
- Ghigi, A. 1929. Recherche faunistiche nelle isole Italiane dell Egeo. Archivio Zoologico Italiano XIII, 293-354.
- Gibbon, E. 1906. The history of the decline and fall of the Roman empire. Vol. I. London.
- Glotz, G. 1925. The Aegean Civilization. London.
- Gournia H. Boyd Hawes, B. E. Williams, R. B. Seager and E. H. Hall, Gournia, Vasiliki and other Prehistoric sites on the isthmus of Hierapetra. The American Exploration Society, Philadelphia 1908.
- Hacilar J. Mellaart, Excavations at Hacilar 1-2. Edinburgh 1970.
- Häg, R. 1981. Official and popular cults in Mycenaean Greece. Sanctuaries and Cults, 35-39.
- Halbherr et al. 1980. F. Halbherr, E. Stefani and L. Banti, Haghia Triada nel periodo Tardo Palaziale. Annuario LV.
- Haley, J. B. 1928. The Coming of the Greeks I: the Geographical Distribution of Prehistoric Place-names. AJA 32, 141-145.
- Hammond, N. 1959. A history of Greece to 322 B.C. Oxford.

- Hankey, V. 1952. Late Helladic tombs at Chalkis. BSA 47, 49-95.
 ——— 1967. Mycenaean pottery in the Middle East: notes on finds since 1951. BSA 62, 107-147.
 ——— 1979. Crete, Cyprus and the south-eastern Mediterranean, 1400-1200 B.C. RCC, 144-155.
- Harding A. F. ed. 1982. Climatic Change in Later Prehistory. Edinburgh University Press.
- Hartmann, N. 1978. Obsidian from Crete: Problems on Lithic Analysis. TUAS 3, 36-42.
- Hawkes, C. F. C. 1940. The Prehistoric foundations of Europe, to the Mycenaean Age. London.
- Head, B. V. 1897. Catalogue of the Greek coins of Caria, Cos, Rhodes, etc. London.
- History of the Hellenic World. Vol. I, the Prehistoric and Protohistoric periods. G. A. Christopoulos and J. C. Bastias eds. Athens 1974.
- Holland Rose, J. 1933. The Mediterranean in the ancient world. Cambridge.
- Hommel, F. 1926. Ethnologie und Geographie des Alten Orients. München.
- Hood, M. S. F. 1956. Another warrior-grave at Ayios Ioannis near Knossos. BSA 51, 81-99.
 ——— 1961-2. Stratigraphic excavations at Knossos, 1957-61. KCh. 15-16, 92-98.
 ——— 1965. Minoan sites in the far west of Crete. BSA 60, 99-113.
 ——— 1967. Some ancient sites in south-west Crete. BSA 62, 47-56.
 ——— 1971. The Minoans. Thames and Hudson, London.
 ——— 1974. The home of the heroes. The Aegean before the Greeks. London.
 ——— 1978. The arts in Prehistoric Greece. The Pelican History of Art, London.
 ——— 1978A. Traces of the Eruption outside Thera. TAW I, 681-690.
 ——— and De Jong, P. 1952. Late Minoan warrior-graves from Ayios Ioannis and the new hospital sites at Knossos. BSA 47, 243-277.
 ——— and De Jong, P. 1958-9. A late Minoan III "kitchen" at Makritikhos (Knossos). BSA 53-54, 182-193.
 ——— and Warren, P. 1966. Ancient sites in the province of Ayios Vasilios, Crete. BSA 61, 163-191.
 ——— et al. 1958-9. S. Hood, G. Huxley and N. Sandars, A Minoan cemetery on Upper Gypsades. BSA 53-54, 194-262.
 ——— et al. 1964. S. Hood, P. Warren and G. Cadogan, Travels in Crete, 1962. BSA 59, 50-99.
- Hooker, J. T. 1969. Homer and late Minoan Crete. JHS 89, 60-71.
 ——— 1976. Mycenaean Greece. London.
- Hope Simpson, R. 1965. A Gazetteer and Atlas of the Mycenaean sites. London.
 ——— 1981. Mycenaean Greece. Noyes Press, N. Jersey.
 ——— and Lazenby, J. F. 1962. Notes from the Dodecanese I. BSA 57, 154-175.
 ——— and Lazenby, J. F. 1970. Notes from the Dodecanese II. BSA 65, 47-77.
 ——— and Lazenby, J. F. 1973. Notes from the Dodecanese III. BSA 68, 127-179.
- Hutchinson, R. W. 1962. Prehistoric Crete. Penguin Books, London.
- Huxley, G. L. 1969. The Minoans in Greek sources. BICS 16, 165-166.
- Iakovidis, S. 1970. Περὶ τῆς Το Νεκροταφείου, Β. Ἀθήναι.
- IG Inscriptiones Graecae.
 IM Istanbuler Mitteilungen.

- Jacopi, G. 1930-1. Nuovi scavi nella Necropoli Micenea di Ialisso. Annuario 13-14, 253-345.
- Jameson, M. H. 1958. Inscriptions of Karpathos. Hesperia 27, 122-124.
- Jericho K. M. Kenyon, Excavations at Jericho III. London 1981.
- JHS Journal of Hellenic Studies.
- Johnson, P. F. 1982. Bronze Age Cycladic Ships, an overview. TUAS 7, 1-8.
- Johnstone, P. 1980. The Sea-craft in Prehistory. London.
- Kanta, A. 1980. The Late Minoan III period in Crete, a survey of sites, Pottery and their distribution. SIMA LVIII, Göteborg.
- Kantor, H. J. 1947. The Aegean and the Orient in the second millennium B.C. AJA 51, 1-103.
- ¹⁹³⁰
Karo, G. Die Schachtgräber von Mykenai. München.
- KCh. Κρητικά Χρονικά.
- Keller, J. 1980. Prehistoric pumice tephra on Aegean islands. TAW 11, 49-56.
- Kemp, B. J.-Merrilees, R. S. 1980. Minoan Pottery in Second Millennium Egypt. Munich.
- Kephala J. E. Coleman, Keos I: Kephala, a Late Neolithic settlement. Princeton.
- Kirkbride, D. 1960. A Brief Report on the Pre-pottery flint cultures of Jericho. PEQ 1960, 114-119.
- Kitsos N. Lambert, La grotte Préhistorique de Kitsos (Attique), missions 1968-1978, I, Paris 1981.
- KM Καρπαθιακαί' Μελέται.
- Koehl, R. B. 1981. The functions of Aegean Bronze Age rhyta. Sanctuaries and Cults, 179-187.
- Koşay, H.-Akok, M. 1957. Ausgrabungen von Büyük Güllücek. Vorbericht über die Arbeiten von 1947 und 1949. Ankara.
- ^{1961.}
Kostakis, N. Μινωική Κρήτη και Μεσογειακοί λαοί. 'Αθήναι.
- Kum Tepe J. W. Sperling, Kum Tepe in the Troad, trial excavation 1934. Hesperia 45 (1976) 305-364.
- Kuss, S. E. 1969. Die erste pleistozäne Säugetierfauna des Insel Kasos (Griechenland). Berichte der Naturforschenden Gesellschaft zu Freiburg 59, 169-177. Freiburg.
- Kythera J. N. Coldstream and G. L. Huxley eds., Kythera, excavations and studies conducted by the University of Pennsylvania Museum and the British School at Athens. London 1972.
- Lamonier, A. 1958. Les cultes indigènes en Carie. Paris.
- Lasithi I-III. H. W. and J. D. Pendlebury, and M. B. Money-Courts, Excavations in the plain of Lasithi. BSA 36 (1935-6) 5-131 and 38 (1937-8) 1-56, 57-145.

- Lasithi 1982 L. V. Watrous, Lasithi, a history of settlement on a highland plain in Crete. Hesperia, supplement XVIII.
- Laviosa, C. 1974. Iasos 1973. AS 24, 33-35.
- Lefkandi M. R. Popham, L. H. Sackett and P. G. Themelis eds., Lefkandi I: the Iron Age. The settlement and the cemeteries. BSA suppl. vol. 11. London 1979-80.
- Leuven, J. C. van, 1981. Problems and methods of Prehellenic naology. Sanctuaries and Cults, 11-25.
- Levi, D. 1976. Festòs e la civiltà Minoica. Roma.
- Luce, J. V. 1969. The end of Atlantis, new light on an old legend. London.
- Mackenzie, D. 1905-6. Cretan Palaces and the Aegean civilization II. BSA 12, 216-258.
- Mackeprang, M. B. 1938. Late Mycenaean vases. AJA 42, 537-559.
- Maisons I P. Demargne et H. Gallet de Santerre, Fouilles exécutées a Mallia: exploration de maisons et quartiers d'habitation (1921-1948). Études Crétoises IX, Paris 1953.
- Maisons II J. Deshayes et A. Dessenne, Fouilles exécutée a Mallia: exploration des maisons ... (1948-1954). Études Crétoises XI, Paris 1959.
- Maisons III O. Pelon, Fouilles exécutées a Mallia: exploration des maisons ... (1963-1966). Études Crétoises XVI, Paris 1970.
- Maisons IV H. et M. van Effenterre, Fouilles exécutées a Mallia: exploration des maisons ... (1956-1960). Études Crétoises XXII, Paris 1976.
- Maiuri, A. 1921. Rodi. Alfieri e Lacroix eds. Roma etc.
- 1923-4. Jalisos-Scavi della Missione Archaeologica Italiana a Rodi (parte I & II). Annuario 6-7, 83-341.
- 1928. Esplorazione di grotte con avanzi preistorici bell isola di Calimno. Cl.Rh. 1, 104-117.
- Mallia 4 F. Chapouthier, P. Demargne, A. Dessenne, Fouilles exécutées a Mallia, quatrièm raport: exploration du Palais (1929-1935 et 1946-1960). Études Crétoises XII, Paris 1962.
- Marinatos, S.-Hirmer, M. 1960. Crete and Mycenae. London.
- Mariolopoulos, E. 1948. Το κλίμα της Ελλάδος. 'Αθήναι.
- 1956. Μελέτη 'επί' τού κλίματος της Δωδεκανήσου. 'Αθήναι.
- 1961. An outline of the climate of Greece. University of Athens Meteorological Institute Publications.
- Martelli, A. 1916. Appunti geologici sull isola di Scarpanto. Bollettino della Societa Geologica Italiana 35, 215-234. Roma.
- Matz, F. 1956. Kreta, Mykene, Troja. Die Minoische und die homerische Welt. Stuttgart.
- 1962. Crete and Early Greece. London.

- Mavriyiannaki, K. 1967-8. Incinerazioni del Tardo Minoico III nella Creta occidentale: un riesame dell reso della cremazione nel mondo miceneo dell XIII e XII secolo. Annuario 29-30, 167-179.
- Maxwell-Hyslop, R. 1946. Daggers and swords in western Asia: a study from Prehistoric times to 600 B.C. IRAQ 8, 1-65.
- McCoy, F. W. 1980. Climatic Change in the Eastern Mediterranean Area During the Past 240,000 years. TAW II, 79-100.
- 1980A. The Upper Thera (Minoan) Ash in Deep-Sea Sediments: Distribution and Comparison with other Ash Layers. TAW II, 57-78.
- McDonald, W.-Hope Simpson, R. 1969. Further exploration in the southwestern Peloponese. AJA 68, 229-278.
- McGeorge, P. J. P. 1983. The Minoans: Demography, physical variation and affinities. Ph.D. thesis, Institute of Archaeology, University of London.
- Mediterranean Pilot 1908 and 1955. The Mediterranean Pilot, by Hydrographic Department Admiralty, vol. IV, London.
- Mee, C. 1975. The Dodecanese in the Bronze Age. Ph.D. thesis, Bedford College, University of London.
- 1978. Aegean Trade and Settlement in Anatolia in the second millennium B.C. AS 28, 121-156.
- 1980. The first Mycenaeans in the Eastern Aegean. BICS 27, 135-136.
- 1982. Rhodes in the Bronze Age. Aris and Philips Ltd., Warminster.
- Melas, E. 1972. 'Η Κάρπαθος στὸν Ἀγῶνα τῆς Παλιγγενεσίας. Ἀθήνα.
- 1975. 'Ο "Διάκος" τῆς Δωδεκανήσου. Ἀθήνα.
- 1979. 'Η Ἐποχὴ τοῦ Χαλκοῦ στὴν Κάρπαθο (with English summary). KM 1, 131-192.
- 1981. Νέα στοιχεῖα γιὰ τὴ Μινωικὴ ἀποίκιση τῆς Κάρπαθου (with English summary). KM 2, 99-161.
- 1982. Minoans and Mycenaeans in Karpathos and Kasos. BICS 29, 131.
- 1983. Survey of Karpathos, Kasos and Saria, Dodecanese. Archaeological Survey in the Mediterranean Area, D. R. Keller and D. W. Rupp eds. BAR, Intern. Series 155.
- 1983A. Minoan and Mycenaean settlement in Kasos and Karpathos. BICS 30, 53-61.
- 1983B. The origins of Aegean cremation. Anthropologica 4 (forthcoming).
- Mellaart, J. 1958. The Neolithic Obsidian Industry of Ilicapinar and its Relations. IM 8, 82-92.
- 1964. Excavations at Catal Hüyük, 1963. Third preliminary report. AS 14, 39-123.
- Melos C. Renfrew and M. Wagstaff eds., An Island Polity: the archaeology of exploitation in Melos. Cambridge University Press 1982.
- Merkando, L. 1974-5. Lampade, Lucerne, Bracieri di Festòs (Scavi 1950-1970). Annuario 52-3, 15-167.
- Michailidis-Nouaros, M. 1940-9. Ἱστορία τῆς νήσου Κάρπαθου. Ἀθήνα.
- Migliorini, E. 1937. Economia rurale ed insediamento nell isola di Scarpanto. Bollettino della Società Geografica Italiana VII, 245-69.
- 1938. Ricerche anthropogeografiche eseguite nelle isole Italiane dell Egeo, IV, 112-139. Milano.
- 1938A. Appunti geografici sull isola di Caso. Bollettino della Società Geografica Italiana VIII, 265-279.

- Mochlos 1909 R. B. Seager, Excavations in the island of Mochlos, Crete in 1908. AJA 13, 273-303.
- Mochlos 1912 R. B. Seager, Explorations in the island of Mochlos. Boston and New York.
- Morricone, L. 1965-6. Eleona e Langada - sepolcreti della tarda età del Bronzo a Coe. Annuario 27-8, 5-311.
- 1972-3. Coe-Scavi e Scoperte nel Seraglio e in località Minori (1935-43). Annuario 34-5, 139-396.
- Moutsopoulos, N. 1978. Καρπαθος: σημειώσεις ιστορίας, τοπογραφίας και αρχαιολογίας. 'Επιστημονική 'Επετηρίς τῆς Πολυτεχνικῆς Σχολῆς Πανεπιστημίου Θεσσαλονίκης, vol. 7.
- Mycenaean Geography J. Bintliff ed., Mycenaean Geography, proceedings of the Cambridge Colloquium, September 1976.
- Mykonos J. S. Belmont and C. Renfrew, Two Prehistoric sites on Mykonos. AJA 68, 395-400.
- Mylonas, G. E. 1948. Homeric and Mycenaean burial customs. AJA 52, 56-81.
- 1973. 'Ο Ταφικός κύκλος Β τῶν Μυκηνῶν, τόμ. Α. 'Αθήναι.
- Myres, J. L. 1941. The islands of the Aegean. The Geographical Journal 97, 137-157.
- 1949. The geographical background of the Greek civilization. Archiv Orientalni 17, 197-204.
- 1953. Geographical history in Greek Lands. Oxford.
- Myrtos P. Warren, Myrtos, an Early Bronze Age Settlement in Crete. London.
- Nécropoles II H. et M. van Effenterre, Fouilles exécutées a Mallia: étude du site (1956-1957) et exploration des nécropoles (1915-1928). Études Crétoises XIII, Paris.
- Nelli, B. 1910. Fossili Miocenici di Kaso nel mare Egeo. Bollettino della Società Geologica Italiana 29, 369-377.
- Neolithic Greece D. R. Theocharis et al., Neolithic Greece. Athens 1973.
- Neumann, C.-Partsch, J. 1885. Physikalische Geographie von Griechenland. Breslau.
- NID 1941 Naval Intelligence Division, Geographical Handbook Series, Dodecanese. London 1941.
- Niemeier, W. D. 1979. Towards a new definition of Late Minoan II. AJA 83, 212-214.
- Nilsson, M. 1950. Minoan-Mycenaean Religion and its survival in Greek Religion. Lund.
- OA Opuscula Archaeologica.
- PAA Πρακτικά τῆς 'Ακαδημίας 'Αθηνῶν.
- Pachyammos R. B. Seager, The cemetery of Pachyammos. Philadelphia 1916.
- PAE Πρακτικά τῆς ἐν 'Αθήναις 'Αρχαιολογικῆς 'Εταιρείας.
- Palaikastro (or Palaik.) I-VII. Excavations at Palaikastro;
I by R. C. Bosanquet, BSA 8 (1901-2) 286-316;

- II by R. C. Bosanquet and R. M. Dawkins, BSA 9 (1902-3) 274-328;
 III by R. M. Dawkins and C. T. Currelly, BSA 10 (1903-4) 192-231;
 IV by R. M. Dawkins and C. H. Hawes, BSA 11 (1904-5) 258-297;
 V by R. M. Dawkins, BSA 12 (1905-6) 1-8;
 VI by L. H. Sackett, M. R. Popham and P. M. Warren, BSA 60 (1965) 248-315;
 VII by L. H. Sackett and M. R. Popham, BSA 65 (1970) 203-242.

Palmer, L. R. 1965. Mycenaean and Minoan. Aegean Prehistory in the light of Linear B tablets. New York.

Papathanassopoulos, G. A. 1961-2. Κυκλαδική Νεολιθική. AD 17A, 104-151.
 ——— 1981. Neolithic and Cycladic Civilizations. Athens.

Papers in Cycladic Prehistory J. L. Davis and J. F. Cherry eds., Papers in Cycladic Prehistory. Institute of Archaeology, University of California, monograph XIV.

Paton, W. R. 1887. Vases from Kalymnos and Karpathos. JHS 8, 446-460.

Payne, J. C. 1960. Flint implements from Tell Al-Judaidah; in Bridgwood 1960, 525-538.

Pendlebury, H. W. 1939. The Archaeology of Crete. London.

Pendlebury, H. W. and J. D. 1928-30. Two Proto-palatial houses at Knossos. BSA 30, 53-73.

PEQ Palestine Exploration Quarterly.

Persson, A. W. 1942. The Religion of Greece in Prehistoric times. Berkeley and Los Angeles.

Philipsson, A. 1901. Beiträge zur Kenntniss der griechischen Inselwelt. Gotha.

——— 1930. Beiträge zur Morphologie Griechenlands. Stuttgart.

——— 1948. Das Clima Griechenlands.

——— 1959. Die Griechischen Landschaften; IV das ägäisches Meer und seine Inseln. Frankfurt.

Phylakopi T. D. Atkinson et al., Excavations at Phylakopi in Melos, conducted by the British School at Athens. London 1904.

Piacenza, F. 1688. L'Egeo redivivo o sia chorografia dell' Archipelago ... Grecia, Morea e Peloponese, di Candia e Cipri. Modona.

Pinset, J. 1978. The iconography of octopuses: a first typology. BICS 25, 172-173.

PKU R. C. Bosanquet and R. M. Dawkins, The unpublished objects from the Palaikastro excavations 1902-1906, part I. BSA supplementary paper no. 1, 1923.

PM A. Evans, The Palace of Minos at Knossos, I-IV. London 1964.

Polinger Foster, K. 1978. The Mount Holyoke Collection of Minoan Pottery. TUAS 3, 1-30.

Poliochni L. Bernabo Brea, Poliochni, città preistorica nell' isola di Lemnos. Monografie della Scuola Archaeologica di

Atene e delle Missioni Italiane in Oriente. Roma
1964 and 1976.

- Pollard J. 1977. Birds in Greek life and myth. London, Thames and Hudson.
- Popham, M. R. 1964. The last days of the Palace at Knossos - complete vases of the Late Minoan IIIIB period. SIMA V, Lund.
- 1965. Some Late Minoan III pottery from Crete. BSA 60, 316-342.
- 1967. Late Minoan Pottery, a summary. BSA 62, 337-351.
- 1969. The Late Minoan Goblet and Kylix. BSA 64, 299-304.
- 1970. Late Minoan IIIIB pottery from Knossos. BSA 65, 195-202.
- 1970A. The destruction of the Palace at Knossos. Pottery of the Late Minoan IIIA period. SIMA XII, Göteborg.
- 1974. Trial KV (1969), a Middle Minoan building at Knossos. BSA 69, 181-194.
- 1975. Late Minoan II Crete: a note. AJA 79, 372-374.
- 1977. Notes from Knossos, part I. BSA 72, 185-196.
- 1978. Notes from Knossos, part II. BSA 73, 179-188.
- 1979. Connections between Crete and Cyprus between 1300-1100 B.C. RCC, 178-191.
- 1980. Cretan sites occupied between c.1450 and 1400 B.C. BSA 75, 163-167.
- et al. 1974. M. R. Popham, and E. A. and H. W. Catling, Sellopoulo tombs 3 and 4: two late Minoan graves near Knossos. BSA 69, 195-257.
- PPS Proceedings of the Prehistoric Society.
- Prosymna C. Blegen, Prosymna, the Helladic settlement preceding the Argive Heraeon. Cambridge 1937.
- Pseira R. B. Seager, Excavations on the island of Pseira, Crete. University of Pennsylvania Anthropological Publications vol. III, 1. Philadelphia 1910.
- PTK A. Evans, Prehistoric Tombs of Knossos. London 1906.
- Pylos C. W. Blegen and M. Rawson, The Palace of Nestor at Pylos in western Messenia, vol. I.2, Princeton 1966. Vol. III (with the additional collaboration of W. Taylor and W. P. Donovan). Princeton 1973.
- Rackham, O. 1978. The Flora and Vegetation of Thera and Crete before and after the great eruption. TAW I, 755-764.
- Rapp, Jr., G.-Kraft, J. C. 1978. Aegean Sea Level Changes in the Bronze Age. TAW I, 183-194.
- RCC Acts of the International Archaeological Symposium "The Relations between Cyprus and Crete, ca. 2000-500 B.C." Nicosia 1979.
- Renfrew, C. 1964. Crete and the Cyclades before Radamanthys. KCh. 18, 107-141.
- 1967. Cycladic Metallurgy and the Aegean Early Bronze Age. AJA 71, 1-20.
- 1969. The development and chronology of Early Cycladic figurines. AJA 73, 1-32.
- 1972. The Emergence of Civilization: The Cyclades and the Aegean in the third millennium B.C. London.
- 1978. Phylakopi and the Late Bronze I in the Cyclades. TAW I, 403-421.
- Whitehouse, R. 1974. The Copper Age of Peninsular Italy and the Aegean. BSA 69, 343-393.
- et al. 1965. C. Renfrew, J. R. Cann and J. E. Dixon, Obsidian in the Aegean. BSA 60, 225-242.

- Rhodes 'A. Σάμψων, Νεολιθικά εὐρήματα ἀπὸ τῆς Ρόδου. AAA 12 (1979) 24-39.
- Ross, L. 1945. Reisen auf den griechischen Inseln des Ägäischen meeres. Stuttgart-Tübingen.
- Rutkowski, B. 1966. Larnaksy Egéejskie. Warszawa.
 ——— 1968. The origin of the Minoan coffin. BSA 63, 219-227.
 ——— 1972. Cult Places in the Aegean World. Warszawa.
- Sakellarakis, J. 1973. Neolithic Crete, in Neolithic Greece, 131-146.
- Saliagos J. D. Evans and C. Renfrew, Excavations at Saliagos near Antiparos. London 1968.
- Samos I V. Milojević, Samos I: die prähistorische Siedlung unter dem Heraion. Grabung 1953 und 1955. Bonn 1961.
- Sanctuaries and Cults R. Hägg and N. Marinatos eds., Sanctuaries and Cults in the Aegean Bronze Age. Proceedings of the first International Symposium at the Swedish Institute in Athens. Stockholm 1981.
- SCE The Swedish Cyprus Expedition.
- Schachermeyer, F. 1955. Die Ältesten Kulturen Griechenlands. Stuttgart.
- Sherrat, E. S. 1980. Regional variation in the pottery of Late Helladic III B. BSA 75, 175-202.
- Sholes, K. 1956. The Cyclades in the Later Bronze Age: a synopsis. BSA 51, 9-40.
- SIMA Studies in Mediterranean Archaeology.
- SME Studi Micenei ed Egeo-anatolici.
- Smee, M. H. 1966. A Late Minoan tomb at Palaikastro. BSA 61, 157-162.
- Smith, W. S. 1872. A dictionary of Greek and Roman Geography, vol. I. London.
- Snodgrass, A. 1971. The Dark Age of Greece. Edinburgh.
- Sondages H. Chevalier et al., Fouilles exécutées a Mallia: sondages au sud-ouest du Palais (1968). Études Crétoises XX. Paris.
- Sphoungaras E. H. Hall, Excavations in Eastern Crete - Sphoungaras. Philadelphia 1912.
- Starr, C. G. 1954/5. The Myth of the Minoan Thalassocracy. Historia 3, 282-291.
 ——— 1962. The Origins of Greek Civilisation, 1100-650 B.C. London.
- Stefani et al. 1885. Stefani, C. de, Forsyth Major, J. and Barbey, W., Karpathos: étude géologique, paléontologique et botanique. Lausanne.
- Stronach, D. B. 1957. The development and diffusion of Metal types in Early Bronze Age Anatolia. AS 7, 89-125.
- Stubbings, F. H. 1951. Mycenaean pottery from the Levant. Cambridge.
 ——— 1969. The collapse of the Minoan Palace Civilization. BICS 16, 167-169.

- Susini, G. 1963-4. Supplemento epigrafico di Caso, Scarpanto, Saro, Calchi, Alinnia e Tilo. Annuario 41-2, 203-292.
- TAW Thera and the Aegean World: Papers and Proceedings of the Second International Scientific Congress, Santorini, Greece, August 1978, C. Doumas ed.; vol. I, 1978; II, 1980. London.
- Taylor, W. 1958. Mycenaean pottery in Italy and adjacent areas. Cambridge.
- TDoAx A. Evans, The Tomb of the Double Axes and Associated Group, and Pillar Rooms and Ritual Vessels of the "Little Palace" at Knossos. London 1914.
- Thera S. Marinatos, Excavations at Thera I-VI. Athens 1968-1974.
- Thermi W. Lamb, Excavations at Thermi in Lesbos. Cambridge 1936.
- Thorarinsson, S. 1971. Damage caused by tephra fall in some big Icelandic eruptions and its relation to the thickness of the tephra layers. Acta of the 1st International Scientific Congress on the Volcano of Thera. Athens.
- Thorbecke, G. 1976. Nachweis von Tripolitza-Flysch auf der Insel Kasos. Zeitschrift der Deutschen Geologischen Gesellschaft 127, 125-131. Hannover.
- Torrence, R. 1979. A technological approach to Cycladic blade industries. Papers in Cycladic Prehistory, 66-86.
- and Cherry, J. F. 1976. Archaeological survey of the obsidian source on Giali in the Dodecanese (unpublished manuscript).
- Treuil, R. 1983. Le Néolithique et le Bronze Ancien Égéens: les problèmes stratigraphiques et chronologiques, les techniques, les hommes. Paris.
- Trianda G. Monaco, Scavi nella zona micenea di Jaliso, 1935-1936. Cl.Rh. 10 (1941), 41-183.
- Troy I C. Blegen, J. L. Caskey, M. Rawson and J. Sperling, Troy vol. I: general introduction, the first and second settlements. Princeton 1950.
- Troy II C. Blegen, J. L. Caskey and M. Rawson, Troy vol. II: the third, fourth and fifth settlements. Princeton 1951.
- Tsountas, C. 1899. Κυκλαδικά II. AE 1899, 74-134.
- 1908. Αἱ Προϊστορικαὶ Ἀκροπόλεις Διμηνίου καὶ Σεσκίου. Ἀθηναί.
- TUAS Temple University Aegean Symposium: Studies of New and Little Known Material from the Aegean Bronze Age, ed. P. P. Betancourt. vols I-VIII, Philadelphia 1976-1983.
- Tylissos 1912 J. Hazzidakis, Τυλισσὸς Μινωικῆ. AE 1962, 197-233.
- Tylissos 1934 J. Hazzidakis, Les villas minoennes de Tylissos. Études Crétoises III. Paris.
- Tzedhakis, J. 1968. Ἀνασκαφὴ σπηλαίου Μαρμελοῦκου Τρύπα. PAE 1968, 133-138.
- 1969. Ἀνασκαφὴ ΥΜ ΙΙΙΑ-Β νεκροταφείου εἰς περιοχὴν Καλαμίου Χανίων. AAA 2, 365-369.
- 1971. Minoan Globular flasks. BSA 66, 363-368.

- Ucko, P. J. 1968. Anthropomorphic figurines of Predynastic Egypt and Neolithic Crete. London.
- Vagnetti, L. 1972-3. L'insediamento Neolitico di Festòs. Annuario 50-1, 7-138.
 ——— 1973. Tracce di due insediamenti Neolitici nell territorio dell' antica Gortina. Antichità Cretesi (Studi in onore di Doro Levi), I (1973) 1-9. Catania.
- and Belli, P. 1978. Characters and problems of the Final Neolithic in Crete. SME 19, 125-163.
- Ventris, M.-Chadwick, J. 1973. Documents in Mycenaean Greek. Cambridge.
- Vermeule, E. T. 1964. Greece in the Bronze Age. Chicago. Reprinted 1969.
 ——— 1968. The Decline and End of Minoan and Mycenaean Culture. A Land called Crete, a symposium in memory of Harriet Boyd Hawes (1871-1945), 81-98. Massachusetts.
 ——— and Karageorghis, V. 1982. Mycenaean pictorial vase painting. Cambridge, Mass. and London.
- Volonakis, M. 1922. The island of Roses and her eleven sisters. London.
- Vrokastro E. H. Hall, Excavations in Eastern Crete: Vrokastro. Philadelphia 1914.
- Wace, A. 1932. Chamber tombs at Mycenae. Oxford.
- Walberg, G. 1976. Kamares, a study of the character of Palatial Middle Minoan pottery. Uppsala.
- Walters, H. B. 1897. On some antiquities of the Mycenaean Age recently acquired by the British Museum. JHS 17, 63-77.
- Wardle, K. A. 1969. A group of Late Helladic III B1 pottery from within the citadel at Mycenae. BSA 64, 261-202.
 ——— 1973. A group of Late Helladic III A2 pottery from within the citadel at Mycenae: "the cause way deposit". BSA 68, 295-348.
- Warner, J. 1979. The megaron and apsidal house in EBA Anatolia (Karatas). AJA 83, 133-147.
- Warren, P. M. 1969. Minoan Stone Vases. Cambridge.
 ——— 1969A. The origins of the Minoans. BICS 16, 156-157.
 ——— 1973. Crete, 3000-1400 B.C.: immigration and the archaeological evidence. Bronze Age Migrations in the Aegean, R. A. Crossland and A. Birchall eds., 41-47. London.
 ——— 1979. The stone vessels from the Bronze Age settlement at Akrotiri, Thera. AE 1979, 82-113.
 ——— and Tzedhakis, J. 1974. Debla, an Early Minoan Settlement in Western Crete. BSA 69, 299-342.
- Watrous, H. B. 1979. Ground stone implements at Gournia: comments and queries. TUAS 4, 46-50.
- Watrous, L. V. 1977. Aegean settlements and transhumance. TUAS 2, 2-6.
- Watts, A. 1975. Wind Pilot, the eastern Mediterranean coasts. London.
- Weinberg, S. S. 1951. Neolithic figurines and Aegean interrelations. AJA 55, 121-133.
- Weinstein, J. R. 1981. Hafting Methods on Type B Swords and Daggers. TUAS 6, 48-55.

- Willetts, R. F. 1962. Cretan Cults and Festivals. London.
——— 1965. Ancient Crete: a social history. London-Toronto.
——— 1969. Everyday life in ancient Crete. London-New York.
- Wright, H. E. Jr., 1968. Climatic Change in Mycenaean Greece. Antiquity 42, 123-127.
- Xanthos IV H. Metzger, Fouilles de Xanthos: les Céramiques Archaiques et Classiques de l'Acropole Lycienne, avec la collaboration de D. von Bothmer et de J. N. Coldstream. Paris 1972.
- Xanthoudidis, S. 1924. The vaulted Tombs of Mesara. London.
- Zakros N. Platon, Zakros, the discovery of a lost Palace of ancient Crete. U.S.A. 1971.
- Zois, A. A. 1965. Φαιστιακά. AE 1965, 27-109.
- Zygouries C. W. Blegen, Zygouries: a Prehistoric settlement in the valley of Cleonae. Cambridge, Mass. 1928.