

THE ACADEMIC REGISTRAR
ROOM 16
UNIVERSITY OF LONDON
SENATE HOUSE
MALET STREET
LONDON WC1E 7HU

CYCLADIC SETTLEMENTS
IN THE EARLY BRONZE AGE AND THEIR AEGEAN CONTEXT.

VAIA ECONOMIDOU
PhD
UNIVERSITY COLLEGE LONDON

1993



ABSTRACT OF THE THESIS.

The main aim of the thesis is the study of Cycladic settlements of the Early Bronze Age. Part of the research refers to the settlements of the Neolithic and Middle Cycladic period, in order to acquire a view of what preceded and what succeeded these settlements.

The terminology to which the thesis subscribes follows the tripartite chronological system with its subperiods: EC I, EC II, EC IIIA and EC IIIB for Early Bronze Age; MC early and late for the Middle Bronze Age. These are correlated with the local cultural units (e.g. Pelos-Lakkoudes, Keros-Syros etc).

Each settlement is classified according to its chronological period. The structures of each settlement, within the same period, are examined, in terms of house-types which they represent and location within the settlement area. Then the architectural features of the settlements, such as building materials, masonry types, hearths, benches, etc., are analysed as a whole. Problems, such as those of roofs and entrances are discussed. Finally, the available data are examined in relation to urbanization factors, such as fortifications, differentiation of buildings, buildings of special function, settlements density, town structure, craft specialization, interregional trade etc.

Comparisons with contemporary settlements of the Aegean region help in establishing relations between these and the Cycladic settlements. They also contribute to our knowledge of the degree of urbanization the Cycladic settlements achieved.

After the analysis of each period is completed the conclusions follow. The first section concerns the settlements and the problems involved. The second section refers to the Cyclades in their Aegean context and the third section deals with the development of architecture in the Cyclades in its historical framework.

TABLE OF CONTENTS

	PAGE
List of Figures	4
List of Tables	7
List of Plans	8
List of Plates	9
List of Abbreviations	10
Prologue	11
Acknowledgements	12
Introduction	13
Outline	21
Chapter 1: The Neolithic Background	23
Chapter 2: The Early Cycladic I Period	30
Chapter 3: The Transitional EC I to EC II Phase	42
Chapter 4: The Early Cycladic II Period	55
Chapter 5: The Early Cycladic IIIA Period	90
Chapter 6: The Early Cycladic IIIB Period	151
Chapter 7: The End of the Early Bronze Age and the Middle Bronze Age in the Cyclades	185
Chapter 8: Conclusions	201
Notes	280
Gazetteer of Early Bronze Age Sites	293
Abbreviations	300
Bibliography	301

LIST OF FIGURES

1. General Plan of Kephala on Keos.
2. Houses Y and Z in Area L at Kephala on Keos.
3. Phylakopi "Pre-city" Wall 308.
4. Grotta on Naxos. Plan of the EC Settlement.
5. Pyrgos on Paros. Plan of the EC Settlement.
6. Pyrgos on Paros. House A-B of the Transitional EC I-II Phase
7. The EC Settlement of Panormos on Naxos.
8. Emporio on Chios. Architectural Remains in Area A. Period VIII.
9. Thermi on Lesbos. Plan of Town IIIA.
10. Plans of Houses 103 and 102 of Troy Ia-b.
11. EM I architectural remains from Phaistos, below the West Court of the MM Palace.
12. Mt. Kynthos on Delos. a. Apsidal structures ϕ , \times , ψ in the NE area; b. Possible reconstruction of the apsidal structures ϕ , \times , ψ .
13. Mt. Kynthos on Delos. NW area: Wall under Rooms π , ρ , σ .
14. Skarkos on Ios. a. The excavated Area; b. The two Building Complexes and the road.
15. Skarkos on Ios. a. The difference in thickness between the upper and lower floor in the Building Complex; b. A ground floor room with a hearth in the centre.
16. Ay. Irini on Keos. Plan of the excavated areas.
17. Ay. Irini on Keos. a.-b. Building XI; c. House E (Phase I).
18. a. Avdheli on Naxos. The L-shaped wall; b. Paroikia on Paros. The Architectural Remains on the foot of the hill.
19. Pyrgos on Paros. House C-D of the EC II period.
20. Akrotiri on Thera. a. Distribution of Early and Middle Bronze Age finds; b. Rock-cut structure in B5.
21. Manika in Euboea. Building Remains of Phase 2.
22. a. Zygouries. EH II House Y; b. Palamari on Skyros. Buildings in Sector A.
23. a. Raphina. Plan of the EH Settlement; b. Askitario. Plan of the EH Settlement.
24. Tiryns. Fundhorizonte 1-4.
25. Myrthos-Phournou Koriphi. Plan of the Settlement of the EM IIa and EM IIb periods.
26. Vasiliki Ierapetras. Plan of the settlement area.
27. a. Ay. Triada. The EM IIa houses; b. Knossos. The EM IIa House.
28. Debla. The Buildings of the EM IIa period.
29. Emporio on Chios. Architectural Remain in Area A, Period IV.
30. Troy Diagrammatic Plan of Walls of Phase I.
31. Thermi on Lesbos. Plan of Town IIIB-IV.
32. Fortifications of Middle and Late Troy I.
33. Christiana. a. Plan of the well-like structure; b. The well-like structure, view from NW.
34. Mt. Kynthos on Delos. Plan of the EC IIIA Settlement.

35. Ay. Irini on Keos. a. House E (Phase 2); b. House D.
36. a. Daskalio Islet. An EC IIIA house; b. Daskalio on Keros. Plan of an EC IIIA house.
37. Kastraki on Naxos. Ground Plan of an EC IIIA house.
38. Korphi t' Aroniou. a. The excavated areas. b. The EC IIIA elliptical structure.
39. Pyrgos on Paros. The Architectural Remains of the EC IIIA period.
40. Chalandriani-Kastri on Syros. The location of the two settlements.
41. Kastri on Syros. The EC IIIA citadel.
42. a. Thebes. Apsidal Buildings A and B; b. Eutresis. Building L.
43. Lithares. Plan of the EH II Settlement.
44. a. Orchomenos. The EH layer of the round structures. b. Manika 3. The layout of the EH Settlement in Sector III.
45. Ay. Kosmas. Plan of the EH Settlement.
46. Aigina III. a. The Structures of Aigina III; b. Ground Plan of the "Weisses Haus".
47. a. Zygouries. Plan of the EH Settlement; b. Berbati EH Buildings B/R and A.
48. Tiryns. Restored Ground Plan of the "Rundbau".
49. Lerna III. a. Buildings and Fortifications of Phase C; b. Plan of Building BG of Phase C.
50. a. Asine. The EH structures R and S; b. Tsoungiza. The EH settlement; c. Tsoungiza. Sketch plan of House A; d. Tsoungiza. Sketch plan of House B.
51. Akovitika. The EH structures.
52. a. Ay. Dimitrios Plan of House A; b. Palamari on Skyros. Buildings in Sector B.
53. Malia. EM II Architectural Remains.
54. Palaikastro. "Block X". a. Plan of the Settlement; b. The EM IIb House in "Block X".
55. Thermi on Lesbos. Plan on Town IV.
56. Troy. Plan of Walls of Troy IIc.
57. Troy. The "House of the City King".
58. Phylakopi on Melos. a. House 16 in E3; b. House 19 in J2; c. House 11-12 in J2.
59. Phylakopi on Melos. a. "First City" Remains in H2; b. "Second City" Remains in H2.
60. Paroikia on Paros. The EC IIIB Settlement.
61. Ftellos on Thera. Plan of the dug-out structure.
62. a. Map of Melos, showing the location of the EC IIIB Settlements; b. Kastro on Siphnos. Topographical Plan.
63. Phylakopi on Melos. a. The EC IIIB tombs around Phylakopi; b. The layout of the "Second City" of Phylakopi.
64. Eutresis. a. House H; b. Structures N and O.
65. a. Aigina. Ground Plan of Aigina V; b. Berbati EH III Building N/P.
66. a. Tiryns. EH III Horizon 10; b. Lerna IV Structures of Phase 2; c. Lerna IV Structures of Phase 3; d. Lerna IV Structures of Phase 4.
67. a. Tsoungiza. The House of the Querns; b. Palamari on Skyros. House B; c. Vasiliki IV. Buildings in Section P; d. Palaikastro. Remains in Section 3.
68. Ay. Irini. The Area of the Temple.

69. Ay. Irini on Keos. a. Structures of the Early and Middle Bronze Age. b. House A. Period V.
70. Mikri Vigla. a. Plan of the Site; b. Structures 5,6,7.
71. a. House Model from Melos; b. Pyxis from Naxos; c. Pyxis from Melos; d. 1.2 Pyxis from Amorgos.
72. a. Plans of EH "Corridor Houses"; b. House E of Ay. Irini III.
73. a. Apsidal Buildings ϕ , χ , ψ on Mt. Kynthos; b. Structure J at Ay. Kosmas; c. Orchomenos. Apsidal House Type C.
74. a. The earliest apsidal buildings at Poliochni I; b. House 103 at Troy Ia; c. Rachmani, House P.

LIST OF TABLES

1. Chronological Table of the Early Bronze Age in the Aegean.
2. Periods of occupation in the Cycladic islands.

LIST OF PLANS

1. The Main Excavated Area at Saliagos
2. Poliochni on Lemnos. Plan of Poliochni III.
3. Thermi on Lesbos. Plan of Town V.
4. Poliochni on Lemnos. Plan of Poliochni IV.
5. Poliochni on Lemnos. Plan of Poliochni V.
6. Phylakopi on Melos. Plan of the "First and Second Cities".

LIST OF PLATES

- A. Urbanization Characteristics.
- B. The Settlements.
- 1. Graphic presentation of the Size of the EC Settlements.
- 2. Graphic presentation of the Average Size of the EC houses.
- 3. Surface Homogeneity of the EC Settlements.
- 4. Markiani on Amorgos. Periods of occupation in the EBA.
- 5. a. Mt. Kynthos on Delos. Periods of occupation in the EBA. b. Grotta on Naxos. Periods of occupation in the EBA; c. Panormos on Naxos. Periods of occupation in the EBA.
- 6. Ay. Irini on Keos. Periods of occupation in the Early and Middle Bronze Age.
- 7. Phylakopi on Melos. Periods of occupation in the Early and Middle Bronze Age.
- 8. a. Paroikia on Paros. Periods of occupation in the Early and Middle Bronze Age; b. Pyrgos on Paros. Periods of occupation in the EBA.
- 9. Guide Settlements for the Study of the EBA Urbanization in the Cyclades.
- 10. First Main Group of Urbanization Characteristics of the EC Settlements.
- 11. The 1st group of Urbanization Characteristics.
- 12. Second Main Group of Urbanization Characteristics of the EC Settlements.
- 13. The 2nd Group of Urbanization Characteristics.
- 14. The 3rd Group of Urbanization Characteristics.
- 15. The 4th Group of Urbanization Characteristics.
- 16. The Urbanization Characteristics of the Transitional EC I-II Phase.
- 17. The Urbanization Characteristics of the EC II Period.
- 18. Grotta on Naxos. The development of the Settlement.
- 19. The Urbanization Characteristics of the EC IIIA Period.
- 20. Ay. Irini on Keos. The development of the settlement.
- 21. The Urbanization Characteristics of the EC IIIB Period.
- 22. First and Second Main Groups of Urbanization Characteristics.
- 23. Classification of the EC Settlements.
- 24. Ground Plans of the EC Houses.
- 25. Greek Forest Lands.

LIST OF ABBREVIATIONS

EBA	Early Bronze Age
EC	Early Cycladic
EH	Early Helladic
EM	Early Minoan
FN	Final Neolithic
MBA	Middle Bronze Age
MC	Middle Cycladic
MH	Middle Helladic
MM	Middle Minoan
LBA	Late Bronze Age
LC	Late Cycladic
LH	Late Helladic
LM	Late Minoan
B.C.	Before (the birth) of Christ
c,	circa
cm	centimetres
e.g.	exempli gratia
i.e.	id est
m	metres

γιατί γνώρισαμε τόσο πολύ τούτη τη μοίρα μας
στριφογυρίζοντας μέσα σε σπασμένες πέτρες, τρείς ή έξι
χιλιάδες χρόνια
ψάχνοντας σε οικοδομές γκρεμισμένες που θα ήταν ίσως
το δικό μας σπίτι
προσπαθώντας να θυμηθούμε χρονολογίες και ηρωικές
πράξεις.
Θα μπορέσουμε;

Γιώργος Σεφέρης

Απόσπασμα απο το "Ποίημα θα Μπορέσουμε;"
Συλλογή Ποιήματα (4η Εκδοση 1963).

ACKNOWLEDGEMENTS

I wish to record my gratitude to my Professor, J.N. Coldstream, of University College London for his invaluable help and advice throughout the research for my thesis.

I am also grateful to my Professor, J.D. Evans, of the Institute of Archaeology in London, for his assistance, especially with the first chapters of my thesis.

I also wish to thank my Professor at the University of Ioannina, A. I. Papadopoulos, for his assistance during the years of my study.

I would like to mark my gratitude to my Professor at the University of Ioannina, L. Marangou, to Prof. C. Doumas, of the University of Athens and Prof. C. Renfrew, of the University of Cambridge, for their help in my study and their information concerning their recent excavations. Similarly I would like to thank Robert Arnott, of the University of Birmingham, for the enlightening discussions we had during my research.

I am grateful to the Ephor of Antiquities of the Cyclades, Mrs Ph. Zapheirou and to the Archaeological Society of Athens, for permission to visit and study the Cycladic sites included in my thesis. I am similarly grateful to Prof. D. U. Shilardi, of the II Università Degli Studi di Roma, for my participation in the excavations at Koukounaries on Paros, which contributed a great deal to my understanding of the Early Cycladic culture.

My special thanks to Prof. M. Welsh, of Carleton University, Canada, for correcting the english of my thesis and to my sister Maria Economidou, Electrical Engineer, Patras Polytechnic School, for plotting the plans of the Early Cycladic settlements.

I also acknowledge, with gratitude, the financial support of the State Scholarships Foundation, with whose generosity this study was accomplished.

Last but not least, I would like to express my deep gratitude to my family, and especially to my parents, to whom this thesis is dedicated, for their financial, but most of all, for their moral support during all these years of my study.

INTRODUCTION

The Cyclades is a sub-system, part of a whole system, which is the Aegean civilization. Tsountas was the first who recognised the individuality of the civilization grown in the Cycladic islands and he was the first who called it Cycladic civilization (Tsountas 1898, 137).

Before 1960 the Cyclades were known only from a few investigations and excavations. The first report of them was given by Thucydides who describes the Cyclades and the activities of their people, before the rise of Minoan Crete (i, 4).

From then the Cyclades remained unexplored and unexcavated until Bent, who in 1884 began Cycladic archaeology, by excavating on Antiparos (Bent 1884, 53). At almost the same time (1886) Dümmler began his excavations in the cemeteries on Amorgos (Dümmler 1886, 15). The first systematic excavation, on the cemetery of Pelos on Melos, was undertaken by Edgar in 1896 and 1897 on behalf of the British School at Athens (Edgar 1897, 35). All these early excavations gave information mainly about the Cycladic cemeteries.

For the settlements in the Cyclades there was almost no information until Tsountas explored a number of them in 1898 and 1899. He described the Cycladic settlements on Amorgos¹ (Tsountas 1898, 165, 166), Despotiko² (Tsountas 1899, 130), Paros³ (Tsountas 1898, 168, 175), Siphnos⁴ (Tsountas 1899, 130) and Syros⁵ (Tsountas 1899, 78, 115). The Cycladic settlements were known also from the

excavations of the British School at Athens on Melos (Mackenzie 1897, 71; 1898, 17; Atkinson et al. 1904; Dawkins & Droop 1911, 1), from French and German investigations on Thera (Doumas 1983, 12) and by Rubensohn's excavations on Paros (Rubensohn 1917, 1).

Since then much attention has been paid to the Cyclades but the main focus of the excavations is still the cemeteries. Nevertheless, the excavations of some important Cycladic settlements had already began⁶, but unfortunately almost no complete publication has appeared up to now, except that of Phylakopi (Atkinson et al. 1904) and of Mt. Kynthos (Plassart 1928).

Therefore, most of our knowledge about this civilization derives from the excavations of the cemeteries and from the finds in them (Doumas 1977). From the more than one hundred and fifty sites known in the Cyclades⁷, the majority is cemetery sites (48,66%), while some others (13,33%) yielded only surface finds (Gazetteer, 293). So, there is little known about the settlements which flourished in these islands, especially during the Early Bronze Age. Knowledge has been increased by the publications of the Neolithic and Late Bronze Age settlements (Evans & Renfrew 1968; Coleman 1977; Doumas 1983). But the lacuna in the knowledge of the early periods of occupation still remains.

The main aim of this thesis is to fill this gap in the knowledge of the Cycladic architecture, of the inhabitants of these settlements and of their connections and relations with the other neighbouring civilizations. From ^{such} a study a more complete picture will be gained of this civilization,

during the prehistoric era.

The term "settlement" is used, instead of the vague "site", because "settlement" presupposes architectural remains. A "settlement", in this study, is considered a place with built structures, which imply permanent habitation, and with evidence about the existence of social and economic organization within it. On the other hand, a "site" could be any place used by people, either for temporary habitation, working activities, animal husbandry, or as a cemetery.

The Cycladic civilization, following the system that Sir Arthur Evans (Evans 1921-35) and Wace & Blegen (Wace & Blegen 1918) introduced for Crete and Mainland Greece, respectively, is divided into three chronological periods, i.e. Early, Middle and Late with further subdivisions, I, II and III.

Since then a number of alternative terms have been introduced, which particularly affected the Early Cycladic period (Barber & Macgillivray 1980, 141; Barber 1987, 24). These terms are based on the cultural differences between the Cycladic islands. Tsountas was the first to ascribe these differences between Syros and the rest islands (Tsountas 1899, 77). Although there are different opinions concerning the duration and the name of each phase, the traditional tripartite system for the Early Cycladic period is still used by many scholars (Caskey 1964a, 26; Coleman 1979, 48; Barber & Macgillivray 1980, 141; Barber 1987, 24; Warren & Hankey 1989).

Renfrew distinguishes among⁸ three cultural units, which

correspond to the three phases of the Early Cycladic in the traditional chronological system (Renfrew 1964, 11).

The terminology followed here is the tripartite chronological system. The reason for this is that the terminology that Renfrew introduced exhibits more a local character (based on pottery groups). The Cyclades, however, appear to have an individual and unique character which cannot be disputed (Coleman 1974, 340; Doumas 1977, 26). From the Neolithic period until Late Bronze Age times the Cycladic inhabitants have been racially the same. They were a single ethnic group which had its own culture, with unique and unified characteristics, at least in the Early Bronze Age. Moreover, because this study concentrates on architecture and the evidence derived from it, the traditional system makes more sense for a chronological study of the Cycladic civilization. This shows the continuity and the homogeneous nature of the Cyclades.

This unique culture may partly owe its character to the special climatic conditions of the islands. Climate is one of the most important features of the natural environment which affect man. In one way or another climate influences all the aspects of human life: the production of food, man's clothing and the kind of home he builds, economic activities and even human energy. In addition to its direct impact upon man, climate exerts considerable influence upon other elements of the natural environment (e.g. natural vegetation, soil types, land forms).

In the Aegean area the climate differs from place to place. For example the north is colder than the south and

the west is drier than the east. But generally, the coastal areas enjoy a mild climate. That is one reason to be occupied from the earliest time. The Cycladic climate could be characterized as mild and dry. Frost is an extremely rare phenomenon. Lesbos, Rhodes and the Cyclades have the longest periods of sunshine in the whole Aegean area. But the Aegean is also the most windy part of Greece. The coastal winds are more severe than those in the open sea. During the summer the weather is characterized by the meltemi, a wind, which, well-known in antiquity, blows from the north-east, from the middle of May to the middle of October, and is often quite violent. Cycladic summers are long, hot and dry. The long dry period in ^{the} Cyclades may last from April until almost the end of September. Storms are of a local nature, especially strong in the coastal areas but only a few miles away the sea can be quite calm. The present climate does not appear to be significantly different from that of prehistoric times. (Doumas 1983, 18).

The geology of the islands is quite varied. Several islands have sources of marble, especially Paros and Naxos. Yet, this material was not used for building but for manufacturing the fine vases and figurines of the Cycladic culture. The rocks on most islands are mainly ancient and crystalline ("Greece" 1944; Phillipson 1959). Those, however, of the southern group (Melos, Folegandros, Sikinos and Thera) are volcanic. Building stone is plentiful in the Cyclades and the varying petrologic characters of different islands are reflected in the construction of their

buildings (e.g. schist slabs, volcanic rock etc.). All these elements affect in various ways the architecture of Cycladic civilization.

Before the analysis of the settlements and their architecture according to their date it is necessary to explain the methodology used in this thesis.

This method is based on the study of the architectural remains themselves and the co-examination of twenty-one factors (Vol. II, A), relevant to the morphology, economic life and social organization of the settlements (Vol. II, B). These factors follow the pattern used for the collective study of Mainland architecture (Konsola 1984). The location (1) of the settlement in relation to the sea (coastal or inland) and morphology of the land (2) on which it is located (low or high hill or flat land) are the two first ones. The settlements are divided into small (< 6,938 m²), medium (6,938 m² - 13,876 m²) and large (13,876 m² -) (3) (Pl. 1). This is established by the estimation of the statistical width of these settlements and its division by the required number of classes (Kiochos 1982). The ground plans of the buildings within a settlement determine the morphology of the settlement (4). So there might be settlements which have all their buildings rectilinear or curvilinear or have both kind of buildings (mixed). The average size (5) of the buildings is divided, in the same way used for the settlements, into small (< 17 m²), medium (17 m² - 30 m²) and large (30 m² - ->) (Pl.2). The number of houses in the settlement area determines its density (6) (small: 1.5 - 14.5; medium 14.5 - 29; large; 29

-). The surface homogeneity (7) is divided into three groups: small .000 - . 342, medium . 342 - . 623 and large . 623 - ->⁹ (Pl.3). The quality of construction (8) can be high, medium or mixed. Buildings with a high level of construction are considered those with thick walls built of stones laid in regular courses and joined at right angles; slabs can be used in these buildings either for the floor or for the roof. In general, high technical skill is the main characteristic of the first group of this factor, which is not attested or it is partly attested in the medium and mixed groups. As special architectural feature (9) is considered anything additional to the basic characteristics of the house, i.e. a hearth; a bench etc. The relation between the ground plan, dimensions and quality of construction of the houses within the settlements indicates the differentiation or uniformity of their buildings (10). Administrative and/or religious centres, warehouses and/or workshops, as well as administrative or religious centres with warehouses or workshops are considered as buildings with special function (11). The town planning (12) can be elementary planned or additional. This depends on the existence or absence of streets, their location in the settlement area, their relation to the houses, as well as on the orientation of the buildings.

There are some settlements which were fortified (13). These can be enclosed either by a simple wall (Simple Fortification) or by a system of walls reinforced by towers or bastions (Elaborate Fortification) for better

protection.

p The organized cemeteries (14) is a relevant factor, which can give a lot of information about trade transactions and the socio-economic status of their communities. The craft specialization (15), the bronze, lead (16), silver and gold (17), the marble or stone objects (18), the trade (19), the seals and sealings (20) as well as the marks of the potters' on their pots⁽²¹⁾ furnish evidence about the existence or absence of social structure, high standard of living and economic activities in the settlements' communities.

The analysis of all these factors is considered essential in order to answer questions concerning the urbanization in the Early Bronze Age Cyclades. These consequently will help to establish the nature of the Cycladic civilization.

APPENDIX A :

The twenty one factors mentioned above have been established especially for the geographical area of the Cyclades. In this way, although Konsola's system for the Mainland has been adopted in this thesis, it has been modified to fit in the Cycladic context. Thus, some of Konsola's twenty six criteria have been either omitted or altered to become appropriate for the Cycladic architecture.

Konsola's criterion (1), the geographical position of the settlement, has been omitted. This is because all the settlements in this study belong to the same geographical area, the Cyclades, in strong contrast with the settlements on Mainland which cover an extensive area (Boeotia, Euboea, Attica, Argolid, Korinth and Messinia).

The values of Cycladic factors (3), (5) and (6) (Konsola's factors (4), (7) and (13): size of the settlement, average size of the buildings and density of the settlement, respectively) have been changed completely in relation to those applied to Mainland. For example, a small settlement on Mainland can be of up to 40.000 m² (Konsola 1984, 95), while in the Cyclades this is the value of a large settlement. A general observation, as far as the values between the two areas is concerned, is that the values of Mainland are much higher than those of the Cyclades. This applies to factors (5) and (6), too and

is due to the space available for construction. Mainland's flat land allows the expansion of a settlement, while on the islands the area is extremely limited. It is worth mentioning that the largest Cycladic island, Naxos, covers an area of 428 km² and the smallest one, Delos, only 7 km².

The technological features and the drainage of Mainland architecture (Konsola's features (11) and (17) respectively) have been incorporated into the Special Architectural Features (9) of this study. The paved streets (14) and the open spaces (15) of Konsola's study have been placed under the topic of Town Planning (12) of this study. In the same way, the monumental buildings (Konsola's factor (26)) will be co-examined with the buildings of Special Function (11). Thus, minor criteria are consolidated to a more general factor, to which not only they are relevant but they also explain and support.

Moreover, the factors in this study have been placed in order to form small groups. Thus, factors (1) and (2) are relevant to the geomorphology of the settlement; factors (3) to (13) examine the architectural features of the settlements, while factors (14) to (21) refer to their socio-economic characteristics.

The correlation between the factors used in this study and those used for Mainland is as follows :

Cyclades (This study)	Mainland (Konsola 1984)
-(1) Geographical Position
(1) Location of Settlement	(2) Location of Settlement
(2) Land Morphology	(3) Land Morphology
(3) Size of Settlement	(4) Size of Settlement
Small - 6,938m ²	Small - 40,000m ²
Medium 6,938-13,876m ²	Medium 41,000-81,000m ²
Large 13,876m ² - ->	Large 81,000m ² - ->
(4) Morphology of Buildings.....	(6) Morphology
(5) AVG Size of Buildings.....	(7) AVG Size of Buildings
Small - 17m ²	Small 20-31.07m ²
Medium 17-30m ²	Medium 32-100m ²
Large 30m ² - ->	Large 101m ² - ->
(6) Settlement Density	(13) Settlement Density
Small 1.5-14.5	Small < 10houses per 1,000m ²
Medium 14.5-29	Medium 10-17houses >>
Large 29 - ->	Large > 17houses >>
(7) Surface Homogeneity	(8) Surface Homogeneity
Small .000-.342	Small .000-.341
Medium .342-.623	Medium .341-.661
Large .623 - ->	Large .661 - ->
(8) Quality of Construction	(9) Quality
(9) Special Architectural F.....	(11) Technological Features
 (17) Drainage

(10) Differentiation	(10) Differentiation
(11) SF Buildings	(12) SF Buildings
.....	(26) Monumental Buildings
(12) Town Planning	(16) Town Planning
.....	(14) Paved Streets
.....	(15) Open Spaces
(13) Fortification	(5) Fortification
(14) Organized Cemeteries	(18) Organized Cemeteries
(15) Craft Specialization	(19) Craft Specialization
(16) Metals (Bronze,Lead)	(23) Metals (Bronze,Lead)
(17) Precious Metals	(25) Precious Metals
(18) Marble & Stone Objects	(24) Semi-precious stones & Marble
(19) Interregional Trade	(20) Interregional Trade
(20) Seals & Sealings	(21) Seals & Sealings
(21) Potters' Marks	(22) Potters' Marks

OUTLINE.

The object of this thesis is to examine Cycladic settlements and their urbanization during the Early Cycladic period and their relations with the other Aegean civilizations¹⁰.

The study will be divided into eight chapters. A short description of the contents of each part follows.

Chapter 1: The Neolithic Background.

The chapter deals with a short description of the settlements of the end of the Neolithic period. Even though they are not the main object, the Neolithic settlements will help to establish a link between the architecture of the Neolithic period and the beginning of the Bronze Age in the Cyclades.

Chapter 2: The Early Cycladic I Period.

The settlements of this period are described and their architectural features are analysed, whenever this is possible. Unfortunately, the architectural remains of this period are not very well preserved to allow suggestions about certain house plans, settlement organization and level of urbanization.

Chapter 3: The Transitional EC I to EC II Phase.

A special chapter is devoted to this phase because there are architectural remains associated with the characteristic "Kampos" group of pottery¹¹.

Chapter 4: The Early Cycladic II Period.

From this period onwards the detailed analysis of the settlements and their characteristics is possible,

according to the method mentioned in the introduction. Comparison with other contemporary settlements indicate the relations of the Cyclades to the broader Aegean context.

Chapter 5: The Early Cycladic III A Period.

The fortified and unfortified settlements are studied in the same way, as in Chapter 4.

Chapter 6: The Early Cycladic III B Period.

The method used in Chapters 4 and 5 is used in this chapter too, which is the last of the Early Bronze Age.

Chapter 7: The End of the Early Bronze Age and the Middle Bronze Age in the Cyclades.

A short mention of the Cycladic settlements of the Middle Bronze Age helps in understanding the continuation of the Early Cycladic tradition into this era.

Chapter 8: Conclusions.

The classification of the Early Cycladic settlements according to their urbanization level is the result of the analysis of their characteristics. The Cycladic towns and villages and their features are compared with those of the other Aegean regions and conclusions can be made about social life, trade, immigration and invasion, as well as about the nature of the Cycladic civilization.

CHAPTER 1: THE NEOLITHIC BACKGROUND.

The earliest occupation attested in the Cyclades can be assigned to the Late Neolithic period (c. 5000 B.C.), although there is some evidence of even earlier occupation in the Cycladic islands during the Mesolithic period. At Franchthi Cave, at Ermionida in the Peloponnese, (Jacobsen 1969a, 343, 1969b, 4, 1976, 76) a lot of obsidian from Melos was found, in Mesolithic levels (c. 7000 B.C.). But, so far there is no evidence for such early occupation levels on Melos. Other indications come from the island of Kythnos, where at the site Maroulas, near Loutra, on the north-east coast of the island, burials and installation were found, dated to the end of Mesolithic period (Aceramic) (Honea 1975, 277).

Neolithic occupation in the Cyclades is known from excavated or partly excavated¹² and unexcavated sites¹³, and from surface finds (Renfrew 1972, 509; Cherry 1979, 22; Cherry & Torrence 1982, 24).

Only two sites dated to the Late Neolithic period could be considered as settlements. They are Saliagos near Antiparos (Evans & Renfrew 1968) and Kephala on Keos (Coleman 1977), dated to Late Neolithic I and Late Neolithic II respectively, although there is some argument about the date of Saliagos as some scholars try to assign it to the Early Neolithic period (Theocharis 1981, 158; Hood 1984, 26).

Saliagos, near Antiparos (Plan 1).

The earliest known settlement in the Cyclades is

situated on a low hill at the tip of a short promontory, very close to Antiparos and separated only by a narrow passage from the promontory of Pounda on Paros.

In an area of 100 m² wall remains came to light, which belong to a perimeter wall, a building complex, and some small structures.

The buildings had stone foundations while the superstructures were of light construction, probably of wood or clay. Some of the walls appear to be curved, although the majority of them are straight, forming roughly rectangular structures.

The walls are built of dry neat masonry, with the exception of one wall, Wall F, which is packed with white marl, and formed by two rows of rough stones. The walls varied in their axes, but their thickness is almost the same, 30 cm to 40 cm. Variation appears in the floors of the structures, too. Five different kinds of floors can be recognized: floors of white marl, of a very hard pebble and clay mixture, of hard clean plaster, of small or large rounded flattish stones and clay floors with underlying foundations of large flat stones.

Stones of different sizes and kinds (small or large rough stones, flat stones, schist or quartz), were used in Saliagos buildings, usually for the foundations of the walls and for the walls themselves, at least for the lower courses. The upper part of the walls was probably made of some perishable material, such as wood or clay. If it was wood, it must have been removed after the abandonment of the settlement, since no ash remains were found among the

debris, and since wood must have been a valuable material on the rocky islands. More clear is the evidence for the clay superstructure of walls, since pieces of clay were found in situ. These could indicate superstructures made of unbaked brick, or in pisé technique, and indeed it is quite difficult to distinguish such kind of material among the debris, if it has not been burnt. There is no evidence for mud-brick anywhere in the settlement.

The buildings, in the Main Area of the excavation, were found to be enclosed by a perimeter wall. It is roughly rectangular, built of a single impressive row of large stones with no packing of smaller stones. Its thickness is 30 cm and a buttress is attached to it at the north side. The buttress could have served as a bastion or tower, which suggests defence. But the length of the perimeter wall does not reveal such a purpose. The function of this wall is not very clear. It could have been built there to enclose the area (15 m by 17 m) of the main building complex of the settlement.

The function of the structures within the settlement is not very clear either. In the building complex the absence of entrances could indicate that these rooms were substructures, cellars or storerooms, while the living quarters were at a higher level. But in the case of two-floor buildings, a lot of wood or even clay would have been needed in the construction and the necessary materials were not plentiful in the rocky islands.

Some circular structures floored with carefully laid stones and bounded by a wall were probably grain storage

silos. Such structures are known from Chalcolithic levels in the Near East (Mersin XXIV) (Garstang 1953, Pls III-IV) and they were in use, probably for the same purpose, even till to later times in Greece, from the Mycenaean to the Geometric period (Blegen 1966, 293, fig. 219; Popham & Sackett 1968, 30; Drerup 1969, 65; Mc Donald et. al. 1983, Pls 2:25, 2:27; Vermeule 1983,179).

The architecture of the Saliagos settlement, as well as its pottery, obsidian working and figurines, share common features with Middle and Late Neolithic Greece and with Chalcolithic Anatolia (Evans & Renfrew 1968, 81).

The hearth areas, built of stones or clay, are common in the architecture of Mainland even from the Early Neolithic period (Tsountas 1908, 51, 60, 90, 102; Rodden 1962, 267). They are also found in Neolithic levels at Crete (Zois 1973, 187).

A not so common feature of the Cycladic architecture, traced on Saliagos, is the pisé technique or the building of the superstructures of clay, clean or with mixtures. These elements have numerous parallels in Near East (Braidwood & Howe 1960) and Crete (Evans 1971).

These features of the Saliagos architecture do not mean that there are no links with the Bronze Age Cyclades. On the contrary, there are some features which point towards the Early Cycladic period, such as the stone built walls, the material used and the perimeter wall. Stone walls built in dry masonry are the most common characteristic of Cycladic architecture, during the whole Bronze Age, since stones were plentiful on the rocky islands, while wood and

soil most probably were rare.

The most interesting feature of the architecture of the Saliagos settlement is the existence of the perimeter wall, with a "bastion", in this very early stage of habitation. Comparable structures in the Cyclades are better known from the EC III A period¹⁴ (Tsountas 1899, 118; Doumas 1964, 411). Although it is not certain at all that it may have had a defensive purpose, the way it forms the back wall of some structures attached to it, and its "bastion", recall the fortifications of Chalandriani on Syros and of Panormos on Naxos. Defensive walls are known from the earliest periods, from the Pre-pottery Near East (Mellaart 1960, 83; 1961, 39) and from Neolithic Greece (Tsountas 1908, 31, 75).

If the circular corner at the north side of the perimeter wall served as a bastion, that could be an ancestor for the bastions of Chalandriani and Panormos, as well as of Lerna III (Caskey 1958, 125).

In general, the Saliagos settlement appears to be of local character with many features in common with contemporary settlements throughout Greece and Anatolia.

Kephala on Keos.

The settlement of Kephala is situated on a steep rocky promontory protected from the north winds, on the Northwest coast of Keos (Coleman 1977).

The houses are scattered within the terraces of the promontory (Fig. 1), which has a maximum length 250 m (NE-SW axis). They are small with one or two rooms and are rectilinear in plan, usually rectangular, although some are

triangular or trapezoidal.

The walls are all built of dry masonry, of small to medium size stones resting immediately upon the bedrock. Their axes usually run northeast to southwest, with a few exceptions. The thickness of the walls is 50 cm - 70 cm.

The floors are mainly on the native rock, which was roughly levelled by a little cutting on the upper side and filling on the lower. Floors are of packed earth, carefully laid flat stones or slabs embedded in clay.

The main material used in the architecture of Kephala is stone, especially the local schist and more rarely limestone or marble. There are no indications either of mud-brick of ^{or} clay or wood.

The rooms appear to be one-floor rooms, with no superstructures, long and narrow. Some of them have some special features, such as post holes, probably for supporting the roof, pivot stones for door posts, benches of hard-packed earth and division by spur walls. In only one area (deposit in Area K) traces of a hearth or fireplace could be recognized.

The architecture of the settlement, although poorly preserved, appears to be at the start of the building tradition in the Cyclades. Stone - built walls, laid in courses in dry masonry is a common technique throughout the Cyclades during the whole Bronze Age. The houses seem to be the predecessors of the Early Cycladic houses. Houses with benches running along one side are well known from the Cyclades during the Early Cycladic II and III periods

(Doumas 1964, 410; 1972,155).

The interior arrangement of the houses is very interesting. Post holes for supporting a roof, pivot stones for door posts and division by spur walls are not so common in Early Cycladic architecture (Caskey 1962, 263; 1964b, 314; 1966b, 363; 1971, 359), but they are attested in other Greek regions even from the Early Neolithic period (Tsountas 1908; Wace & Thompson 1912; Caskey 1957, 142, 1958, 125, 1959, 202; Rodden 1962; Weinberg 1962, 158) (Fig. 2).

The settlement is of great importance, since it has both Neolithic and Early Cycladic features; it also has cultural connections with nearby Attica and other regions (Mylonas 1959; Caskey & Caskey 1960, 126;, Renfrew 1972; Coleman 1977).

CHAPTER 2: THE EARLY CYCLADIC I PERIOD

The Chronological Framework.

The EC I period is the first phase in the Cycladic Bronze Age sequence, which covers almost four hundred years (or more, Warren & Hankey 1989, 169) in terms of absolute dates, that is from 36200 or 3.500 B.C. to 26800/2.700 or 26900 B.C. (Radiocarbon dates have not yet been established for this period).

According to Renfrew's terminology (Renfrew 1964, 107) this stage corresponds with the Grotta-Pelos culture, after the names of the two sites which yielded the most representative material of this phase: the Grotta settlement on the north coast of Naxos and the Pelos cemetery near Phylakopi on Melos.

Doumas prefers the term Pelos-Lakkoudes for the same phase (Doumas 1977). He also recognises three local groups, the Lakkoudes, Pelos and Plastriras, which according to his division correspond with the EC IA, IB and IC subphases respectively (Doumas 1986, 21).

The Architectural Remains.

Unfortunately, knowledge about the domestic architecture of this period is quite scarce. The best of information comes from the study of the architecture of the Middle and Late Cycladic periods, because of the well stratified settlements, such as Phylakopi on Melos, Akrotiri on Thera, Ay. Irini on Keos etc. or from the cemeteries that are

usually near by.

From the sixteen settlements known in the bibliography there are only two excavated settlements which yielded architectural remains, namely Markiani on Amorgos and Phylakopi ("Pre-City" phase) on Melos. There are five sites associated with architectural remains, which thus represent settlements. These are Cheiromylos and Zoumbaria on Despotiko, Gerani on Keros, Samari on Melos and Panagia on Pholegandros.

Phylakopi on Melos.

One site with architectural remains of this stage is Phylakopi on Melos. The first excavations by the British School at Athens, during 1896-1899, uncovered a rich deposit of EC I date in area J:1, immediately to the E of the Late Bronze Age Megaron (Atkinson et al. 1904, 83). But no walls associated with this pottery were discovered then. Excavations in the same area in 1975 uncovered traces of a "Pre-city" wall (Wall 308) (Fig. 3) founded immediately above the bedrock, in trench pi-C; area J:1, E wall of the Late Bronze Age Megaron (Evans & Renfrew 1984, 63). No further details of this wall are available, since the final publication is in progress¹⁵. The wall is built of large, roughly worked stones, placed in horizontal courses.

Markiani on Amorgos.

Another settlement of extreme importance for the study of the architecture of this period and for the Cycladic architecture as a whole was uncovered in recent excavations at Markiani on Amorgos (French 1990, 69). Here, during the first season of excavation remains of curvilinear and

rectilinear walls came to light. The walls are built in dry masonry of schist or limestone, a practice common in the rest of the islands. But what makes the site exclusive is the existence of the fortification wall with a tower on the N side, while the S and W sides were sufficiently protected by the natural rock.

Rolled-rim bowls and tubular tunnel lugs of the characteristic thick, heavily burnished ware have been found in context and they establish the date of these walls securely the EC I period (Grotta-Pelos culture).

This is of great importance, since fortified settlements in the Cycladic islands in this first stage of occupation were previously considered to be absent.

Samari on Melos.

Samari on Melos also yielded some information about organization of settlement in this period. Mackenzie (Mackenzie 1896-7, 85) refers to walls built with rough stones in a neat masonry. The long walls run E to W in their greatest length and cross-walls are placed at irregular intervals, according to his description, which is the only published source for architectural remains of this site. This could represent a house with rooms arranged in a N-S axis or another small settlement, enclosed by a wall. But the site has not been excavated at all.

Grotta on Naxos.

There is one site rich in remains, which is Grotta on Naxos.

On this site Kontoleon uncovered the remains of three very well preserved houses in close proximity to the sea

(Kontoleon 1949, 112).

Although the earliest pottery from the settlement belongs to the ECI period (Pelos group) the co-existence of fragments bearing stamped decoration seem to point to a later date¹⁶. This is the transitional stage EC I/II (Kampos group). For this reason, despite the fact that the site was considered to be a representative of this phase, the architecture of the settlement is analysed in the next chapter.

Other Sites.

There are some more sites where the existence of structures has been attested but no intensive, if any, excavation has been carried out so far. The date of these settlement-sites in the EC I period is mainly based on the surface pottery.

At Cheiromylos on Despotiko there are remains of walls belonging to a rectangular house. Three slabs, found at the site (Tsountas 1898, 176) seem to belong to a staircase.

On Zoumparia on Despotiko, an unexcavated site¹⁷ traces of an enclosure wall are reported. This wall is located at a short distance from the cemetery, which belongs to the EC I period (Pelos stage). The finds from the tombs consisted mainly of cylindrical pyxides and pedestalled bowls with rectilinear incised decoration (Doumas 1977, 25; Zaphegiropoulos 1960, 246). From the same site fragmentary pottery of the late EC II period (Syros stage) comes from illegal excavations. The most characteristic fragment is that of a "frying pan" with spiral decoration. But, the very characteristic forms of this period, such as the

sauceboat with its different variations (Doulas 1977, 20, fig. 8:1, p), are absent. On the contrary, all the pottery from Tsountas's excavation belongs to the EC I period. So, it is quite safe to date the settlement and its wall to the same period as the near by cemetery (Tsountas 1898, 164).

More remains of walls are reported from Panagia on Pholegandros, while only traces of a foundation of a wall are reported from Gerani on Keros.

There are a few sites from which stratified finds, dated to this period, come without associated architecture. These are Paroikia on Paros (Overbeck 1989, 5), Kato Akrotiri (Tsountas 1898, 166) and Minoa (Marangou 1984, 100 note 12; 1990a, 159) on Amorgos and Ay. Irini on Keos (Caskey 1971, 368).

The wall remains mentioned above, although fragmentarily preserved can give an idea about the way^o of construction and of the settlement patterns of this period.

Architecture.

Rough stones, small to medium size, of local origin, usually schist or granite, and clay are the main building materials used in the EC I architecture. This is a common practice known from the Late Neolithic and Final Neolithic settlements in the same area.

Timber as a construction material for walls has not been attested. Wood seems to be a rare and precious material in the barren islands. On the other hand, if the quantities needed to build a single house, even only its upper part, are taken into consideration, as well as the fact that wood

was definitely used by the islanders for the building of their ships, it is quite safe to consider that wooden superstructures would have been rare. The evidence from the sites, such as the complete lack of wood ash among the debris in the excavation areas, strengthens the suggestion that timber was not used as a building material.

On the other hand, reeds and branches were plentiful, especially since more flora and trees then existed in the islands, less valuable and easily worked. Moreover, the people of the islands knew how to weave such materials into mats, as is strongly suggested by the neat impressions of mats, sometimes found on the base of pots (Doulas 1977, pls. XXXVIII-XLIII). Perhaps this is the material that the labyrinth pattern on many of the models of huts is trying to imitate (Kontoleon 1972, 152). In addition, such buildings, with superstructures made of branches, reeds or even straw upon stone foundations can be seen nowadays in many parts of Greece. They have been made mainly by nomads and have been used as temporary dwellings (Wattle and daub construction) (Theodoris 1981, 11).

A material which is quite common in the EC I architecture is clay. This was mainly used as bonding material for walls made of stones embedded in clay. Until now, there has been ^{no} clear evidence of mudbrick attested in the Cyclades and as it was pointed out¹⁸ this material is difficult to recognise among the debris in an excavation, especially when it has not been burnt.

Therefore, it seems quite possible that during the EC I period there were some dwellings of semi-permanent or

permanent character, belonging to farmers or fishermen, made of perishable material upon stone foundations or without them. It seems quite possible, too, that the severe winds that blow in the Cycladic islands during the whole year, even during summer time, caused the disappearance of such structures. This is supported by the location of these dwellings near the sea, a location convenient for a population consisting of fishermen and traders, where the winds are extremely severe.

In the case of houses built of stone it is quite easy for them to be destroyed without leaving significant traces in situ. Since the walls are built only of stones with no special bonding material it is easy for them to be turned into an amorphous mass of stone debris. Examples of this kind are numerous in the Cycladic islands nowadays, where houses of the 17th and 18th centuries, built of stones in a way similar to that used in prehistoric times have turned to a mass of stones mixed with earth. There are striking examples of this in the villages of Apollonas and Skado on Naxos and Lefkes on Paros. In such cases, the existence of a structure in this area can be traced by the floors, pits and deposits in or around it. These floors usually are almost entirely made of beaten earth with sherds mixed with food remains, such as animal bones and sea shells, indicating different layers of occupation within the same era.

The roofing of the structures is one more problem in the study of the domestic architecture. Since no structure of this period have been preserved to a satisfactory height,

no definitive remarks can be made about the kind of roofs used.

Types of Houses.

The function of the rooms, as well as the relation between them and social organization, still remains unknown. The evidence available from the excavations is extremely fragmentary and cannot support any certain conclusions. Some important excavations and their publications are still in progress (i.e. Markiani on Amorgos, Koukounaries on Paros etc.). Nevertheless some preliminary remarks are possible.

The structures are almost entirely rectangular in plan, in this period. Curvilinear structures have not yet been shown to have existed during this period, with the exception only of Markiani on Amorgos (recent excavations).

About the arrangement of the rooms in the houses, the evidence available is too limited to allow a typology to be constructed of the arrangement of rooms. The division of the houses into types is not easy to support, since the examples are few and their preservation not satisfactory. The only assumption that can be made is that the houses of this period were, in their majority, simple rectilinear in plan, with one room, in which all the domestic activities took place.

As far as the function of the rooms is concerned, there is limited evidence. There are no indications of hearths and their absence can be explained by the mild climate of the islands.

There must have been places for cooking. Marks of burning on the outside of many pots indicate that (Atkinson et al. 1904, 84). But, there is no certain evidence for the location of such places inside or outside the houses.

Indications of shelves or small cupboards for placing the pots are absent, but the pots themselves give useful information. The majority of them have pierced (horizontally or vertically) lugs. So, it is quite safe to suggest that they were suspended. The others could have been placed on the floor, since no benches or similar structures have been uncovered in this period.

The Settlements.

The houses of the EC I period belong to small settlements located in coastal areas or in close proximity to the sea. They are usually unfortified, although there are some indications of the existence of an enclosure or perimeter wall in some of them.

The wall at Markiani on Amorgos could have been established in the EC I period, although its function is not clear.

The settlements of Zoumparia on Despotiko and possibly Samari on Melos were enclosed by a wall in the EC I period, but both are unexcavated.

The walls in these settlements could be taken as evidence for the beginning of settlement organization. The area of occupation is defined by the enclosure wall and the settlement is developed within this area. Most certainly, some kind of authority is needed to decide for a public

construction like this, which furthermore furnishes evidence about the beginning of social organization in these settlements.

The existence of a perimeter wall, although it has not been shown to be a fortification wall, is evident from the Late Neolithic period in the Cyclades¹⁹.

The evidence mentioned above, suggests that a "fortification system" may have existed in some of the settlements in the Cyclades from the Late Neolithic period and was in use in the succeeding EC I period, too. Although the well-known fortified settlements of Panormos on Naxos (Doumas 1964, 411) and Chalandriani (Kastri) on Syros (Tsountas 1899, 77)^{appear} in a developed form, they seem to have their predecessors within the same area of the Cyclades. In the case of the EC I fortified settlement of Markiani, as well as of that of less certain site of Zoumparia, the finds belong to the uniform context of the EC I period, as it is known from the earliest stratum of Phylakopi and from the cemetery of Pelos. They do not appear to exhibit any kind of foreign intrusions. On the contrary, they seem to be a pure Cycladic feature.

Some Evidence from Other Aegean Regions (Table 1).

In general, the EC I period is contemporary with the Final Neolithic (Mortzos 1972, 386; Vagnetti & Belli 1979, 125) and the very beginning of the Early Minoan I period in Crete; the Final Neolithic and the very beginning of the Early Helladic I period in the southern Mainland Greece; and the beginning of the Early Bronze I (pre-Troy or Kum

Tepe IB phases) in the Northeast Aegean.

Although there are many sites throughout the Aegean that had been occupied from the Neolithic period until the Late Bronze Age, architectural remains, dated to the period under discussion are generally absent. The only indications of habitation for the majority of them come from fills or pits where fragmentary pottery is mixed with sherds of the succeeding period.

In Eutresis, in Boeotia, a site of stratigraphic importance, Pottery Group II²⁰ reveals close links with the pottery of the EC I period. But no architectural remains associated with this pottery have been found (Caskey & Caskey 1960, 132, 161).

In Southern Mainland Lithares in Boeotia (Tzavella-Evjén 1985^{q:figs 3-4}), Vouliagmeni near Perachora (Fossey 1969, 53), Palaia Kokkinia in Attica (Theocharis 1951a, 93) revealed the same kind of pottery, but again there is no associated architecture.

In Crete a few remains of the Final Neolithic/EM I period come from Phaistos²¹ (Levi 1976, 288; 1981, 14; Vagnetti & Belli 1979, 148). The fragmentary preservation of these remains does not reveal any certain house plan. But some remarks on their construction are possible.

The walls are rectilinear, with an average thickness of 60 to 90 cm, built of mudbrick or pisé, upon stone foundations.

More evidence comes from the Northeast Aegean region, namely from Poliochni I on Lemnos, "Black" period (Brea 1964) and Emporio VIII-VII on Chios (Hood 1981).

From Emporio on Chios, phase VIII and Poliochni I, have come remains of houses. They have curved walls which belong to two different house types.

The Emporio VIII house is a D-shaped structure consisting of a single room. There is a doorway with a threshold stone at the S curved side. Evidence of a post-hole is attested in the middle of the W wall. However, no complete house plans have been recovered from the succeeding level VII (Kum Tepe IB phase).

On the contrary, from Poliochni I on Lemnos scattered remains of walls *from* this period were uncovered, some of which belong to apsidal houses (Brea 1964, 53-57, figs 25-28; 86-96, figs 45-55).

In general the houses in all these areas are free-standing either rectilinear or curvilinear, and belong to unfortified settlements, features which seem to reflect a peaceful and prosperous community life, sharing the Aegean basin with their neighbours.

CHAPTER 3: THE TRANSITIONAL EC I TO EC II PHASE

The Chronological Framework.

This period is represented by the Kampos group of pottery, which was first recognised on the islands of Paros, to which the Kampos site belongs, and Antiparos. Its existence in other islands was supplemented by discoveries from recent excavations (Amorgos: French 1990, 69; Kouphonisia: Zapheirou 1970, 48; Naxos: Doumas 1977, 25, 100)²².

From time to time this group has been attributed to the EC I or EC II period, but the attribution cannot be certain, since the group combines features from both periods. It could be considered as marking the final phase of the EC I since there are many characteristics from the pottery of this period. On the other hand, there are cases where Kampos pottery coexists with pottery from the succeeding EC II period, which suggests a position at the beginning of EC II. It is safer to consider this group as the transition between the two periods of the Cycladic sequence, as was suggested by some scholars (Doumas 1977, 24; Barber & Macgillivray 1980, 148; Warren 1984, 60).

The Architectural Remains from the Settlements.

There are four settlement sites which because of the pottery found in them, can be dated to this phase. These are Markiani on Amorgos, Grotta and Panormos on Naxos and Pyrgos on Paros. All these sites yielded adequate

architectural remains, in contrast to the sites of the EC I period, for which the architectural remains are rare. It is in this Transitional period that well-built and organized settlements make their appearance.

Markiani on Amorgos.

The site that had been first inhabited in the EC I period continued to be occupied in this stage, as the stratified pottery from different areas of the excavation has shown. The defensive wall is the most striking characteristic of the settlement.

Rectilinear and curvilinear constructions continued to exist side by side. But the architectural remains preserved do not yet allow a reconstruction of their plan. This applies to the constructions on the summit of the site, which seems to be the area that was first inhabited, while the later structures, on the terrace show clear signs of arrangement.

In general, the walls are well-built in drystone technique, constructed of slabs.

These strata revealed numerous fragments of pottery, some of which were recognised as belonging to "frying pans" and bottles, broadly of Kampos type²³.

Grotta on Naxos (Fig. 4).

The site was initially considered to be one of the representatives of the EC I period, thus giving its name to it (Grotta-Pelos; Renfrew 1972, 153). But despite the fact that some sherds could be ascribed to this period, some others have features that point towards a later date (Doumas 1972, 152, 165; Warren & Hankey 1989, 23).

Rolled-rim bowls, of the characteristic EC I form, were found inside the houses. But the shape is common throughout the FN, EC I and Kampos periods. It occurs at the Ano Kouphonisi cemetery, of certain "Kampos" date and is still present at Phylakopi in the EC II period. Moreover, the rolled-rim bowls from the settlement were accompanied by fragments of "frying pans" of Kampos type.

On the other hand, a date within the EC II period (Doulas 1972, 165) seems too late although true for some later additions (e.g. the curvilinear wall of House Γ).

A date for the Grotta settlement to the transitional "Kampos" stage seems more plausible.

In this coastal area, Kontoleon uncovered three well-preserved houses, which belong to an organized settlement (Kontoleon 1949, 112).

Two of the houses (A and B) were located west of a small road, while the third (House Γ) was to the east. This road, with orientation N-S, was 1.05-1.55 m wide in its whole length, except the part between the SE end of House A and the curvilinear wall of House Γ, where it became only 55 cm.

Houses A and B to the west are separated by a small alley, 40-45 cm wide.

House A is a rectilinear structure, although not rectangular, because its NE corner is slightly smaller than a right angle. It is 6.60 m long and the preserved width is 4 m. Its long axis is from N to S, protected therefore from the severe coastal winds that blow from that direction. The west and south walls are not preserved. A cross-wall,

perpendicular to the east wall and at a distance of 3.50 m from the NW corner divided the house into two rooms. There is no evidence of a doorway or a threshold in the preserved parts of the walls, but it seems quite possible that the entrances could have been in the parts of the walls not preserved.

The walls, 50 cm thick, are constructed with small rough granite stones embedded in clay. Most probably they were constructed of stones in their entire length, since some of them are preserved up to a height of 85 cm - 1.10 m and there is no evidence of other building material from the debris. The floor was most probably covered by schist slabs (Kondoleon 1949, 121).

House B is much more fragmentary thus making a restoration plan less possible. Only the east and south walls were uncovered to a length of 2.50 m and 3.90 m respectively. The masonry is the same as in House A.

House Γ, on the east side of the road, is the most impressive house of the preserved settlement. It seems to have had two phases of construction close to each other in time, since the differences in the pottery found inside are slight (Kondoleon ib., 118).

In its initial phase, dated in the Transitional phase, the house must have been a rectilinear structure, much similar in dimensions²⁴ and orientation (N to S) to Houses A and B. Most probably it had two rooms, of which the northern is no longer preserved, but remains of a cross-wall which separated these can be seen just before the north end of the west wall.

The curvilinear walls, to the south, are a later addition, which took place in the EC II period. This is because the curvilinear walls are founded 30 cm above the level of the straight walls and above what appears to be a filling level with sherds of the type found inside the rest of the house. So, in this case Doumas' incorporation of House Γ, phase II, in the list of the "advanced Keros-Syros" sites seems very reasonable (Doumas 1972, 165).

Pyrgos on Paros.

From this site remains of houses of probably three periods ~~were~~ uncovered by Tsountas (Tsountas 1898, 168)²⁵ (Fig. 5).

The earliest structure, in the south area of the excavation, is a house with two rooms (Rooms A and B) (Fig. 6). The house is rectilinear, rectangular in ground plan. The walls are constructed of small rough stones embedded in clay, c. 40 cm thick, above thicker foundations of 45 cm. The walls are not very well preserved, so it is unclear if the superstructures were built of stones or of some other material. The west wall of the building is missing and the east wall is partly covered by the west wall of the later rooms C and D. Although fragmentarily preserved, the most probable orientation is N to S.

A slab (c. 30 X 30 cm) was found in Room B bearing a circular hollow hole on one surface. Tsountas thought that this could have been a pivot stone, but he was not certain because of the slab had been upside down when it was found and because of the ambiguous marks of use it had on it.

Some of the pottery described by Tsountas (Tsountas

1898, 174) dates this earliest phase of the Pyrgos settlement to the transitional period, a date also proposed by Doumas (Doumas 1977, 25).

Panormos on Naxos (Fig. 7).

A single house, preserved very fragmentarily under the later structures of the acropolis of Panormos, was uncovered by Doumas (Doumas 1972, 156).

It seems to represent a small one-room house, with straight walls built of slab-like stones embedded in clay. The thickness of the walls is only 25 cm.

It is described by its excavator as "a lonely little house" and little can be said about its function (Doumas 1972, 156).

There is only one sherd associated with it, which shows certain affinities with a bowl known from the Ayioi Anargyroi cemetery.

Architecture.

The builders of this phase continue the tradition of the previous periods in using rough stones, small to medium size, schist or granite, and clay for the construction of their houses. There is only one exception to this rule, Markiani, where the drystone technique is used mainly for the retaining and the "defensive" walls of this period.

It seems that the walls were built of stones in their entire height with clay as bonding material and without plaster. The walls of this period are 40-50 cm thick. Some are founded upon thicker foundations (Pyrgos), some are preserved to a satisfactory height (Grotta) so that it is

possible to suggest, for two reasons, that their superstructures were made of stone. Firstly, walls built of stone up to a preserved height of 1 m are, most probably, almost certainly, made of stones from that point up to the roof. There is no reason for them to be built higher with some other material, especially at this part which connects directly to the roof.

Secondly, the thickness, 40-50 cm, is enough to support a stone superstructure, in the case of one floor houses, because this is the common practice even in the modern Cycladic villages.

The only exception to this is the house at Panormos with 25 cm walls, but it could be not a dwelling, but a structure for temporary use.

Wood is again not attested. Its use as a material for the upper parts of the walls does not seem necessary in view of what has been argued above, but for the beams of the roof is very likely.

The floors of the houses were most probably made of beaten earth. There is some evidence, however, of stone paved floors at Grotta, House A. Some schist slabs found on the floor of the first phase and under the paved floor of the later phase, were considered by the excavator to belong to such kind of floor.

A similar stone paved floor was found at the SE corner of House B at Grotta, some 30 cm from the foundations.

There is no evidence at all for the roofs of the houses and only some suggestions can be made.

The thickness of the walls suggests that the roof must

have been of light construction and not pitched, because in that case, some interior supports would have been necessary and none have been found so far.

A very likely construction would be of reeds, branches or straw with a frame of wooden beams, covered with plaster.

Roofs were flat most probably, a very convenient design for houses so close one to the other, especially those in Grotta. Similar roofs have been suggested for the houses of the broader Aegean region, too, such as Thermi and Troy (Lamb 1936, 9; Blegen et al. 1950, 82, 89).

There is one more puzzle in the architecture of this period, which is the location of the houses' doorways. There is no clear evidence about them since only parts of walls are preserved or later walls were built above the earlier. The only possible suggestion is that the main entrance was placed in the side of the house which was not exposed to the severe NNE winds. A doorway in the cross-wall would give access to the rear room, in cases of two-room houses (e.g. Grotta A & B, Pyrgos A-B).

Types of Houses.

The predominant type of house in this period is the rectilinear. Most of the houses, especially in the case of Grotta and Pyrgos, are wide consisted of two rooms. The possible location of their doorways in a perpendicular arrangement classifies them to the "but and ben" type.

The lonely small house of Panormos could represent a structure for temporary use, mainly because of its isolated

position and the thinness of its walls. It could have been a farmhouse occupied by people who visited this place from time to time for pastoral or agricultural activities.

The only indication for the existence of curvilinear structures in this period comes from Markiani, where a well-built circular structure does not reveal much of its function.

Although a restoration plan of the houses of this period is not impossible, the function of each room still remains unclear. All the pottery found inside the houses is of the same character and nowhere, so far has, a cupboard or a bench been found to reveal a definite function.

Settlement Organization.

This is the period in which the first serious attempt at town planning can be identified.

Grotta is an unfortified settlement next to the sea shore. The road and the alley which run between the houses justify the use of the term small town in this stage of habitation. The possible location of the entrances of Houses A and B to the W indicate that an alley or something similar existed there, thus that was not the W limit of the settlement. The paved area to the east of House Γ indicates that the settlement extended towards that direction too. In addition, the under water survey of the bay has shown that the N part of the settlement was submerged (Lambrinoudakis 1979, 251; Papathanasopoulos 1981, 298, pls 203-205).

The settlements of Pyrgos and Panormos were unfortified as well, in this phase, and in close proximity to the sea.

The only exception again is Markiani with its early "defensive" wall.

The general impression that these settlements give is of peaceful communities whose predominant occupations were either trade or agricultural activities.

Comparison with Other Aegean Regions.

The Transitional, from EC I to EC II, period seems to correspond to the EH I period in Southern Mainland, EM I period in Crete; Emporio VII-VI²⁶ Thermi IIIA²⁷, Poliochni I "Blue"²⁸ and Troy I early (Ia-Ic)²⁹.

While the architectural remains from the period under discussion are plentiful and well preserved in the NE Aegean region, they are absent from the Greek Mainland and Crete, where the only exception is Phaistos³⁰.

In Mainland, Palaia Kokkinia (Renfrew 1972, 205), Lithares (five examples from the 4th level of occupation, 2nd m of the 1976 trench deposit; Tzavella-Evjen 1985, 10, 29, fig. 17, pl. 21), Eutresis (Group IV), Vouliagmeni (lowest level X) and Ay. Kosmas (early graves Mylonas 1959, 122-6, 128, fig. 148) yielded pottery associated with this phase in the Cyclades.

In the NE Aegean architecture of this period rough stones were used as the main building material for the walls. The stones lay in courses mortared with clay. From Emporio VIII two faced walls with filling of smaller stones between them are common (walls 14a, 16) (Fig. 8).

Only one wall of this period from Troy Ib (W wall of House 102) preserves the herring-bone masonry, a feature

unknown in the Cyclades but broadly used in the early Town I at Thermi (walls in areas K, A and E).

Mudbrick for the superstructures is a quite common material in all these regions, and its existence is very well documented in the debris, especially in Troy (Houses 103 and 102).

The walls of the houses in Troy were covered with clay plaster and it is worth mentioning that the E wall of House 102 of Troy Ib was found to be covered by three layers of clay plaster, something which recalls the coating of a wall in preparation ~~for~~ wall-paintings, as it is known from the palaces of Minoan Crete and Mycenaean Greece. No traces of coating were discovered in the other regions at this stage.

Wood even in these areas is a rare material and may have been a valuable one, too, because it is nowhere attested.

The houses reveal different plans, a fact which derives mainly from the different types of settlements to which they belong. At Thermi IIIA most of the houses are long and narrow and the short and broad type although it co-exists, is very rare (Lamb 1936, 24) (Fig. 9).

At Poliochni in the "Blue Archaic" phase the houses crowded within a limited area are both rectilinear and curvilinear, making the best possible use of the available space.

From Emporio at this stage only retaining walls are preserved and so no remarks can be made about the contemporary house types.

An absolutely different impression is given by the structures of Troy Ia and Ib, Houses 103 and 102

respectively. They are long, free-standing and they certainly represent the most "monumental" structures of their period (Fig. 10).

All the houses of these regions at this stage have doorways marked by pivot stones and thresholds, although the latter are very common in the later phases of architecture. The door sockets in areas where many rooms exist are hardly ever found in the long side of the walls.

Their floors are usually covered with small stones or pebbles (Thermi) or they are made of beaten earth (House 103 at Troy).

Roofing still remains a problem for these areas, too, since no evidence of posts or pillars for the supporting have been found. They were presumably flat, constructed of timbers overlaid with clay and possibly covered with brush, reeds or thatch.

Hearths *are* a very familiar feature in the settlements of the NE Aegean but the absence of such constructions from the Cycladic houses can be explained both by the mild climate of the islands and the existence of portable braziers³¹.

Finally, in Crete, Phaistos yielded the only architectural remains, dated in the EM I period (Levi 1976, I, 288; II, 1, 14). But unfortunately, here the remains revealed are only small stretches of walls, unable to give an idea about the plan of the structures to which they belong.

The walls are built of rough stones, mortared with clay. Part of the floor belonging to a house under the West Court

of the MM palace (Levi trench, Piazzale LXX) was covered by clay and one of the walls in the same area was plastered by clay (Fig. 11).

Some Conclusions:

In the Transitional EC I to EC II stage the preserved architectural remains are not yet substantial, as ^{they are} from the EC II period onwards, but are enough to allow suggestions about settlement organization.

The settlements, when more than one houses have been preserved, reveal an organized layout (i.e. Grotta). Their houses are of permanent character, built of stones. The type of the Cycladic house of this stage seems to be common tradition in the Aegean area.

The "but and ben" type is very well-known from Crete³², where there was a long tradition of this type from the Middle Neolithic to the Early Minoan period (Vagnetti & Belli 1978, 150).

Although not identical, a type recalling the Transitional Cycladic house is common at Thermi on Lesbos Towns I, II, III³³ (Lamb 1936, 8).

The economic activities of the Cycladic settlements were based on trade. This becomes apparent by the presence of the characteristic "Kampos" pottery in almost all the Aegean regions. Especially intensive appear to be the contacts with Mainland Greece and Crete, where some colonies seem to have been established by Cycladic islanders (i.e. at Ay. Photia on Crete; Ay. Kosmas in Attica).

CHAPTER 4: THE EARLY CYCLADIC II PERIOD.

The Chronological Framework.

The EC II period (or the Keros-Syros culture) is the second major phase in the Early Bronze Age Cycladic sequence, covering an era of about four hundred years, 2.800/2.700-2.400/2.300 B.C., in terms of absolute chronology.

It is represented by the Syros group of pottery, known from almost all the Cycladic islands (Doumas 1977, 25; Barber & Macgillivray 1980, 148, tab. II).

Its position in the sequence is best attested in two sites with well-stratified deposits. To begin with, at Phylakopi the pottery of the City I-i, Phase A2³⁴ is stratified immediately above the layers of the "Pre-City", Phase A1 and below the remains of the City I-ii, Phase B (Barber 1974, 4; Evans & Renfrew 1984, 63).

The second well-stratified evidence comes from Ayia Irini on Kea. In this site the second phase of the settlement (Ayia Irini II, Phase B) is stratified below the third phase (Ayia Irini III, Phase C), which belongs to the EC IIIA period (Caskey 1972, 357; Wilson & Eliot 1984, 78, 83).

A third site which yielded pottery of this group is Mt. Kynthos on Delos. The pottery of Group A, although not stratified, exhibits certain affinities "in profile and surface treatment" with the material from Ayia Irini II and Phylakopi I-i (A2) (Macgillivray 1980, 12, 16).

The pottery from these sites provides a useful guide for assigning other Cycladic settlements to their right chronological position.

The Architectural Remains from the Settlements.

The development in the craftsmanship of making pottery that is attested in this period is paralleled by a development in architecture as well.

There are more settlements than in the previous periods and they have revealed substantial remains of well-built houses.

Markiani on Amorgos.

The settlement continued to be occupied with some improvements in this period, with the most striking feature the addition, in the defensive wall, of a bastion, on the N side of the settlement (French 1990, 69; Marangou 1990a, 169 note 46).

The construction of a central Building Complex, on Terrace 1 and two rooms, on the S area of the site, below the summit and the terrace, could be dated to this period according to the excavators. In both areas substantial remains came to light in the recent excavations.

The central Building Complex consists of three attached rooms of rectangular plan, although the corner of the northernmost is curved, following the line of a near-by wall. They have well-built stone walls, resting upon thicker slab foundation and varying in their thickness from 35 cm - 75 cm. Two of the rooms were living quarters while the third could have been a roofed or open space in front

of the dwellings.

Slabs resting on the lower courses of the walls, seem to indicate the position of doorways. Some evidence indicate that the floors were paved with slabs and slabs were used for roofing too.

A drainage system runs under the floors of the rooms. The excavators date the final use of the complex in the Kastri period (EC IIIA), while they consider the construction earlier in the sequence.

The two rooms on the S area, although simple in plan, exhibit the same characteristics in general: rectilinear structures with well-built walls. The absence from these rooms of any fine ware and diagnostic Kastri group fragments and the predominance of domestic pottery, make the date of these rooms uncertain. The final publication of this important site may solve such problems³⁵.

Mt. Kynthos on Delos.

The pottery from Mt. Kynthos strongly indicates occupation of the site from the EC II period (pottery Group A; Macgillivray 1980, 8, 45) until the EC IIIA (Group B; ib. 16). Although the pottery suggests two phases of occupation at the site and three architectural phases have been attested in the NE area³⁶ (Fig. 12 a-b), all the structures were considered originally to belong in the same period (EC IIIA) (Plassart 1928, 15, fig. 9. Section G-H).

On the other hand, Plassart suggested that the rather thick wall which runs under the west side of rooms π , ρ and σ (Fig. 13) in a different orientation, on the NW edge of the hill, belongs to an earlier fortification (Plassart

ib., 16). This wall seems to be associated with the earliest level in these rooms, but since the context of the levels and structures is not recorded it is safer to adhere to the date proposed by Plassart for the rest of the remains in the settlement.

Skarkos on Ios.

Two rectilinear Building Complexes were uncovered at the site of Skarkos on Ios (Marthari 1990, 97) (Fig. 14 a-b).

Both of them have their stone built walls very well preserved, up to a height of 2-2.80 m. They are built of schist slabs bonded with clay, laid in courses which give a very neat impression. The walls are 70 cm - 85 cm thick, on the lower level and they become 45 cm on the upper level (Fig. 15a). This, in relation to the large quantities of building material found in the debris, indicates that an upper storey existed in the Building Complexes of Skarkos.

The rooms on the ground floor were used for cooking (Fig. 15b) (Marthari 1990, 100), while those of the upper floor were used for various activities, such as working, storage and living (Marthari ib. 100).

The Building Complexes are placed on either sides of a road, 1.80 m wide. Both, the Building Complexes and the road between them have common orientation (NW-SE). It is certain that other buildings exist in the terrace which will give more evidence about the settlement organization in the EC II period (Excavation in progress).

Ayia Irini on Keos.

The EC II period (Ay. Irini II, Phase B) is the first period in the history of the site which yielded substantial

architectural remains (Caskey 1971, 359; Barber 1987, 20).

Two buildings are assigned to this phase: Building XI and House E (Rooms I and II) (Caskey ib. 369). Evidence of occupation coming from the Temple Road³⁷, House A³⁸ and Areas C³⁹, J⁴⁰, Q and R⁴¹, indicate that the settlement covered an extensive area (Fig. 16). The most important remains were uncovered in the West area of the site and they reveal the same characteristics as far as their orientation and masonry is concerned. Their main axes run NE-SW and NW-SE and they have walls built of small to medium flat slabs in very neat horizontal courses (Caskey 1971, 369).

Building XI (Fig. 17 a-b):

Little can be said about the ground plan of this building, since a large proportion of it has been lost under the later fortification wall (Caskey 1971, 369).

The two preserved walls belong to a heavy rectilinear building based largely on the rock. The fill within the structure yielded large quantities of fragmentary pottery, with sauceboat fragments the most popular. Nothing can be said about the existence and the position of its doorways or about its roof, in the preserved condition.

House E (Fig. 17c):

Further information about the architecture of the settlement in this period derives from House E, immediately SW of Building XI.

In this first stage of its long life⁴² it was composed of two rooms in alignment: Rooms I and II.

Room I, the southern one, is roughly trapezoidal in

ground plan (4,10 m X 4.10/4,50 m, interior dimensions). A doorway in the SW wall gave access to it. The room had two successive floors both made of hard yellow clay. There was not much pottery from this room and perhaps this may be an indication of the function of this room as an open or covered court.

Room II, to the north, is more or less of the same shape (3.10 m X 4,80/5,00 m). A doorway, c. 1 m wide, with threshold slabs and a pivot stone, situated in the middle of the partial wall between the two rooms, gave access from Room I to Room II. Another doorway, c. 1,50 m wide, with a pivot stone is located on the west wall of Room II. Inside the room and slightly out of the main axis there was a small hearth ringed with stones. The room had two successive floors made of hard yellow clay, as Room I. This room of the house could have been used as the living quarters.

Avdheli on Naxos (Fig. 18a).

The only preserved remains from this site are two rectilinear walls which represent part of a demolished house. The walls are preserved to a maximum length of 2.60 m and to a height of c. 40 cm (Doulas 1972, 155; 1977, 124).

They seem to form a wall with two parts. The outer part stands on a levelling layer of small rough stones. This outer part is well built with regular flagstones embedded in clay. The inner part has been built in a more irregular masonry and it was founded immediately on the bedrock. This part of the wall could have served as a bench (Doulas 1972, 155).

The structure, although not sufficiently preserved to reveal definite details about its doorways, floors and roof, has two very interesting features (Doumas 1972, 155; 1977, 127).

The first is the levelling course of flagstones upon which the outer part of its wall stands. The other is the space left between the north wall of the house and the native rock, which is thought to have been left by the people who built the house, in order to create a draught here. In this way they prevented the humidity of the rock from penetrating into the house.

All the evidence from the house makes almost certain the suggestion that this was a dwelling in a small settlement, the inhabitants of which used the nearby cemetery (Doumas 1963, 279). It is also very possible that the people of the settlement were engaged in the mining of emery, since the mines are close at hand and pieces of emery were found among the debris of the site.

The settlement was used in the EC II period only, since both the settlement remains and the cemetery finds exhibit the same stage of development (Doumas 1977, pls XLIX, XXI, LI) and there is no evidence of later activity in the area.

Grotta on Naxos.

The most interesting structure of this period is House F situated on the east side of the road which separates it from Houses A and B.

The house was in use in the EC I/II period but it appears in a new form in EC II period. It is composed of two rooms, the north and the south.

The north room is rectangular with preserved dimensions 4 m (west wall), 3 m (east wall) by 3.70 m. Just before the north end of the west wall there are flimsy remains of yet another wall which indicate that another room existed in this side. This part of the house belongs to the original construction of the EC I/II period.

In the EC II period a new room was added to the south⁴³ (Fig. 4). The room exhibits two very interesting features. Firstly, in contrast, to the north room and Houses A and B to the west, it has its walls curved.

Secondly, the most interesting of all, is the construction of the west and south walls of the room. They consist of two walls, each 25 cm thick with the space between them, c. 50 cm, filled with earth and sherds similar to these from the rest of the house. In this way, the overall thickness of these walls becomes c. 1 m. The east wall is of single construction, but it leans slightly to the interior of the room.

This curvilinear room was founded on a layer of earth and sherds, c. 30 cm above the rectilinear walls of the rest house.

The south wall of the original house served as the partition wall between the two rooms and an open space in the middle of this wall, marked with two schist slabs, show where the doorway was.

A peculiar curvilinear construction is located in the NW corner of the curvilinear room. It is built of stones and it could represent a bench.

In the middle of the rectangular room a big basin was

found in situ, with a horizontal rim decorated with incised triangles. A whole vase was uncovered in the SW corner of this room⁴⁴ and the only fragment of a marble vase from the excavated area was found in this room.

Immediately to the east of House Γ there is a small paved area. This could indicate that the settlement extended in that direction, beyond the paved area.

Houses A and B were in use in this period without major changes.

The settlement was certainly inhabited by the same people who used the nearby cemetery at Aplomata. The finds from the settlement area exhibit the same degree of evolution as those from the cemetery (Marangou 1990b, pls 39-41, 47, 83, 106, 110, 139-141) and both are securely dated in the EC II period.

Paroikia on Paros (Fig. 18b).

At the foot of the ^hProurion there are remains of a house, probably of rectangular plan. The preserved remains is of a straight wall, c. 50 cm in thickness, built of medium size flat stones laid in regular horizontal course. The remains cannot reveal much about the house they belong to, since later structures were built above it (Rubensohn 1917, 9, Abb. 6).

A curved wall runs along the NW wall of the house and it seems to enclose the area where this house stood. The thickness of this wall ranges from 70 cm at its narrowest NW part to 1 m at its widest east part. It is constructed of large flat stones in two rows with the space between them filled with smaller ones.

The space between the house wall and the massive curved wall forms a narrow passage, c. 30 cm wide in the NW side and c. 50 cm in the east side. This passage was interpreted as a ventilation system (Rubensohn 1917, 9).

Pyrgos on Paros (Fig. 19).

The house of the EC I/II period (Rooms A and B) was out of use in this period and another house (Rooms C and D) was now constructed in the same tradition, representing the second phase of occupation in the site⁴⁵.

This house has the same characteristics as its predecessor. It is a rectangular building, composed of two rooms with orientation N to S. In this stage the walls are built of more carefully laid flat stones embedded in clay. Its west wall rests immediately above the east wall of the earlier house. The thickness of these walls is 45 cm.

The preserved interior dimensions of Room C are 3.30 m N-S by 4.50 m W-E, while Room D is in more ruined condition. The east wall of the house is preserved to a length of 6.50 m.

Inside Room C a slab was found, 31 cm X 28 cm, with a hole⁴⁶. A similar slab⁴⁷ was uncovered inside Room D. These slabs must have been the pivot stones of doorways, no trace of which now exists.

Some of the pottery with characteristic shapes of the EC II period, reported by Tsountas belongs to this phase of habitation (Tsountas 1898, 174, pl. 9, 15).

Some Other Cycladic Sites.

Apart from the sites mentioned above, there are some

others which belong to this period, but which have yielded, so far, ambiguous evidence of occupation.

Kato Akrotiri on Amorgos.

In this site, investigated by Tsountas indications of occupation came from three pits and one deposit (Tsountas 1898, 166). Although the main bulk of the pottery from this site is dated to the next period of the Cycladic sequence (EC IIIA), few fragments from the deposit are dated in the EC II period, indicating therefore occupation in this phase (Tsountas 1898, ib. pl. 9:3, 16, 17).

This was recently verified by the location of architectural remains in the same site, which is still unexcavated (Marangou 1990a, 171).

Achtia ton Agrilion on Donousa.

In a small trial trench on the south edge of the promontory where the Geometric settlement was located, some wall remains were revealed. No further excavation had taken place so far⁴⁸ but the remains must be considered as EC II, according to their context (Zapheirópoulou 1969, 392).

Phylakopi on Melos.

Although well stratified deposits of this period have been uncovered in the site (Barber 1974, 4; Evans & Renfrew 1984, 63) there are no sure indications of the specific buildings that have been inhabited in this phase. Therefore, no remarks can be made as far as the architecture of this period is concerned.

Phyrroges on Naxos.

Traces of a settlement, with a fortification wall, are reported from the site, but no further details are

available (Stephanos 1904, 57).

Chalandriani on Syros.

Although Syros is known from the EC IIIA settlement of Kastri, fragments of house walls in the same area and on lower ground, at Chalandriani, indicate occupation in the EC II period. Chalandriani must have been an extensive and rich settlement, as it is attested from the area that these walls cover and from the organized cemetery that existed near by (Tsountas 1899, 78, 84, 107).

Akrotiri on Thera (Fig 20).

The excavation of the deepest levels in different areas at the site (Doumas 1978b, 779, fig. 1) revealed Early Cycladic material of the Syros group (Marinatos 1973, 23, pl. 38; Doumas ib., 778; 1983, 42; Sotirakopoulou 1986, 297). This proves that an extensive settlement had existed at the site from the EC II period, of which no architectural remains have been preserved.

Architecture.

The tradition of using stones for the construction of houses is followed once more in this period. The stones are bonded with clay, while the drywalling technique becomes rare (e.g. Markiani). The innovation of this period is the use of flat slabs or flagstones which give the overall impression of a neat masonry.

As is the case for the previous periods, no plaster has been attested for covering the walls.

Clay was again used as bonding material in the construction of the walls and as covering material for the

floors.

Two distinct types of walls can be distinguished in the architecture of this period. The two-faced wall is the most simple and common type. Two lines of stones are laid flat in more or less horizontal courses, while the space between them is filled with smaller stones. Larger stones were usually used for the outer part of the wall, which was going to be visible.

The double wall is the second type. There are two examples so far, in the EC II architecture. The curved walls at House Γ on Grotta, and the L-shaped walls at Avdheli on Naxos. Although different in shape, the walls exhibit common characteristics in their construction. They consist of two walls, independently built, and an interval between them filled with earth. The outer and the inner walls are usually c. 25 cm thick each, while the filling is c. 50 cm wide. Thus, the total thickness of these walls becomes 1m.

Hard clay was employed for the floors of the houses in most cases.

Only some houses of this period had their floors paved with slabs, for example at Grotta and Markiani.

The excavation of complete houses revealed the position of their doorways.

In two cases at Markiani, slabs are situated in the walls, marking the existence of doorways. Each of them seems to give access to a room, from what appears to be a roofed or open space in front of them, in the Building Complex.

At Ay. Irini on Keos House E there are three certain doorways. Two of them, one in the NW wall of Room II and the other in the SW wall of Room I, lead into the rooms from a possible open space or passage, now fully covered by later structures. Another one is located in the partition wall between the two rooms. All the doorways are clearly marked by threshold slabs and pivot stones for their door posts.

At Grotta, House F the only doorway found was that in the partition wall between the two rooms, marked by two slabs. The location of the main entrance to the building is unknown. It could be either on the east wall or the north wall, which are not preserved.

On Pyrgos, although there are no indications on the preserved parts of the walls, the discovery of pivot stones inside Rooms C and D puts the existence of doorways in both rooms beyond dispute (Tsountas 1898, 173).

No remains have been preserved so far to throw some light on the problem of the roof.

The construction must have been the same as in the EC I/II period. The only exception to this is one house at Markiani, on the south area below the hill, which, if it is dated in this period, had a roof covered with schist slabs.

The Settlements.

1. Location:

The majority of the EC II settlements are located in extremely close proximity to the sea. It seems to be a kind of rule, following the tradition of the previous periods,

since the sea was the main source of living, from trade and fishing.

There are only two exceptions to this rule, namely Markiani and Mt. Kynthos, which are located inland but with the sea close at hand.

2. Land Morphology:

Some of the settlements are located on a flat or almost flat land (e.g. Ayia Irini, Avdheli, Grotta and Phylakopi). Others cover a low hill (e.g. Kato Akrotiri, Markiani, Achthia ton Agrilion and Pyrgos).

Only two settlements are situated on high ground above sea level. These are the Mt. Kynthos settlement on Delos (112 m above sea level) and Akrotiri on Thera (300 m, after the formation of the big caldera).

3. Size of Settlements:

Excavations manage to reveal only part of the EC II settlements because the rest was either damaged (i.e. Grotta, Pyrgos) or inaccessible below later structures (i.e. Ay. Irini), while some excavations are still in progress (i.e. Skarkos). Thus, the size of the EC II settlements can be estimated only from the preserved parts.

It seems though that the majority of the settlements of this period are of small size (less than 6,938 m²). Grotta, in its preserved condition covered an area of 118 m²; Skarkos has been excavated up to 200 m²; the buildings at Markiani in all terraces cover an area of c. 750 m².

The only EC II settlement of medium size⁴⁹ is Ay. Irini II.

4. Morphology of Buildings:

All the settlements reveal the same character as far as their house plans are concerned. The houses are all rectilinear in their ground plan within the same settlement.

The predominant type of house in this period too is the rectilinear, although in more elaborate forms.

In the rectilinear houses the simple with one or two rooms is the most favourite type.

Two examples of Building Complexes have been revealed so far, at Markiani and Skarkos. At Markiani the Building Complex appears to be more simple than that on Skarkos. The two rooms used as living quarters had only one storey.

At Skarkos, on the other hand, the Building Complex had a second storey. In addition, the basement rooms were used for certain functions, such as storage and working (Marthari 1990, 100).

The only exception to this is the settlement of Grotta, where the curvilinear type co-exists with the rectilinear.

House Γ in Grotta, has its S and SW walls curved. Although this feature ensures the classification of the structure in the *curvilinear* group, it cannot be attributed to any of the known categories⁵⁰. It could be described as apsidal, but its double wall differentiates it from the known long free-standing apsidal buildings (Warner 1979, 138, ill. 3).

5. Average size of Houses:

There is only one EC II house uncovered so far of large size (more than 30 m²). This is House E (Phase I) at Ay.

Irini II (32.82 m²). Unfortunately there are no more buildings preserved which can give evidence about their size at Ay. Irini. Thus it is not possible to estimate the average size of its houses.

At Grotta, an estimation about the original dimensions of the houses could classify them in the medium-sized group (17.57 m²).

Less clear is the evidence for Pyrgos, because only one structure of this period has been preserved. This is of medium size (29.25 m²) and it is possible that other buildings within the settlement had a similar size⁵¹. In this case the buildings at Pyrgos could be of medium average size.

6. Settlement Density:

The number of structures within the settlement cannot be accurately determined since only parts of settlements have been excavated so far.

It is almost certain, however, that the settlements had a great density of structures as is evident from Grotta (25.4), Skarkos (15) and Markiani (14.8).

The intensive occupation of the settlements is also indicated by their preserved structures, with a plan that helps close construction.

7. Surface Homogeneity:

The estimation of the homogeneity of the EC II settlements, indicates that the houses had similar sizes. Markiani, Skarkos and Grotta have small deviation in the sizes of their houses (up to .342).

8. Quality of construction:

All the settlements revealed characteristics of a quality of construction higher than that of the previous periods.

All the walls are built in a neat masonry, with slabs or slab-like stones laid in more or less horizontal courses. Some have stone foundations thicker than the walls they supported. Especially interesting is the case at Avdheli its foundation being a distant predecessor of the Classical Greek euthenteria (Doulas 1977, 124). The average thickness of the walls is 50 cm but more substantial walls were uncovered at Markiani (75 cm), Skarkos (70-85 cm) and Grotta (1 m).

The highest quality of construction has been attested at Skarkos, where the structures had two storeys. The ground floor walls are 80 cm thick, while the first floor walls are 45 cm thick. The ground floor rooms are divided in smaller areas with cross-walls, which support the floors of the rooms above (Marthari 1990, 98).

The floors were mostly covered with hard packed earth but paved floors do exist at Grotta and Markiani.

9. Special Architectural Features:

Benches and hearths in the interior of the houses, as well as the interior supports, roof tiles and schist slabs for roof covering are considered under this heading.

Most of *these* characteristics are present in the Cycladic houses of this period.

This is the first time that hearths have been uncovered in the settlements⁵². Their existence is attested either by

a construction in the floor of the house or merely by traces of burning concentrated at a fixed point of the room. Both types are represented in the settlements of the EC II period.

Its simplest form is represented on Amorgos, at the northernmost room of the Building Complex at Markiani. In the centre of this room indications of burning mark the position of a hearth.

The more elaborate form is seen in Room II of House E at Ayia Irini. The hearth which was not situated across the long axis of the room, but slightly off it to the east, is a hollow in the floor ringed with stones.

To the elaborate form of hearths could belong the large basin with the incised triangles in its rim, from House Γ at Grotta. It was found in the centre of the floor of the rectangular room, but there is no reference in the brief excavation report to traces of burning in it. Thus its function as a hearth, although almost certain, needs further documentation.

At Skarkos exist both types of hearths, built and made of clay.

One example of a bench has been uncovered so far, at Avdheli on Naxos. In this case the inner part of the wall must have served as a bench.

At Grotta the circular construction attached to the NW of the small room could be considered as a bench for storage.

Evidence for interior supports, such as post holes or column bases are absent, so far, from the settlements. The

upper storeys at Skarkos were supported with stone-built walls which divided the ground floor into smaller rooms.

At Markiani a drainage system runs underneath the floors of houses of the Building Complex and at Grotta a well was added before the SE corner of House A.

A drainage channel runs along the outer face of Building XI at Ay. Irini II, joined by another one from the SW.

10. Differentiation in the Structures:

Few remarks can be made since only in a few cases has more than a single complete house been revealed in the excavated sites.

At Markiani the Building Complex is more elaborate in its ground plan than the rectilinear rooms to the South (Doumas, Marangou, Renfrew 1989)⁵³.

At Skarkos the structures on either sides of the road reveal a homogeneity in ground plan, dimensions and quality of construction (Markarian 1990, 98, figs 3, 4, 8).

Building XI at Ay. Irini II is not adequately preserved to reveal its ground plan, but its very broad wall differentiates it from House E (Caskey 1971, 369, pl. 65)⁵⁴.

At Grotta House Γ, with its thick curved wall, is different in ground plan and quality of construction from Houses A and B.

11. Buildings with Special Function:

Although only limited number of buildings in each settlement has been revealed in excavations there are some settlements for which suggestions can be made about the special function of their buildings.

At Markiani, the great quantities of metal objects and pottery revealed in the structures in the south area lead to the suggestion that a workshop and a storage room existed there, outside the main area of the settlement⁵⁵.

At Skarkos, a large concentration of obsidian flakes was found on the floor of an upper storey room. This most plausibly indicate that the room served as an obsidian workshop. In the same settlement spindle whorls were uncovered in certain rooms, indicative that these were used for cloth production.

At Grotta the large basin with the incised decorated rim and the apsidal-looking ground plan of House Γ, differentiates it from the other houses to the W of the road. House Γ occupies alone the whole area to the E of the road and there seems to be no other building immediately to its E. On the contrary, a small paved area was uncovered immediately outside House Γ, to the east. In this way House Γ appears to be separated from Houses A and B and is related only with the paved area. These are indicative that the house had a distinct function within the settlement. Most probably it was the house of a person of some social status in the Grotta community and it is not impossible that his house was also used as a meeting place⁵⁶.

In the same house, the space between the partition wall and the thick curved wall could not have been used for living, because of its small dimensions⁵⁷. This room could have served as a small storage area. In favour of this suggestion is the circular construction to its NW corner. Moreover, the construction of the thick wall would provide

isolation for the best preservation of the supplies.

12. Town Planning:

All the settlements of the EC II period where more than two structures have been uncovered reveal an attempt for a more organized layout than that^{of} the previous periods.

The structures have the same orientation and ground plan, as it is evident from Skarkos (Marthari 1990, 97), Ay. Irini II (Caskey 1971, 369) and Grotta (Kondoleon 1949, 112).

A more elaborate layout can be seen at Skarkos and Grotta. It seems as if a planned building programme was used in the layout of the settlements. At Grotta a small alley runs between the east Houses A and B and a road separates these units from House Γ to the west.

A similar arrangement has been attested on Skarkos, where a road, 1,80 m wide, divides the two Building Complexes.

A small open space paved with stones was uncovered in the immediate vicinity east of House Γ at Grotta. This is the only sure indication of the existence of such spaces in the EC II period, so far.

There is some evidence in Markiani and Ayia Irini, where a room in front the living quarters may have been an open space although not paved.

13. Fortifications:

Most of the settlements were unfortified and in a location which shows that there was no fear of invasions in this period.

There are two settlements however, which yielded

evidence about the existence of a wall with a possible defensive character.

At Markiani the wall enclosed the area of the settlement on the summit of the hill and the terrace below but not the structures on the south area which yielded the majority of metal objects. In this period a bastion was added and if the wall represents a fortification it exhibits a developed form. The wall could merely be a retaining wall, but the bastion would be quite puzzling in this case and an argument for the defensive character of the wall (French 1990, 69; Marangou 1990a, 169 note 46).

At Phyrroges a fortification wall is reported, but no further details are available (Stephanos 1904, 57; Doumas 1972, 152).

There are two more settlements where the existence of a wall of uncertain function has been attested.

In the case of Mt. Kynthos, if the wall on the NW edge of the hill is as early as EC II it could represent a fortification wall at the more accessible part of the hill. If this is the case, it is indicative of the great fear the first inhabitants had, since the hill is naturally fortified because of its great height and does not need additional fortification, especially in this period which seems absolutely peaceful.

It was long suggested that the newcomers were refugees from Anatolia (Thuc. I, 8:i) who found a new home on this high hill. Evidence of their occupation comes from the deposits at Artemisio, close to the sea, as well. But the earliest pottery from the island (Group A: Macgillivray

1980, 12) reveals nothing that is foreign to the Cyclades by this time. On the contrary, it shows close affinities with the EC II material from the well-stratified deposits of Ay. Irini (Phase B) and Phylakopi A2.

If the wall does not represent a defensive wall, it could be a retaining wall protecting the structures that existed in this area from erosion. In addition, the wall is no thicker than the house walls, which is in favour of the idea of the retaining wall.

The function of the massive and curved wall which runs along the NW side of the house at Paroikia is very ambiguous. Its width (70 cm - 1 m) and construction differentiate it from the house wall. The wall, broader on its east side, gradually gets thinner on the NW side. If one follows its curved east part it is easy to understand that it could not have enclosed a very broad area, but it certainly enclosed the area where the house stood. Therefore it could not have been a fortification wall for the settlement. The curved wall can be considered only to be a circular construction around the house. Its thinner NW proportion could indicate that an entrance existed in the west part leading from a short passage to the interior of the house. If that house had a special function in the community we will never know since no special finds are recorded from it.

14. Organized Cemeteries:

The settlements of Avdheli⁵⁸, Grotta⁵⁹, Phyrroges⁶⁰ and Chalandriani⁶¹ are associated with organized cemeteries.

15. Craftsmanship Specialization:

Evidence for workshops comes from Markiani and Skarkos.

The recent excavations in Markiani revealed a great concentration of metal objects in one of the rooms in the south area, while the other in the same area yielded great quantities of pottery. These lead to the suggestion that this part of the settlement below the hill was used by craftsmen⁶².

At Skarkos, the inhabitants were occupied in obsidian and cloth production (Marthari 1990, 100).

Although there is no other evidence for such organized activities in the islands, the ability of the islanders to work the raw material^s of any kind cannot be overlooked. They had the skill to work the obsidian and probably they taught this skill to the people in the Mainland (e.g. Manika, Ay. Kosmas etc.). They knew the way to handle the marble and to turn it into vases and figurines. Most probably they were mining the emery from nearby sources (e.g. Avdheli).

The evidence from the Mainland helps^{us} to understand better this ability of the islanders to work raw material. At Raphina, there^{are} strong indications about specialization in craftsmanship in the workshops of bronze. The settlement was most probably first inhabited by the islanders. The earliest pottery from the site shows a very strong Cycladic influence (Theocharis 1951, 77).

The exploitation of the Laurion mines in the period under discussion is most plausibly connected with the settlement of Ay. Irini on Keos (Doumas 1988b, 113).

16. Metals (Bronze, Lead):

No metal objects have been found so far in a settlement context, except at Markiani. On the contrary, objects of bronze and lead have been uncovered in the cemeteries at Avdheli (Doumas 1977, pl. XLIX, h), Grotta (Kondoleon 1970, 151, pls 195 β - γ) and Chalandriani (Tsountas 1899, 84 pl. 10).

17. Precious metals (Silver, Gold):

There is no evidence, so far, from the EC II settlements of this period, but precious metals are present in their cemeteries.

A silver bracelet⁶³ and a silver hair ornament⁶⁴, were found in Grave XIII of the Aplomata cemetery (Marangou 1990b, figs 39-41). There is no doubt that these objects had been used by a wealthy person of the Grotta community, with whom they were buried.

A silver "spoon"⁶⁵ was uncovered in the especially rich Grave XXIII⁶⁶ of the Aplomata cemetery.

A silver pin was the grave good of Grave I at Avdheli cemetery⁶⁷.

Two more silver pins were uncovered in Chalandriani cemetery⁶⁸ (Tsountas 1899, 101, pl. 10. 10-11).

The only golden find, so far, is the bead from Grave 27 of Phyrroges (Papathanasopoulos 1961-62, 138 pl. 71).

18. Marble/Stone:

This material was widely used by the islanders for their vases and figurines. A fragment of a marble vase is reported from House Γ at Grotta.

A marble figurine was found in the settlement of

Skarkos⁶⁹ (Marthari 1990, 100).

The major concentration of marble finds, though, comes from the graves of this period (Tsountas 1899, 84; Doumas 1977, pl. XLIX 1, k, n; Marangou 1990b, figs 47, 110, 139-41).

19. Interregional Trade:

There is strong evidence of intensive trade between the Cyclades and the rest of the Aegean regions in this period.

"Frying pans" of the "Keros-Syros culture" and pottery from this period are widespread in Mainland Greece, Crete and NE Aegean, while obsidian is another safe indication of this aspect. It is worth mentioning that a few Cycladic obsidian blades were found in contemporary context at Skala Sotiros in Thasos and even *further* inland in Macedonia (Koukouli-Chrysanthaki 1991, 425).

This is not something unusual for the people who lived next to the sea and in lands with poor soil for cultivation. In exchange they could get other products, which they could not find in their islands.

20. Seals and Sealings:

The only seal attested so far comes not from a settlement but from Aplomata cemetery⁷⁰.

21. Potters' Marks:

Incised potters' marks are not recorded at present from the settlements of these period.

Comparison with the Other Aegean Areas (Table 1).

The EC II period shows close affinities with the EH II (early phases) in Mainland Greece, EM IIa (Koumasa ware) in Crete, Troy I (middle and late subperiods), Emporio V-IV,

Thermi IIIB-IV and Poliochni II-III in the NE Aegean region.

A. Mainland Greece:

Substantial remains from this period come from Manika 2 (Sampson 1985, 27) (Fig. 20), Lerna III (early phases; Caskey 1956, 166), Zygouries (Blegen 1928, 24) (Fig. 21a), Raphina (Theocharis 1951, 77; 1953, 109) (Fig. 22a), Askitarion (Theocharis 1955, 111, 112) (Fig. 22b), Tiryns (Fundhorizonte 1-4; Kilian 1983, 312) (Fig. 23), Ay. Dimitrios in Triphylia (Zachos 1986, 30) and Palamari on Skyros⁷¹ (Parloma 1984; Theochari & Parloma 1986, 51) (Fig. 21b).

The houses of this period on the Mainland are well built with stone foundations and mudbrick superstructures. More rare is the stone superstructure, e.g. Palamari. The walls are usually broad and straight.

Curved walls, associated with rectilinear in a peculiar arrangement, stand in sector A at Palamari on Skyros (Theochari & Parloma 1986, fig. 44), a site which shows strong Cycladic influence in this period.

No plaster has been attested on the EH II walls. The floors were either of hardpacked earth or paved with stones. The roof was probably flat, made of wood, brush and reeds and covered with waterproof clay. Clay hearths exist in the houses and sometimes, in the more elaborate type, they have their rim, decorated with impressed decoration (Zachos 1986, 31).

Buildings of special function dated to this period have been recorded so far from Manika, the obsidian workshop

(Sampson 93, s. 25, 25a) and Raphina, the metallurgical workshops by the sea (Theocharis 1951, 77). Some narrow spaces inside the EH II houses were used for food preparation or storage (Sampson 1985, 91; s. 24a:b).

The predominant house type is the rectilinear in a simple form of two rooms. House Y at Zygyouries with its double south wall could belong to the "Corridor House" type. The only apsidal houses found, so far, are at Manika (Sampson 1985, 50, 82 s. 12, 13a, 24a:b).

The houses are either attached (e.g. Caskey 1956, fig. 5; Kilian 1983, fig. 39) or standing apart (e.g. Blegen 1928, 24). But since many settlements are hidden below the later structures, the layout of all the settlements is not very clear (Theocharis 1953, 106, fig. 1; 1955, 111, fig. 2).

The finds from the settlements reveal strong connections with the Cyclades in this period (Caskey 1960, pl. 69e; Sampson 1985, 332, s. 72b; Theocharis 1951, pls 13-15; 1955, 114; Theochari & Parlama 1986, fig. 47:2,3). It seems quite likely that other products, from Crete and Anatolia, arrived in the Mainland through the Cyclades.

B. Crete:

Settlement remains from the contemporary EM IIa period come from the central area of the settlement at Myrtos-Phournou Koriphi (Period I; Warren 1972, 269) (Fig. 25), Vasiliki Ierapetras (Zois 1976) Fig. 26), Ayia Triada (Laviosa 1969-70, 407; 1972-73, 503) (Fig. 27a), Knossos (Evans 1972, 115; Hood 1961-62, 92; Warren 1972, 392) (Fig. 27b) and Debla (Phase III; Warren & Tzedhakis 1974, 299)

(Fig. 28).

The walls of the houses are both rectilinear and curvilinear, skillfully built of flat or rough stones bonded with clay. Their thickness varies from 40 cm to 80 cm and in one case (Debla: SW wall of Building I) it reaches 1.20 m. The most common type of wall is the two-faced with a filling of clay and smaller stones between. A more effective technique is applied in Building 2 at Debla, where very large blocks are used in the corners and half-way along the walls to give stability in the lower courses.

There is no evidence of mudbrick and it seems as if the walls were stone-built to their entire height. They were not plastered, since no indication of plaster has been found on them or among the debris in the excavated areas.

The entrances to the houses were simple openings in the walls. The floors were made of beaten earth. Hearths are not very well represented in the houses and only one possible example was found at Debla. Benches are rare with only one found at Debla in Building 1. A drain was uncovered outside Room 2 of the Knossian house.

The roofs must have been of timber, brush and reeds covered with clay or a kind of plaster in Myrtos. Indications of a roof beam were found in Room 2 at Knossos. An exception to this kind of roof is Building 1 at Debla which seemed to have been roofed with flattish stones.

Some structures reveal evidence which allow a suggestion about their function. For example the low rooms at Knossos could have served as cellars (Evans 1972, 115), Buildings 1 and 2 at Debla could have been storerooms (Warren &

Tzedhakis 1974, 318) and Building 3 at the same site could have been used as a shepherd's pen (Warren & Tzedakis ib., 316).

The houses reveal many plans. The majority belongs to the simple rectilinear type with an alignment of rooms (Myrtos, Vasiliki, Knossos). The but-and-ben type is represented in Building 2 at Debla; a single room and a corridor with parallel doorway arrangement. A unique form is represented in Building 1 at Debla with an almost triangular ground plan. Another triangular structure is located in trench B at Debla in a more fragmentary condition (Warren & Tzedhakis ib., 317, fig. 16).

The houses of EM IIa date are of medium average size (20 m² to 32,78 m²)⁷². Buildings 2 and 3 at Debla are very small (4 m² and 9,24 m² respectively) while House ① at Vasiliki is the largest of all (42,50 m²).

In the settlements the houses have the same or almost the same orientation. There are no clear indications about roads since later constructions are built above the EM IIa levels. The settlements are composed either by free-standing houses (e.g. Ayia Triada, Debla) or by house complexes (Myrtos, Vasiliki).

C. North-East Aegean:

The EC II period corresponds with Troy I (middle and late subperiods; Blegen et al 1950, 133)^(Fig 30), Emporio V-IV (Hood 1981, 111) (Fig. 29), Thermi IIIb-IVa (Lamb 1936, 29) (Fig. 31), Poliochni II-III (Brea 1964, pl. 4) and the earliest phase at Skala Sotiros on Thasos (Koukouli-Chrysanthaki 1988, 394; 1991, 422).

The walls in this part of the Aegean basin are usually built of mudbrick above stone foundations. Stone—built walls were in use at Emporio (Emporio IV, which partly overlaps in its later levels with Troy II).

Most of the walls were without plaster, but a white substance among the debris at Thermi IVa and Emporio IV implies that a kind of coating was used for some of them. A striking exception to this is House 115 of Troy Id (Blegen et al 1950, 134). In this house the face of brickwork was not only covered with coating but the coat was applied in four layers⁷³, in a manner that strongly recalls the technique used in the Mycenaean Palaces of Greece.

x Two faced walls with filling of smaller stones between them is the rule in this period, as it was in the previous periods as well. Some walls are built in herring-bone masonry (Skala Sotiros: earlier phase of the fortification wall; Thermi IV: cross-wall in area II), a technique known already from early Troy I (Blegen et al 1950, 108, fig. 171).

The floors of the houses present all the varieties. The floor made of earth and covered with clay is the most common. Some pebble paved floors were found at Thermi and Emporio and some floors were paved with small stones.

Many hearths were uncovered inside and outside the houses. They are situated either in the middle of the room or the space they belong ^{to} or at the sides. They are usually made of a series of stones and sherds covered with clay or crude brick. Some hearths were ringed with stones. Open-air hearths must be cooking areas outside the houses,

especially at Emporio.

The entrances are marked with thresholds and sockets. The thresholds are either of schist slabs or of small stones close together.

The roofs of the houses were flat made of timber, brush and reeds covered with waterproof clay. No traces of post-holes for interior supports have been attested, with the sole exception of Emporio IV (Hood 1981, fig. 61).

The majority of houses are rectilinear but curvilinear houses were found at Thasos (Koukouli-Chrysanthaki 1988, 391, s. 2, fig. 1; 1991, 422), Emporio IV (Hood 1981, 118, fig. 61) and Poliochni II (Brea 1964, pl. 4, Areas 206, 211, 212). The house at Thasos is of the apsidal type, while the houses IV and V follow the tradition of the D-shaped room of period VIII (Hood, *ib.*, fig. 53).

The rectilinear houses are long and narrow (e.g. Thermi, Troy) or broad (e.g. Emporio, Poliochni), with an alignment of rooms. At Troy and Thermi the large single-roomed house is the most favourite. House 113 in Troy Ie seems to have a deep portico in *antis* (Blegen et al, *ib.*, 138, fig. 157).

The houses within the settlements have different orientation and they are mainly organized in groups with roads running between them. Only the houses at Emporio V have almost the same orientation. All the houses were single storeyed.

Some of the houses reveal a special function, as for example the granary of Troy Ij, in Sq. F3 (Blegen et al, *ib.*, 171, fig. 433), and the two Megara-like Houses 113 and 115.

One of the most interesting features in the architecture of these regions at this stage is the construction of fortification walls. At Thasos a fortification system was erected in the earlier stage of habitation in the site. The fortification is composed of two parallel walls with a passage between them, in a way that can be seen in the later fortifications in the Cyclades (e.g. Kastri) and on the Mainland (e.g. Lerna).

At Troy the first fortification wall was constructed in the middle subperiod of Troy I. It has a more substantial appearance with three projecting towers (M,R,S) and a gate between the two of them (gate MR between towers M and R; Blegen et al ib., 145, fig. 436) (Fig. 30).

In the late Troy I another fortification wall was erected in front the wall of the middle subperiod, following the projection of tower M and attached to its SW corner.

The average size of the Trojan houses is medium (32 m² - 42 m²)⁷⁴ and there are only two exceptions in Houses 113 and 115 with a size just above 100 m². At Thermi, Emporio and Poliochni the houses are of medium size, as well (31 m² - 64 m²)⁷⁵.

Some Conclusions:

The Cycladic settlements of the EC II period appear to be better organized than those of the previous periods. They appear to have a planned layout⁷⁶ with evidence about social organization⁷⁷ and economy⁷⁸. The layout and organization of the settlements seem to share common

features with all the other Aegean regions.

They appear to be more closely connected with the islands of the NE Aegean and Crete, in the way the houses are grouped together. Of course the high level of urbanization that had already been achieved in the settlements of the NE Aegean islands is not reached in the Cycladic settlements yet, but the first serious attempts towards this were being made.

In the buildings, although the same tradition in masonry and building materials is followed, a better quality of construction than that of the preceding periods, is evident. This is attested in the attention paid in the appearance of the walls by placing the slabs or slab-like stones in more or less regular courses. High technical skill is required in the construction of two storeys houses, as . . . is the case at Skarkos.

All the evidence from the EC II architecture indicate that the settlements had an adequate standard of living. The inhabitants lived in their small settlements dealing with trade, mining and working obsidian and marble. Through their journeys the islanders came upon various architectural forms and building materials which ^{they} did not introduce into their islands. On the contrary, they maintained their own way in architecture that fitted very well to their lands.

CHAPTER 5: THE EARLY CYCLADIC IIIA PERIOD.

The Chronological Framework.

The Early Cycladic IIIA period corresponds to the advanced Keros-Syros culture and it is represented by the Kastri and Amorgos local groups of pottery (Renfrew 1972, 195; Doumas 1977, 25; Barber & Macgillivray 1980, 143, Tab. 1).

Its position in the Cycladic sequence of the Early Bronze Age, has been long discussed among scholars (Doumas 1977, 25; Barber 1984, 88; Barber & Macgillivray 1984, 297; Macgillivray 1984, 70; Rutter 1984, 95; Wilson & Eliot 1984, 78). The reason for this argument is that, although the EC III period (20400/2.300 B.C. - 2.050/1.950 B.C.) is a distinct one in the Early Bronze Age sequence, its subdivisions A and B, have not certainly been found in stratigraphic association within the Cyclades. The only exception to this could be Phylakopi on Melos, where some diagnostic sherds of Kastri group of pottery were found in levels of phase B⁷⁹, in the new excavations (Evans & Renfrew 1984, 67).

The stratigraphy of the period is basically defined from the deposits at Ayia Irini on Keos (Period III, Ceramic Phase C), where EC IIIA pottery was found above the debris of the EC II period (Caskey 1972, 370; Wilson & Eliot 1984, 83).

The Architectural Remains from the Settlements.

Some of the settlements of the EC II period continued to be occupied in this stage without major alterations, while some others seem to have been inhabited now for the first time.

Dokathismata on Amorgos.

The site was inhabited in the EC IIIA period, as a wall from a demolished house indicates. The wall is straight, preserved to a length of 3.70 m and was built of blocks, founded on smaller stones, resting immediately upon the bedrock (Tsountas 1898, 165).

The pottery from the area of the wall is contemporary with that from the nearby cemetery (Tsountas 1898, 166, pl. 9:21, 24, 29) and indicates that a settlement existed at this site, with an organized cemetery in close proximity.

Markiani on Amorgos.

The EC IIIA period represents the final stage of occupation at Markiani. Nothing later than the Kastri pottery has been found at the site⁸⁰.

No major changes seem to occur in this period and the settlement reveals the same plan and organization, with some minor additions and alterations. A new wall was added to the enclosure wall. Its flimsy character implies that it could not have formed part of the perimeter wall. Another wall was added to the west of the "bastion" and could be considered as part of the enclosure system.

The rooms of the central Building Complex continued to be occupied without alterations in their plan, but with some renewals of their floors. The rooms were last used in

this period.

The absence of pottery later than the Kastri group, indicates that the site was abandoned at the end of that period, peacefully, since there are no signs of violent destruction.

Christiana (Fig. 33).

A small well-like structure was uncovered on the small island of Christiana, SW of Thera (Tsakos 1967, 464; Doumas 1976, 1).

The structure is dug-out in the stereo and lined with medium-sized flattish stones. It is of elliptical ground plan, with diameter c. 2.50 m. For its construction the following technique was used: first the facade of the stereo was dug out from above and then this face was lined with stones to form the wall of the structure. Finally, the structure was covered by a roof, most likely made of branches and clay⁸¹.

Fragments of pottery from the area near the structure indicate that the area was used for habitation (Tsakos 1967, pl. 341; Doumas 1976, 1, pls 1-5).

Mount Kynthos on Delos (Fig. 34).

The settlement is one of the representatives of this period. The first inhabitants arrived here in the earlier EC II period (Pottery Group A; Macgillivray 1980, 12), but the architectural remains of this first habitation are ambiguous.

In the EC IIIA period a well-organized settlement was built (Pottery Group B; Macgillivray ib., 16) with three architectural phases (Plassart 1928, fig. 9: Section G-H).

Substantial remains of buildings were revealed on the North, West and Southwest sides of the hill, under the remains of the Hellenistic period, and in an almost circular arrangement below the central peak, which rises c. 4 m above the floor level of the rooms.

The walls of the structures have two faces, built of large flat stones laid in more or less regular courses and with a filling of smaller stones between the two faces. The small stone filling is usually mixed with stone tools and sherds of the earlier phase in the site (Plassart *ib.*, 12; Macgillivray *ib.*, 7).

The entrance to the settlement was to the SW (Area θ) where one could approach after climbing the steep W cliff of the hill, 110 m above the sea level. The entrance was an open space, 3 m long, 1.50 m wide to the W and only 1 m wide to the E, towards the interior of the settlement. From this area two passages ϵ and μ lead inside.

Passage ϵ is c. 4 m long and curved, c. 90 cm wide to the S, 60 cm in the middle and only 45 cm to the extreme North, where it meets the entrance. This passage gave access to the south and southwest areas of the settlement.

At the extreme south edge of the settlement two rooms α and β seem to belong to different houses. Room α is very small space (1.40 m by 1.10 m) and only its SE corner is preserved. Room β is larger (2.70 m by 2.20 m) and rectangular in ground plan. The two-faced walls of both rooms were 30 cm thick and built of stones with a filling of smaller stones between the two faces. The rooms have used the solid rock as part of their north wall. The

deposits inside the rooms contained a large quantity of animal bones and fragmentary pottery. The pottery belongs to the EC and Archaic periods and thus the date of these structures is not certain. Most likely they were constructed in the main period of the settlement and they were reused in Hellenistic times, as well.

Rooms γ and δ form a house of irregular shape, with orientation E to W, 4.90 m long and 2.70 m wide. The house is founded on the bedrock. The NE corner of room γ is dominated by a large block of granite raised 1.90 m above its floor level. The rock forms the edge of the N wall, but some traces of use on the surface could indicate that it was not part of that wall.

Room γ is square, while room δ is trapezoidal. An area paved with slabs covered the flat granite surface inside the house. Room δ was found filled with large pithoi fragments, an almost complete pithos and several grinding stones and gneiss discs. The finds from the room suggest that this was used for storage, while the more spacious room γ was the living quarters. There is no evidence of an entrance to the house in the preserved parts of the walls.

Room η to the west of passage ϵ and immediately next to the entrance is of very solid construction. The rock has been used as part of the N and W walls. The N wall, next to the entrance, is almost 1 m thick. The E wall is slightly curved, following the line of the passage, and 1.40 m thick, while the S wall, which separates room η from room ζ to the south is only 50 cm thick. For the W wall the rock has been used for the outer face, and the interior was

built with a single row of large blocks, which give an overall thickness of 1 m. The space left between the walls is an almost rectangular chamber, with orientation SW to NE. The entrance to this must have been at the western edge of the S wall, via room ζ.

The massive construction of room η and its position next to the entrance of the settlement, led Plassart to suggest that this and room ζ formed a bastion for defence (Plassart *ib.* 14). It is true that this structure certainly had no sufficient space for living and thus it must have been used for some other purpose. But its function as a bastion suggests a defensive network to which this could belong. Such evidence is absent for the moment and it has already been pointed out⁸² that a wall of this character was not necessary on Mount Kynthos.

On the other hand, what could be important for the people who lived on this peak, was the immediate view to the harbour below and to the open sea towards Paros and Naxos. In this case structure η could have been used as a watch tower towards that direction.

Room ξ to the south, is almost triangular in ground plan, with the same orientation as room η, 3 m long, 1.50 m wide at its E side towards the path and only 70 cm to the W, where the doorway to room η most probably was. This small space could have been used by the people of the watch tower for storage or as a waiting room to change their shifts. Otherwise it could have been a corridor leading from the passage to the tower.

Contradictory to the idea of the defensive bastion for

room η is the location of house $\kappa - \lambda$ immediately next to the entrance, to the north, just opposite structure η . Rooms $\kappa - \lambda$ form a house of irregular curvilinear shape and orientation N to S. A large block of rock has been incorporated in the W wall of the house which continues to the N to a distance of 1 m, built with stones. The E wall of the house is curved and of massive construction (80 cm thick), while the partition wall between the two rooms is 50 cm thick. The entrance to the house, c. 1.20 m wide, was on the extreme north side of the E wall. Room λ is the main living room of the house, while room κ is very small. Its S side was paved with slabs and it could have been the storage room or the kitchen.

Rooms π , ρ and σ extended the row beyond House $\kappa - \lambda$, to the north. Although Macgillivray suggests that these rooms belong to the same house (Macgillivray 1980, 4), the position of the E wall of room π slightly out of the main N-S axis of the E walls of rooms ρ and σ does not allow this suggestion. It seems that room η was an independent structure, almost triangular, with orientation NE to SW. Its S wall is 90 cm thick, while the W and E walls are only 45-50 cm. The entrance to the structure must have been at the N end of its E wall.

Rooms ρ and σ form a house with orientation NW to SE. The overall plan of the house is roughly rectangular. The solid rock which forms the NW corner of the terrace, marks the NE edge of the house, in room σ . The E stone-built wall is 70 cm wide, while the W wall is not preserved and the S is hidden below the construction of the later sanctuaries.

Room ρ is of semicircular plan. An opening in the middle of the N wall, marked by two large slabs (73 X 73 cm; 75 X 55 cm), indicates the position of the door which led from room σ into the semicircular room.

Room σ is almost rectangular. The entrance to this, 50 cm wide, was at the S end of the E wall.

To the E of this house the area did not reveal many architectural remains, although the large quantities of fragmentary pottery and an almost complete brazier (Plassart ib., fig. 33) indicate that this area was inhabited, too, but the walls were removed during later building activities.

The NE area of the hill revealed three buildings, all of apsidal plan and free-standing. Buildings ψ , χ , ϕ are built one above the other, indicating thus three phases of construction within the same period (Plassart ib., fig. 9: Section G-H; Macgillivray 1980, 7, fig. 2).

Structure ψ is the earliest of all, with orientation N to S, and interior dimensions 3.30 m by 2 m at the base of its apse. The S wall is straight and of impressive construction (1.20 m thick). The E and W walls curve inwards to form the narrow and pointed apse. Clay plaster was attested on the walls of this building.

Building χ is the next in sequence. It was partly founded upon the SW corner of building ψ . Its orientation is SW to NE. The E wall, 70 cm thick, is straight and the N (50 cm) and S (30 cm) are curved, in order to form the apse.

Building ϕ is the latest, founded partly upon the apse

of building x. It has a similar orientation with building x, SW to NE, with its straight wall to the W c. 50 cm thick, and the N and S walls curved to form the apse to the S. At a distance of about 1 m from the SW corner of the straight wall, an opening, 60 cm wide and 25 cm long, was interpreted by Plassart as a chimney (Plassart ib., 21). This opening most likely represents the entrance to the house.

The difference in date between these apsidal structures is evident in their architecture as well. House ψ has more substantial walls and a more narrow and pointed apse. House x stands as an intermediary between structure ψ and the later ϕ . Its apse is curved and broader than ψ and similar to that of ϕ . It has thinner walls than ψ but its N wall is still thicker than the walls of ϕ . Structures x and ϕ are closer as far as their structural features, plan and orientation are concerned.

Apart from the main structural remains described above, there are more structures which are located in the S and SW areas, below the peak of the hill.

To the E of passage e there is room ι of rectangular plan. To its N the vertical face of the stereo forms the N side of the room. From the filling of this room come pithoi fragments and gneiss discs. The finds could indicate that the room was used for storage, although its size is quite suitable for living.

Just in front of the entrance and at the spot where this meets the two passages is a small construction (ν), 1 m by 1 m, with substantial walls at its N (80 cm), W (70 cm) and

S (1.20 m) sides, while the stereo forms its SE side. At the NE point the vertical rock was transformed into a kind of staircase, which gave access to this room from somewhere above on the peak. Inside the small room fragments of large vases, a grindstone, half of a large chisel, a marble mortar, a marble disc and ten gneiss discs were found. These seem to indicate that this room was a small working area. But the available space is not enough for working and that may suggest that this was the basement warehouse for the workshop that rested above.

Structure ξ to the N is another small room, which because of the finds in it and the available space could represent another basement storage area.

Wall ο to the N is of very solid masonry, 1.40 m thick, and very regularly curved. A similar curved wall ω, c. 2 m thick, can be detected at the NE side of the hill, immediately below the peak. In general, it seems that all these substantial walls around the central peak of the hill supported other buildings which once stood at this higher point.

Ayia Irini on Keos (Fig 35).

The EC IIIA period (Ay. Irini III, Ceramic Phase C) is represented by substantial remains of at least two houses (House E and D) (Wilson & Eliot 1984, 78).

Evidence of occupation also comes from deposits below the floors of House F⁸³, in Area M⁸⁴, below the rooms of the Late Bronze Age House A, in the narrow alley between Houses A and B, under rooms 1 and 2 of House B, under Room XII of the Temple and below the Temple Lane⁸⁵. These

remains indicate that the extent of the settlement was similar to that of the preceding EC II period.

The most impressive remains were uncovered in the west sector of the settlement, the area that revealed the more substantial remains of the EC II period as well (Caskey 1971, 371).

Building XI of period II was not occupied in this stage, but the area above was used as a passage to the spring that existed at a distance of 8 m NW of it. The road, c. 3 m wide, was paved with cobblestones packed with earth, laid in irregular courses and it sloped towards the NW, where the water spring was. The area shows two periods of use, with the two roads built one above the other in the same technique.

House E:

At this stage House E of EC II was reconstructed with the same orientation and masonry style as its predecessor and using walls of the first phase. But now it reveals a much more complicated plan, with seven rooms. Three of the rooms extend the row beyond the rooms of phase II and two are placed parallel to them. It is possible that other walls to the W and the remains below the floors of the later House F were related to House E (Caskey 1971, 369). In this case House E was a large building complex, 15 m by 30 m. In any case, the preserved part of the house reveals the plan of a building complex, 15 m by 6.50 m. The area above Rooms 1 and 2 was covered by a hard debris layer, which marks a time of reorganization.

Room 1 was not reused in this stage and Room 2 was most

probably a court to the new house. To the NW the wall was rebuilt thicker than before (1 m thick) and blocked the entrance of Room 2.

Room 3 extends the alignment beyond Room 2 with the same orientation. It is almost square, 3.90 m by 4.20 m. Its S wall is 90 cm thick and it must be an outer wall of the house. The same can be said for the NW wall which encloses Room 2, and which is 1 m thick. The remaining walls of Room 3 are of the same thickness as those of the other rooms of the complex, c. 70 cm.

Inside Room 3 and against its NE wall there was a large bin with its floor and sides lined with schist slabs. The bin and the fill inside it were again covered with schist slabs lying irregularly. In the earth filling of the bin were found some rough stone tools and pithoi fragments. The floor of the room was made of hard-packed earth and clay. No evidence of a doorway was founded in the well-preserved X part of the walls. The thickness of the walls, the absence of the doorway and the finds from the room indicate that this part of the house was used as a cellar, with the living quarters on higher ground.

Room 4 continues the row to the NE. It is smaller than Room 3 and roughly trapezoidal, with its NW wall leaning inwards. Inside the room bits of metal were found, most probably for mending pottery, eight small stone pestles and a large one and many stone discs, probably lids. The absence of a doorway and the finds of the room as well as the thickness of the walls (c 70 cm) strongly suggest that this was another basement.

Rooms 5 and 6 were greatly damaged by the construction of the Late Bronze Age House F, to the east. Room 5 extended beyond Room 4, while Room 6 was placed next to it, to the NE.

Room 7 was next to Room 3, to the NE and in front of the damaged room 6. It is a small rectangular space which must have been another basement room, since there is no doorway leading to this. It seems to be composed by two parts, because there is a heavy wall, c. 1 m thick at a distance of 2 m from its NE wall and running between the NW and SE walls. The space left beyond this wall, in the southern part of the room, is only 50 cm - 70 cm. This heavy wall was most probably used to support the structure above.

During the same period, Rooms 3 and 7 were covered with a loose schist fill packed with sherds of the Ceramic Phase B⁸⁶ taken from a dump elsewhere in the site, since there no joins were possible between these sherds. Rooms 4, 5 and 6 were also deliberately filled at this stage with red debris and stones, which could represent collapsed mudbrick superstructures. But the area was not abandoned and the filling does not represent a violent destruction, but a natural collapse of the house in the EC IIIA period⁸⁷ (Caskey 1972:C31-32, C36, C43-44, C47-48, C49; pl. 81).

House D:

Above the ruins of House E another house, House D was built in the same period and with the same orientation, but with an entirely different arrangement of the rooms, using some of the old walls.

The new house seems to be composed *of* two rooms in a row

and a long and narrow passage next to them, to the E. The front room seems to form a kind of porch, 3.20 m by 4 m. An entrance in the middle of the partition wall, c. 1.20 m wide, gave access to the rear room. This doorway was marked by two threshold slabs and a pivot stone for the doorpost. The SW wall of the room is thicker (1 m) than the others (c. 60 cm) and is the outer wall of the house. This is one of the walls of House E (Phase 2) that has been reused.

The rear room is large and rectangular, 7.20 m by 4 m. For its NE wall the wall of Room 3 of House E (Phase 2) was used. Both rooms of House D had floors paved with slabs.

Attached to these rooms, to the east, there is a space, 13 m long and c. 2 m wide to its NE part. The space gets narrower (1.50 m) to the SSE edge of the house. This area was entered through two doorways, one to the NE and the other to the east. It seems that it was paved with slabs also, through its entire length. This space must represent a corridor for House D, leading from an open area or road, to the SE, inside the house.

Area C:

Less well preserved remains of the third phase of the settlement come from this area.

Inside the Late Bronze Age House C there are remains of thin clay walls from a house of the EC IIIA period. On the floor of this early structure there is a round pan-hearth with decorated rim of stamped seal impressions.

On the NW and NE sides of this area there are some further remains of walls of yet another structure, built in a very neat masonry of flat stones. In the NE side wall

there is evidence of a doorway with threshold slabs and a pivot stone for the doorpost.

All these walls in Area C belong to rectilinear structures.

Potter's Kiln:

A kiln was uncovered in the N area of the site, just outside the Late Bronze Age fortification wall (Area J). It was built in a neat masonry of small stones mortared with clay, founded on the bedrock. It has a heart-shaped plan, pointed at the SE and flat to the NW. The chamber is roughly circular, c. 1.50 m in diameter, with its inner face ridded but not burnt. Inside the chamber there are three stone cylindrical pillars, most likely the supports of a raised floor of which no trace is preserved (Caskey 1971, 372).

Fragments of large jars with plastic decoration were found inside the chamber.

Daskalio Islet.

Remains of a settlement come from the NE side of this small island, just 50 m away from the SW coast of Keros. The settlement was most likely enclosed by a fortification wall with bastions (Doumas 1972, 163).

The houses within this partly excavated settlement are both rectilinear and curvilinear, with walls built of flagstones embedded in clay. Sometimes the stereo was used to form a wall of the house^(Fig 36a). This is the case in one house, excavated at the site (Doumas 1964, 410). The rock form the W wall of the house, while the N and S stone-built walls about on it.

Attached to the W rocky wall there is a bench, built with flattish stones and occupying the whole width of the house.

Inside the house fragmentary pottery of domestic character, a few fragments of marble vases, stone tools, sea shells and obsidian blades were uncovered.

Daskalio on Keros (Fig. 36b).

Just opposite the islet, on the coast of Keros, remains of a house came to light (Doumas 1964, 410).

The house is rectilinear in plan, with orientation E to W. Its walls, c. 50 cm thick, are built of flagstones embedded in clay, in the same style of masonry as that of the houses on the tiny islands of Daskaleio.

The house is composed of two rooms, the East and the West. The East room is 3 m long and 4.30 m wide. In the NE corner of the room and c. 25 cm above the floor level there is a stone-built bench, c. 1 m long and 45 cm - 85 cm wide. Traces of burning and small pieces of charcoal were found on the bench. Similar indications were evident on the whole floor of the house, which was made of hard-packed earth.

The West room is less well preserved, 2 m long by 4.30 m wide. Its west and south walls have been eroded by the sea. The main entrance to the house was in this room and another doorway located in the south partition wall, gave access from the West to the East room.

Kapari on Melos.

The site, although still unexcavated, is covered by remains of what appears to be a small settlement, immediately above the Phylakopi area, to the south.

The settlement is located on the slope of a low hill in a carefully chosen and predominant position. To the S, the stereo rises vertically and seems to form a natural enclosure line, while to the N, the settlement has an open view towards the sea and Phylakopi.

The buildings within the settlement were small and crowded together. They had their walls constructed of rough stones, most likely embedded in clay, as it evident from the debris at the site. Their preserved condition does not reveal much about their ground plan, but most likely they were rectilinear.

At least two buildings can be recognised among the demolished building material. These are rectilinear structures, probably composed of two rooms and founded on the bedrock.

The fragmentary pottery from the site, all of domestic character, suggests occupation in the EC IIIA period.

Immediately above the settlement area, to the west, there is a cemetery of cist and rock-cut graves.

Kastraki on Naxos.

A small settlement existed at this site, which seems to have been fortified (Stephanos 1908, 117; 1909, 209).

An enclosure wall, erected at the edge of the very low hill, immediately above the sea, to the west and another one to the south, 13 m long and 1 m wide, form the limits of the settlement, which extended to the north.

The walls of the houses, c. 50 cm thick, were built of rough stones embedded in clay laid in regular horizontal courses. Some of them are found upon thicker foundations,

while some others stood immediately upon the bedrock.

The houses are rectilinear, almost rectangular, and composed of two rooms. Best preserved is a house, situated between the two enclosure walls. ^(Fig 37) Room 1 is roughly rectangular, 5.30 m by 1.40 m. Its floor was paved with slabs and below this floor pot-sherds, and animal bones mixed with pebbles were used in a levelling operation. A fragment of a clay figurine was found in this fill⁸⁸.

Room 2 is of the same shape as Room 1, but much smaller (5.20 m by 40 cm). It was found covered with fragments of pithoi and cooking pots. Some pithoi were also found in situ. The room also yielded some stone tools and some bronze objects (fragment of a pin and a small link), as well as some pieces of lead (Stephanos 1909, 209).

Neither of the rooms could have been used as dwellings, because of their narrow space which does not allow sufficient place for every-day activities. They could have been storage rooms, with the living quarters either in close proximity or on an upper floor, but the short excavation report does not make any clear suggestion.

Korphi t' Aroniou (Bizani or Kastro) on Naxos.

On an isolated and predominant hill substantial remains of a settlement were uncovered (Doumas 1965, 41). The remains are scattered on the terraces of the hill, with the best preserved remains on the lower one ^(Fig 38a)

These belong to a curvilinear room, elliptical in ground plan, 2.80 m by 2.10 m. ^(Fig 38b) Its walls are built of small flat local stones embedded in clay and they are 30 cm - 60 m thick. The stones are laid in courses and each course leans

to the interior to support the corbelled roof, which stood 1.30 m above the floor level. To the S, the stereo was cut to form the wall of the structure.

An entrance to the E wall gave access to the building. The threshold, almost trapezoidal in plan, 50 cm - 70 cm long and 48 cm - 70 cm wide, is marked by small slabs placed together. Another schist slab, 73 cm by 21 cm, was placed vertically in front of the threshold, in order to prevent the rain water from penetrating.

The floor of the room is 30 cm lower than the threshold level and a filling of earth was used for levelling the uneven surface of the rock, underneath. The floor itself was made of hardpacked earth, although fragments of schist slabs which were found on it, must have fallen from above.

Inside the room, fragments of domestic pottery were uncovered (Doumas 1965, 45, pl. 33) together with two small obsidian blades and two large grindstones, which indicate domestic activities (Doumas ib., 45).

Outside the elliptical structure, to the W, a wall abuts on the wall of the structure but is not bonded with it. It represents part of a retaining wall, which was built later than the building. Another retaining wall, to the SE, extends beyond the south lintel of the doorway. The space between the SE retaining wall and the stereo was filled with stones and earth, to form a kind of terrace above. On this artificial plateau other structures were built, few remains of which are now preserved.

Other structures were located on the top of the hill, but only their foundations have been preserved. All these

structures reveal the same general characteristics in their level of construction and they represent houses, with the exception only of the elliptical structure, which, because of its available space and short height, must be considered to have been a storage area.

Panormos on Naxos (Fig. 7)

A small fortified settlement was built on the peak of the hill, c. 70 m above sea level (Doumas 1964, 411).

The fortification wall, 1 m to 2 m thick, enclosed the area of the settlement, 24 m by 20.50 m. The wall is built with large worked stones arranged in regular horizontal courses, on the bedrock.

The entrance to the settlement was to the NE. The gateway, c. 80 cm wide, was approached by a narrow corridor, 80 cm wide, and a staircase, built with stones.

Two bastions stood immediately next to the entrance area, one on each side. Other bastions seem to have been formed by the corners of the wall surrounding the settlement.

Inside the wall nineteen rooms form fifteen buildings crowded together with narrow passages, 50 cm to 60 cm wide, running between them. The walls of the houses, in contrast to the fortification wall, are built with small rough flag stones embedded in clay, in a not very solid masonry. They are *built* on a thicker layer of waste stone chips, which are the remains of the worked stones used for the construction of the fortification wall.

The thickness of the house walls is usually 60 cm with the exception only of the E wall of house 12, which is 1.80

m thick. Its position immediately in front the entrance is the reason for this thickness.

The houses are both rectilinear and curvilinear. Most of them built within the line of the fortification wall are curvilinear (e.g. Houses 1, 2, 9, 14-15, 18 & 19), with the exception of two which are pointed (Houses 5-6 & 16-17). The rest, which are situated in the centre of the settlement are rectilinear, almost square (Houses 10, 11) or rectangular (Houses 7, 8 & 12-13). The majority are single-roomed houses, but three of them seem to be composed of two rooms because they are connected with a doorway in the wall between them (Houses 5-6, 14-15 & 16-17).

The rooms are usually small (5 m² - 6 m²), with just enough space available to serve basic everyday needs. Few rooms (e.g. 10, 13) are very small (2 m² - 2.50 m²) and they could have been used for storage. Only one room (no 7) is of relatively large dimensions (7 m²).

The general layout of the settlement seems quite regular. From the entrance, inside the fortification line, three passages separate the rooms into four groups.

The first group of rooms is located immediately to the E and it is composed of four rooms (1-4). All these rooms are built attached to the great wall, which forms their E wall. They reveal almost the same curvilinear plan and they are of the same dimensions (2.60 m by 2 m).

The second group is located immediately to the N of the entrance. Rooms 18-19 and House 16-17 belong to this group. The defensive wall forms the N wall of these structures. Room 19 is almost rectangular, 2.70 m by 2.20 m. Room 18 is

of the same plan but smaller, 2.20 m by 1.80 m. Rooms 16 and 17 seem to form a house of almost triangular shape, 4 m long by c. 3 m max. wide. Room 16 is of very small dimensions, 60 cm long and 3 m max. wide, and it could have been a porch to the house. Room 17 has just enough available space, 2.30 m by 2.40 m, and it seems to have served as the main living area.

On the W area of the settlement, Rooms 8, 9, 10 and House 14-15 form the third group. Room 8 is trapezoidal in ground plan, 2.40 m by 2.20 m, and was most probably used for living. Room 9 is semi-circular and built within the line of the fortification. This room must be considered as part of the defensive system, since the curved great wall projects at this point like a bastion. Room 10 is of small dimensions, 1.20 m by 2 m, and almost square. Its location next to Room 9 and its small dimensions suggest that its use was connected to that of Room 9.

Rooms 14 and 15 are two small spaces, 1.50 m by 1.60 m and 2.20 m by 1.70 m respectively, and they seem to form a house 4.20 m long and 1.70 m wide, with room 15 as the living area.

The remaining central area of the settlement is covered by Rooms 7, 11, 12 and 13, all of almost rectangular plan and sharing common walls.

Extending the line to the SSW, there are two more rooms 5 and 6, which apparently form another house. This is of almost triangular shape, 6 m long and 4.20 m max. wide. It is located just opposite the other triangular house of the settlement (House 16-17), to the N.

Pyrgos on Paros (Fig. 5)

The EC IIIA period in the site was represented by substantial remains of at least three buildings (Tsountas 1898, 167) (Fig. 39)

Two walls (c) joined at right angles, represent a demolished house of this period, which existed immediately above Houses A-B and C-D of the preceding periods. These walls are 40 cm thick, built of flagstones in a neat masonry. Their state of preservation does not allow any suggestions about the plan of the house to which they belong. Most probably the house was rectilinear, following the plan of the houses that existed here before.

Better preserved are the remains on the N side of the settlement. Two rooms E and F form an apsidal house, 7 m long by 3.80 m wide, with orientation NW to SE. Its walls, 35 cm - 38 cm thick, were built of flagstones embedded in clay in a very neat masonry. Room F is a spacious rectangular room, 5.10 m long by 3.80 m wide, whilst Room E has its S wall curved to form the apse and is much smaller (1.90 m by 3.80 m pres.). The entrance to ^{the} building was in Room E and most likely in the E curved wall of the room⁸⁹. Another doorway, with a pivot stone⁹⁰ was placed in the cross-wall, giving access to Room F.

The floor of the rooms was paved with small stones bound with earth and covered by a layer of red clay. Only part of the floor was paved with small slabs⁹¹.

To the W of this building, there is a narrow passage, c. 90 cm wide, running along the W wall of House E-F. The passage is paved with small slabs and a square block (60 cm

by 60 cm) is situated at its northern limit. At this point^x in front of the slab, an open space, c. 80 cm wide, appears to represent another passage, joined to passage G and leading towards other structures that existed on that side of the site. The two passages are lined with walls which could belong either to other demolished houses of the settlement or to retaining walls.

20 m. N of House E-F, there are the remains of another apsidal building, of similar arrangement to this, but not very well preserved. Its straight wall is preserved to a length of 4 m and then it curves to form the apse, in the same manner as the W wall of House E-F.

Other fragments of walls, scattered in the area of the promontory, indicate that the settlement covered a considerable area.

Chalandriani-Kastri on Syros (Fig. 40)

Both sites yielded remains of occupation in the EC IIIA period. The Kastri settlement was fortified and is one of the chief representatives of this period, with its characteristic group of pottery (Bossert 1967, 67) and its fortification.

On lower ground, to the E, at the site of Chalandriani, there are scanty remains of house walls, which cover an extensive area and most likely belong to a small village. The fragmentary stage of preservation does not reveal much about house ground plans and architectural features. Pottery from the settlement indicates that it was inhabited in the preceding EC II period and continued to be occupied in the EC IIIA period. The Chalandriani settlement used the

large organized cemetery nearby in both phases (Tsountas 1899, 115).

The Kastri settlement, c. 600 m to the W of Chalandriani, and separated from it only by a cliff, is located on the NE plateau of a steep hill, which rises 164 m above sea level (Fig. 41)

A fortification system was erected to the N-NE, while the other sides of the settlement were naturally fortified. This fortification system is composed of two parts: the main defensive wall and an outward in front of it.

The outer wall is thinner than the main wall, 1 m - 1.10 m, founded on the bedrock and built of small stones in dry masonry. It follows the outline of the main defensive wall and its bastions, and it was joined to it at its E and, most likely, at its W sides, where both of the walls about on the slope of the hill. The length of the walls is 70 m and they enclose an area of 2.000 m² - 2.450 m². In the middle of the outward was a gate, c. 1 m wide, which was not placed in the same line with the wall, but faces E for safety reasons. The space between the two walls varies in width from almost 7 m to 1m.

The main fortification wall is thick, 1.40 m - 1.60 m, built in the same drywalling masonry. To this six bastions were attached (A-Z), five of them placed across the main face of the fortification and the sixth to the west. The distance between them varies from 4.50 m to 8 m. The outline of the bastions is curvilinear, but the chambers inside them are either curvilinear (E) or rectilinear.

Two of the bastions communicate directly with the

interior of the acropolis (B & Δ). The others bear no indications of doorways and it is quite safe to suggest that they were entered from above by means of staircases. Indeed, evidence of such staircase was found inside tower Γ. Attached to the W wall of the tower, a line of stones form a wall 1.20 m long and 64 cm wide, which must have been the support for a staircase.

The doorway of tower Δ is not very well preserved, but it is c. 80 cm wide. The doorway which gave access from tower B to the interior of the acropolis is c. 85 cm wide.

There were three gates in the fortification wall, through which one could enter the citadel, but not directly. The main gate is that on the west wall of tower B. It is 1.15 m wide and its threshold is composed of two stepped slabs. In the interior, immediately to the left of the entrance, there was a small slab, 34 cm by 31 cm and 10 cm thick, with a hole in the middle, 11 cm in diameter and 2.3 cm deep. This was the pivot stone of the door which had a single leaf and opened towards the interior of the tower. The distance between the pivot stone and the door jamb was constructed with small slabs, smaller than those employed for the fortification wall. This has as a result the construction of very regular angles, but not very solid ones.

Another gateway was situated between towers Γ and Δ. It is narrow, 45 cm - 50 cm wide and there is no indication of a door. This gate did not give immediate access to the settlement but it led to the interior of a room (Room 9).

The third gate was located on the E side of the main

defensive wall, immediately to the S of tower Z. It is 45 cm wide at the beginning and gets wider, c. 1 m, towards the interior of the settlement. This gate seems to give access to another room, as it is the case in the gateway between bastions Γ and Δ.

Inside the fortification line, there are forty-two houses crowded together and divided by narrow alleys. The houses were not founded on the bedrock, but upon a layer of earth and stones, used for levelling the rough sloping area of the plateau.

The house walls are built of small rough stones in a dry masonry, with the exception only of the walls of House 5, which appear to be made of clay⁹². Their thickness varies from 30 cm to 1 m or even 1.20 m.

The houses are both rectilinear and curvilinear and reveal a great variety in their ground plans: rectangular, square, trapezoidal, elliptical, D-shaped, apsidal and round. Some are attached to the great wall, while others are grouped together in the interior of the settlement.

Room 1, on the NE edge of the citadel, is a quite spacious room which seems to be connected with another room to the S, Room 3, to form a house of irregular shape.

Room 2 does not appear to be connected with these two and it could therefore be either a single room or part of another house in this area, from a different architectural phase.

Rooms 4 and 5 most probably form a house of irregular shape and orientation. Room 4 is apsidal, with its main axis N to S. The doorway is located in the W wall, at the

point where this meets with the S wall of Room 5. Inside the room and attached to the same W wall, there is a hearth. Room 5, on the other hand is rectangular, with its main axis E to W. The fortification forms its N wall.

To the W of the gate in bastion B a more regular shape reveals House 7-8. Room 7 has its SE corner rounded, following the NW corner of Room 20, to the S, which existed in that place before the construction of House 7-8. A doorway on the S wall gave access to the interior of the house and another door in the middle of the partition wall led to the rear room 8. The main axis of the house runs E to W and the fortification wall forms its N wall.

Room 9 is attached to the great wall. The room was entered through the small gate in the fortification wall and another doorway, c. 50 cm wide, led from that room into the citadel. The room is rectangular and its long axis runs E to W. It is attached to another Room 10 to the W, but is not connected with it.

Room 10 is also built against the fortification line and with the same orientation as Room 9. Its doorway is located in the narrow W side, immediately next to the entrance of bastion Δ. Both rooms 9 and 10, were part of a defensive system, each used for different purpose. Room 9 was a trap for intruders, while room 10 was most likely used for the needs of bastion Δ.

A room of some special function is located between bastions Δ and E and is attached to the defensive wall. Room 11, with its SSW wall curved and a hearth in the middle, yielded a great deal of bronze objects⁹³.

Room 12 extends the row of the rooms attached to the fortification wall to the W. This is a broad room, with orientation E to W and its doorway in its E wall. It does not seem to be connected with any of the rooms around it, and therefore it must represent a single-roomed house.

Room 13, is not very well preserved. In its preserved condition, it is a D-shaped structure, with its doorway in its S curved wall.

To the N, Room 14 and Room 15 seem to form a curvilinear house. Its ground plan is not very clear, since the N and NE walls of Room 14 are not preserved. The NW corner of Room 15 is curved, following the SE curved corner of structure 20. The N-NE walls that are now visible at the site, do not belong to this room and they must represent another architectural phase of the same period. There is no evidence of a doorway in Room 14, but Room 15 was entered through a doorway in the middle of the partition wall.

In the same area is located Room 20. This is a small structure, almost square, with two sides slightly curved. Its best preserved E side leans to the interior, which was paved with slabs. There is no evidence of a door leading to the structure.

To the S, Room 15 shares a common wall with Room 16, which is 1 m thick. This is a rectangular room, with orientation E to W and an entrance in the E narrow side. It does not seem to be connected with any other room in the neighbourhood.

On the other hand, Rooms 17-18 form a house of irregular D-shaped plan. Room 18 is the anteroom and Room 17 is the

rear room. An entrance in the NW curved corner of the anteroom leads from the alley in front of the inside of the house. A doorway in the southern edge of the partition wall between the two rooms gives access to the rear room. The south wall of the house is quite thick, c. 1.30 m, and this could be explained by the existence of another structure in this area, as is the case for the wall between Rooms 15 and 16.

To the W of House 17-18, in the heart of the settlement, there is a group of rooms, Rooms 19, 21, 22 clustered together. In this area the wall remains represent more than one architectural phase within the same period. Room 19 is long and narrow, trapezoidal in ground plan, and with its main axis N to S. A door in the E wall indicates that the room was entered from that direction. There is no evidence of a doorway leading towards the other structures to the W, but this could have been in the W wall of the room, which is not preserved.

Space 22 could represent either an open yard or a large room in the central part of the settlement and with a hearth close to what appears to be its southern limits.

Room 21 is located in the NW corner of Space 22 and it was built above the remains of apsidal houses, indicating another building phase in the area. It is almost rectangular, with only its SW line slightly curved at the south edge. The walls of the room are quite thick, c. 1 m, and this can be explained by the location of the room, just in front of the entrance to the settlement, through Room 9. For the same reason, the door of the room was placed at the

S wall, preventing immediate access.

Two rooms to the SW of this group, Rooms 23-24, could form a house of irregular D-shaped plan. Room 23 could be rectangular but the curve in the N wall gives to the room an irregular plan. Room 24 is of D-shaped ground plan and with orientation E to W. The room was entered through room 23, by a doorway in the E wall.

In the western sector of the settlement, another group of rooms form at least two houses. The first one, House 25-26, is of irregular, almost D-shaped ground plan, with its main axis running E to W. Room 25 is almost D-shaped. Two doorways gave access to this. One in the E curved wall, led to the interior from the alley in front. The other, on the W edge of the S wall, gives access from Room 27, to the SSW, which in this case could represent something like a large (6 m by 6 m) court. Room 26 is rectangular, 3.60 m by 3 m. This rear room was entered through the front room 25, by a door in the partition wall.

Sharing partly a common wall with Room 26 to the W, is Room 29 which, together with Room 28, forms the other house in the area. This house is of irregular ground plan and orientation. The front room (28) is almost rectangular, with its main axis E to W and a doorway in the NW edge of the W wall. The rear room (29) is a long apsidal room, with its long axis running N to S. The room was entered through a doorway in the partition wall.

Three small rooms, 30, 31 and 32, almost round, are located at the SSE side of the citadel. These rooms must have been connected with some other structures, as

stretches of projecting walls indicate.

House 33-34 is of roughly round plan. Room 33 is almost apsidal, with orientation N to S. An entrance was placed in the middle of the straight E wall, which was the main entrance to the house. Room 34 is much smaller and with the same orientation as Room 33. A doorway in the partition wall probably gave access to this room.

Another room to the S, room 35, belongs to the same group as House 33-34, but is not connected with it. It is elliptical in ground plan, with orientation E to W.

Extending the alignment of Rooms 19, 21 and 22 in the central part of the settlement to the S, there is another group of rooms, 36-40, which could belong to a building complex. Two of them, Rooms 36 and 37, are certainly connected with each other, by means of a doorway in the partition wall. There is no evidence though, for the way the rooms were entered from outside.

At the far SW edge, the two small Rooms 39 and 40, most likely belong to the same building and they were entered through a door in the E wall of Room 39. A door in the W projection of the N wall of Room 37 could have been the entrance to the building.

To the W of this group, two Rooms, 41 and 42, most likely belong to another building which seems to be rebuilt partly upon Room 23.

Some Other Cycladic Sites.

There are some other sites in the Cycladic islands which have yielded evidence of occupation in this period, but

their state of preservation is not such as to allow safe suggestions or conclusions about their architecture. Some are still unexcavated.

Kato Akrotiri on Amorgos.

The site most probably was occupied from the EC II period⁹⁴ but the EC IIIA period is the main one, as the pottery from the site indicates.

There are no traces of walls, since the land owner had already transformed the area to a pen for his sheep when Tsountas first visited the site in 1898 (Tsountas 1898, 166).

The pottery comes from three pits and one deposit and indicates some kind of activity in this area, which according to Tsountas is not of domestic character (Tsountas ib., 168).

Grotta on Naxos.

The site most probably continued to be occupied in the EC IIIA period, as the pottery from the nearby cemetery of Aplomata (Kondoleon 1970, 146, pl. 193b; 1972, 143, pl. 133b) and a few fragments from the settlement area indicate (Kondoleon 1965, pl. 218b).

Moutsounas on Naxos.

A small settlement, with stone built walls, was located at this site, close to the cemetery area (Zaphegiopoulos 1965, 505). The stretches of walls, most likely indicate the existence of small rectilinear houses.

A bronze chisel was found in the settlement area.

Rizokastelia on Naxos.

In a short excavation season, a structure of this period

came to light. Two rooms form a long and narrow structure, with walls built of small rough stones embedded in clay.

The remains reveal the same quality of construction as that at Kastraki on Naxos, according to the excavator (Stephanos 1910, 273), and they must belong in the same period.

Spedos on Naxos.

There are wall remains of a fortified settlement, at this site, which was investigated by Stephanos (Stephanos 1903, 53). The walls are built mostly of flagstones without bonding material.

Vigla on Naxos.

Pottery of the EC IIIA period came to light from structure 7 in Area 16 at the site (Barber & Hadjianastasiou 1989, 70, 76, fig. 2, pl. 16c:36-38). The pottery cannot yet be associated with architectural remains, but it certainly indicates occupation in this period.

Avyssos on Paros.

Remains of walls were uncovered here, very close to the cemetery area (Tsountas 1898, 175).

The remains belong to houses of a settlement which existed on this site and used the nearby cemetery. Nothing can be said about the house architecture since the area is unexcavated.

The only interesting feature, up to now, of this settlement, is the existence of two long ~~and~~ parallel walls, at a distance of 30 m one from the other. The walls are quite thick, c. 70 cm, and mostly built of flagstones

in a dry masonry. They have two faces with the space left between them filled with smaller stones and earth.

In the area enclosed by these two walls, five copper slags were uncovered in a small trial trench (Tsountas ib., 176).

Paroikia on Paros.

The remains of the EC IIIA period are stretches of curvilinear walls, built with small stones and clay (Rubensohn 1917, 1).

Akrotiri on Thera (Fig. 2b)

The settlement of the EC II period continued to be occupied without interruption, as the pottery forms of the Kastri and Amorgos groups indicate (Sotirakopoulou 1989, 297: Kastri group: nos 4183, 4185, 4186, 4199, 5795b; Amorgos group: nos 4189-4191).

Most of it was uncovered in the rock-cut structure, in pillar pit 6, which exhibits certain affinities with the rock-cut chamber tombs of the "Phylakopi I" culture (Doumas 1978b, 778; Sotirakopoulou ib., 297). Its existence could imply that the site was a cemetery in the EC period, but the fragmentary pottery furnishes evidence against this suggestion, since only a very small percentage of the sherds is decorated. This most likely indicates that the fragments belong to vases of everyday use and they therefore represent settlement pottery.

Apart from these sites, which yielded evidence of occupation in the EC IIIA period, there are some more from where the evidence is even less. These are: Ay. Mamas and Kampos Ay. Athanasiou on Heraklia (Zapheirou 1967,

465): Nero, which is reported to be fortified and Panagia on the small island of Kato Kouphonisi (Zapheirópoulou 1967, 466); and Akrotiraki on Siphnos (Tsountas 1899, 76).

Architecture.

Stones, either flat or rough, are the main construction material, as is the case in the preceding periods

The islanders used the material they could find in plenty on their lands and they built their walls in a neat masonry either in a dry-walling technique or using clay as bonding material. Most of the walls in this period are of solid construction. The majority of the external walls of the houses are 70 cm thick, while sometimes they reach more than 1 m in thickness. The partition walls are thinner, 30 cm - 50 cm.

The walls were stone-built to their entire height, although in many settlements the stereo was used to form part of a wall (e.g. Daskalio on Keros, Mt. Kynthos on Delos).

There are three cases of houses with superstructures made of clay. At Kastri on Syros, Tsountas reported that House 5 seems to have walls made of clay may be in pisé technique, without plaster, as the E wall, preserved up to 1.15 m, indicates (Tsountas 1899, 120).

The red débris in Rooms 4, 5 and 6 of House E (Phase 2) at Ay. Irini on Keos, could be interpreted as the disintegration of mudbrick walls of the superstructure (Wilson & Eliot 1984, 85). At the same site, clay wall remains are reported from the area inside the Late Bronze

Age House C (Caskey 1964b, 317).

The dug-out structure, lined with stones inside, at Christiana, is a peculiarity in the architecture of this period (Tsakos 1967, 464). The dug-out structure could be explained by the morphology of the island, which belongs to the Thera group. The volcanic nature of the islands is in favour of such dug-out structures⁹⁵.

In general the walls are not plastered. The only exception is the apsidal building ψ on Mt. Kynthos, at Delos, where clay plaster was attested on the walls (Plassart 1928, 21).

Clay was widely used as a bonding material and for covering the floors and the roofs of the houses.

Timber is absent from the construction of the walls, but it could have been used for roofing together with bushes and reeds.

Almost all the stone-built walls are of the common two-faced type. The outer and the inner faces of the walls are built in more or less horizontal courses, while the space between them is filled with smaller stones. Sometimes, stone tools and earlier sherds are used in the filling, together with stones (e.g. on Mt. Kynthos; Plassart *ib.*, 12; Macgillivray 1980, 7).

The walls are founded upon thicker foundations (e.g. Kastraki on Naxos) or upon a thicker layer of waste stone-chips (e.g. Panormos on Naxos) or immediately on the bedrock.

Floors paved with slabs are quite common in contrast to the preceding periods. Paved floors occur in both

unfortified and fortified settlements. This could imply that attention was now paid to the neat appearance of the interior of the houses.

This does not appear to be the case in Room 20 of the Kastri settlement, which because of its shape and its masonry could have had some special function. It is not without significance that two moulds, one made of schist and the other made of clay, and two fragmentary crucibles were found very close to this structure (Tsountas 1899, 124, figs 35, 35a, 36, 37; Bossert 1967, 60 fig. 3.5).

A different technique of paved floor was employed in House E-F on Pyrgos. In this case both rooms of the apsidal building had their floors paved with small stones bonded with clay and covered by a layer of red clay.

The most common technique of hard packed earth was used on the E room of the House at Daskalio on Keros and on the elliptical structure at Korphi t' Aroniou on Naxos, as well as in the houses of the fortified settlements. A more elaborate form of this technique was employed in Room 3 of House E (phase 2) at Ay. Irini, where the floor is made of hard packed earth and clay.

The doorways in the rooms and houses of the EC IIIA period do not follow a definite rule either for their location or for their construction.

Their location depends on the needs of the structure they belong to and its position in the settlement.

In the unfortified settlements they usually give access to the building from a passage or from an open space, while in the fortified settlements their position is such as to

prevent immediate access from the gates of the defensive wall.

Doorways in the partition walls of the two-roomed houses led from the anteroom to the rear room. Their width varies from 50 cm to 1.20 m. In their simplest form, the doorways were mere openings in the walls and in this case the doors were most likely attached to the door jambs without hinges.

In their elaborate form, the doorways were marked with one or in some cases with two small threshold slabs and pivot stones for the doorposts (Mt. Kynthos, Ay. Irini, Korphi t' Aroniou, Pyrgos).

An interesting feature appears in the case of the elliptical structure at Korphi t' Aroniou. A schist slab was placed vertically in front of the threshold to prevent the penetration of the rain water into the structure, since the floor was 30 cm below the door level.

Little is known about the roofs of the EC IIIA houses. The type of roof used must have been a factor in determining the layout of the settlements where the houses are crowded together. Clustered rooms, almost without doubt had flat or slightly sloping lean-to roofs and thus the inhabitants could use the available space in the best way. With this kind of roof they could expand their buildings in any direction.

A different method was employed in the elliptical structure at Korphi t' Aroniou, on Naxos. The room had a corbelled roof, covered with schist slabs, which were found in the fill of the room (Doumas 1965, 41).

Less clear is the evidence for the apsidal or the other

curvilinear buildings. Here the roof could have been either flat or domed. The latter is more probable for free-standing structures, such as the three apsidal buildings on Mt. Kynthos settlement or the apsidal houses at Pyrgos. On the other hand, curvilinear houses grouped together most likely had the same flat roof as the rectilinear (e.g. Houses 4-5, 14-15, 17-18, 25-26, 28-29 and 33-34 at Kastri).

The Settlements.

1. Location:

From the twenty seven settlements available for the study of this period, eighteen settlements⁹⁶ are located next to the sea.

Only nine settlements were situated inland, but not very far from the sea. These are Markiani, Mt. Kynthos, Dokathismata, Kapari, Korphi t' Aroniou, Panormos, Rizokastelia and Kastri.

2. Land Morphology:

Most of the settlements⁹⁷ are located on quite high hills more than 30 m above the sea level. These are either fortified or unfortified and they can be very close to the sea.

Few are located on a low hill, inland or coastal, namely Dokathismata, Kato Akrotiri, Markiani, Daskalio on Keros and Moutsounas.

Ay. Irini, Grotta, Nero, Panagia and Kastraki are located on flat land usually next to the sea, with or without fortification.

Only one settlement extends to flat land and hill. The Chalandriani and the Kastri settlements most probably were inhabited by the same people. The distance between the two sites favours this suggestion, since two different villages could not exist, one so close to the other. Even nowadays in the islands, the villages are at a distance one from the other and the population has certainly increased.

3. Size of the Settlements:

In only very few cases the size of the settlement can be estimated since most of them are unexcavated or destroyed by modern structures or cultivation. In any case, the majority of the settlements is of small size.

The remains at Pyrgos are scattered in an area of 39 m by 12 m (358 m²).

The settlement on Mt. Kynthos covers the peak of the hill which is 23 m by 22 m (506 m²).

Panormos measures c. 600 m², with the fortifications (26 m by 23 m), while inside the fortification line the settlement is 492 m² (24 m by 20.50 m).

At Markiani, Terrace 1 measures 5 m to 7 m by 30 m (150/210 m²) while the area below is 25 m by 30 m (750 m²).

The Kastri settlement covers an area of 2.500 m² with its fortifications, while the interior of the inhabited area is 1.300 m² (65 m by 20 m).

At Ay. Irini on Keos the EC IIIA settlement was of medium size, since the remains covered almost the whole excavated area (11.800 m²).

From the Mikri Vigla survey (Barber & Hadjianastasiou 1986, 63) it appears that the settlement covered an

extensive area of 20.900 m² (c. 190 m by 110 m). Thus the settlement could have been of large size.

4. Morphology of Buildings:

The settlements of Markiani, Ay. Irini, Daskalio on Keros, Kapari (?), Kastraki, Moutsounas, Rizokastelia, Spedos and Vigla have buildings only of rectilinear shape.

The buildings of the second group of settlements, namely Christiana and Akrotiri are curvilinear.

The third group includes settlements with mixed, rectilinear and curvilinear, structures.

On Mt. Kynthos of the nine houses that can be recognised, five are rectilinear and four are curvilinear in various shapes.

On Panormos, among the sixteen houses of the settlement, eight are rectilinear and eight are curvilinear.

At Kastri, nine houses are rectilinear and twelve are curvilinear, while two houses are of irregular shape, composed of one rectilinear and one curvilinear room.

In general, most of the settlements have rectilinear structures, while in some settlements the two plans co-exist side by side.

5. Average Size of Buildings:

The only exception to the medium size of the EC IIIA buildings could have been the settlement of Ay. Irini on Keos. If the estimations of Caskey about the size of House E (phase 2) are correct (Caskey 1971, 369), then Ay. Irini could have had an average size for its buildings of 255.25 m² (House E:450 m² and House D:60.50 m²).

In any case, the preserved parts of these buildings at

Ay. Irini indicate a large average surface (79 m² or 35.82 m²).

The houses at Markiani on Amorgos (22.53 m²) Daskalio on Keros (21.50 m²) and Pyrgos on Paros (26.60 m²) are of medium size. It could be possible that other structures within the settlements were of similar size giving thus a medium average size for the buildings of Markiani, Daskalio and Pyrgos.

The rest of the settlements have small average size of buildings⁹⁸.

6. Settlement Density:

At Pyrgos in the excavated area of 468 m², three structures were uncovered, which could indicate that the settlement had a *low* density. But this is not certain, since other structures were scattered on the site in this period, not *many* of which have been preserved.

On Mt. Kynthos fourteen structures were crowded together in an area of 506 m². Sixteen houses were grouped together in the settlement of Panormos, inside the fortification (area c. 500 m²). There are twenty seven houses clustered together in the 1.300 m² area inside the fortifications at Kastri.

7. Surface Homogeneity:

The settlements of Ay. Irini (.234 or .161), Daskalio on Keros (.000), Kastraki (.000), Korphi T' Aroniou (.000) and Pyrgos (.000) have small deviation in the sizes of their houses. This indicates that the houses within these settlements were of similar size.

The buildings on Mt. Kynthos (.623) and Panormos (.553

have some differentiation in their sizes (medium deviation).

A large difference is evident in the sizes of the structures at Kastri, where the deviation is large (.834).

8. Quality of Construction:

The settlements of Markiani, Christiana, Ay. Irini and Korphi t' Aroniou indicate a high quality of construction with their neatly built walls, more than the average of 50 cm - 60 cm wide. The walls are straight, joined at right angles. Inside there are paved floors and in some of them slabs have been used for roofing.

The settlements of the medium quality have almost the same characteristics as that of previous group, but their walls are not so thick or straight. In this group belong the settlements of Dokathismata, Daskalio Islet, Daskalio on Keros, Kastraki, Panormos and Rizokastelia.

Mt. Kynthos, Pyrgos and Kastri have walls built with stones in regular horizontal courses but they are not always thick or straight. In these cases the quality of construction is mixed.

9. Special Architectural Features:

Hearths are common in the EC IIIA architecture. Their position in the room is usually marked by a stone-lined small structure situated either in the middle (e.g. Room 11 at Kastri; EC IIIA house in Area C at Ay. Irini) or close to the walls of the room (e.g. Room 4 and 22 at Kastri).

A different and more elaborate hearth was uncovered at Ay. Irini on Kea, in Area C. This is a rounded pan hearth,

with converging sides. The raised rims bear impressions of an oval stamp-seal (Caskey 1964, 317, pl. 48k, pl. 50c).

Two benches were uncovered, one in the house on Daskalio islet and the other in the E room of the house at Daskalio on Keros.

Both were built of flattish stones and they were attached to the walls of the rooms to which they belong, occupying their whole extent. In the case of the E room of Daskalio on Keros, traces of burning and small pieces of charcoal were found on it, as well as on the floor of the house. Such traces were not observed in the Daskalio islet house.

These constructions, although their function is not clear, were used as places for sitting or platforms⁹⁹ for placing baskets containing food or other provisions. Similar benches, inside or outside the house, are broadly in use by the islanders these days and for similar purposes (Philippa 1982, figs 9-10, 14).

A bin was uncovered on the NE wall of House E:Room 3, at Ay. Irini. The bin had its floor and sides lined with large schist slabs. In its fill some rough stone implements and pithoi fragments were found. Its shape is trapezoidal, with interior dimensions 80 cm by 1 m - 80 cm.

There is one case where the existence of a staircase was securely attested. That is in Room v on Mt. Kynthos at Delos. At the NE side, the vertical face of the rock was shaped to form a kind of a staircase, leading to the basement room from above.

A staircase could have been necessary in Room ξ of the

same settlement, but there is no such evidence on the stereo. In this case the staircase must have been a wooden one.

Staircases must have been used for entering the towers in the fortified settlement of Kastri. A wall attached to the W wall of tower Γ, inside, seems to represent a stone support for such a staircase.

The small dimensions of EC IIIA structures explain the absence of interior supports.

In only one instance were pillars used as supports for the roof. This is in the Potter's kiln at Ay. Irini, on Keos.

In Rooms 1-3, at the Building Complex in Markiani, a drain was uncovered. Another drain was uncovered in the E wall of bastion Β at Kastri. At Korphi t' Aroniou slabs were placed vertically in front of the sill of the elliptical structure, to prevent the penetration of rain water.

10. Differentiation of Buildings:

In the settlements of Ay. Irini, Markiani and Panormos, the buildings are similar in ground plan, dimensions and quality of construction. This does not apply to the rooms attached to the fortification wall in Panormos, which have their own characteristics and uniformity.

11. Buildings with Special Function:

No administrative or religious centre with workshops and warehouses has been attested so far with certainty in the Cycladic islands of this period. An exception to this could have been House E (phase 2) at Ay. Irini. There are no indications of an administrative or religious character for

the building, but the existence of the numerous warehouses could indicate that the building had a special function in the community.

Workshops and warehouses were found in Markiani, South Area, where a concentration of metal objects and pottery was found in two different rooms. This could imply that one room was used as a working area for metal objects, while the other room was used for storage.

At Ay. Irini, clear evidence of a workshop comes from the Potter's kiln.

At Korphi t' Aroniou, the elliptical structure was most probably used as a storage area. Similar structures are in use nowadays in the Cyclades. Quite often, if not always, there are some small structures next to the cultivated lands, which are used for storage of the tools used on the fields or for protection of the land owners from the bad weather and or unexpected weather conditions.

The finds from Kastraki, Rooms 11 and 20 from Kastri, as well as those from Rooms ι, ν and ξ on Mt. Kynthos, indicate structures of similar function.

House D, at Ay. Irini could be an administrative centre, although nothing has been found inside or outside this building to verify that. The plan of the house, which strongly resembles the elaborate "Corridor Houses" of Mainland Greece, and its dimensions are the only evidence to support this suggestion.

Structures for any of these functions are absent from the rest of the settlements. Especially on Panormos, the absence of definite evidence about the use of each room,

does not allow possible suggestions about the existence of buildings with special functions within the settlement. Yet it is quite probable that there must have been some, in order to serve the needs of the citadel.

12. Town Planning:

At Kastri, the settlement was developed piecemeal, without any regular plan or layout. The structures were built one next to, or in some cases above, the other, using the available space in the best way.

Indications of some attempts at a regular layout for the settlement come from the settlements of Markiani, Mt. Kynthos, Ay. Irini, Korphi t' Aroniou and Kapari (?). The houses are divided, into small groups with roads, passages or alleys running between them. Some alterations or additions may occur, but the general layout indicates some regularity.

A more planned structure is apparent on Panormos, where the four passages divide the houses within the citadel.

13. Fortification:

The settlements of Markiani, Daskalio Islet, Panormos and Kastri have an elaborate fortification system, with thickly built walls, bastions and towers. Gates are built in strategic positions to prevent easy access to the settlement. Inside the towers and the fortification line rooms are built. The best representatives of this kind of fortification are the settlements of Panormos and Kastri.

The settlements of Kastraki, Spedos, Avyssos and Nero have walls, less thick than those of the first group. There are no bastions, no gates and no inside rooms.

The evidence, however, comes mainly from still unexcavated or partly excavated sites.

14. Organized Cemeteries:

Organized Cemeteries associated with the EC IIIA settlements have been found at Dokathismata (Tsountas 1898, 154), Kato Akrotiri (Tsountas ib., 138), Ay. Mamas (Zapheirpoulou 1967, 465), Daskalio (Doumas 1964, 410; Zapheirpoulou 1968, 381), Nero (Zapheirpoulou 1967, 466, Kapari, Grotta (Graves I-V, XIVA at Aplomata; Kondoleon 1970, pl. 193b; 1972, pl. 133b), Moutsounas (Zapheirpoulos 1965, 505), Panormos (Papathanasopoulos 1961-61, 144), Spedos (Papathanasopoulos ib., 114), Avyssos (Tsountas 1898, 16), Pyrgos (Tsountas ib., 167), Chalandriani-Kastri (Tsountas 1899, 78), Akrotiraki (Tsountas 1899, 73).

At Markiani, Christiana, Mt. Kynthos, Ay. Irini, Kastraki, Korphi t' Aroniou, Rizokastelia, Vigla and Paroikia associated organized cemeteries have not been found, yet.

15. Craft Specialization:

The most important evidence about craft specialization in this period comes from Markiani, Ay. Irini, Korphi t' Aroniou, Avyssos and Kastri. At Markiani et al objects were found in one room of the S area, which indicate the working of those objects at the site.

At Ay. Irini the Potter's kiln is the safest indication of craftsmanship in this settlement. The metal pieces found in Room 4 of House E indicate the mending of pottery.

At Korphi t' Aroniou, mill-stones and grinders indicate

this kind of activity in the settlement. A quite high degree of specialization is required for the engraving of the ten slabs, with different scenes, found at the site.

At Avyssos, five copper slags were uncovered, as well as obsidian blades and rough obsidian, in a very small trial trench.

The high quality of construction in the fortification system at Kastri, with the main fortification wall and its bastions and the outwork in front of it, the workshops (Bossert 1967, 61), as well as the stone and clay moulds and clay crucibles for the production of bronze weapons (Tsountas 1898, 124), strongly indicate a high degree of specialization in this period.

The settlements of Dokathismata, Kato Akrotiri, Christiana, Mt. Kynthos, Daskalio Islet, Daskalio on Keros, Kastraki, Panormos, Pyrgos, Moutsounas, Rizokastelia, Spedos, Vigla, Paroikia, Akrotiri and Akrotiraki do not reveal great craft specialization, but there are some indications.

Some evidence comes from the settlement of Mt. Kynthos. This is the high level of construction of its houses and the presence of workshops in different areas and rooms of the settlement.

From Kastrak' come some stone tools and some lead bits.

The construction of the fortification wall at Panormos certainly needed technical skill.

A bronze chisel was uncovered in the Moutsounas settlement.

16. Metals (Bronze, Lead):

A large number of metal objects has been uncovered in the settlements of Markiani and Kastri.

Smaller amounts have been uncovered in the settlements of Ay. Irini, Kastraki, Panormos, Moutsounas and Avyssos.

In all other settlements objects of bronze or lead are absent, although their presence is attested by the finds from some settlements' cemeteries (e.g. Dokathismata, Pyrgos).

17. Precious Metals (Gold, Silver):

In only one settlement ^{has an} object made of precious metal been found. This is the silver diadem with the dotted decoration from the Acropolis of Kastri on Syros.

No other evidence has been revealed in the EC IIIA settlements. Precious metals are absent from the organized cemeteries, as well, with the only exception the cemetery of Dokathismata¹⁰⁰.

18. Marble/Stone:

None marble or stone object is reported from the settlements of Dokathismata, Markiani, Christiana, Ay. Irini, Kapari, Kastraki, Moutsounas, Panormos, Spedos, Avyssos, Paroikia, Pyrgos and Akrotiraki. But many such objects have been found in the graves of the cemeteries. These objects are usually marble vases and figurines.

Marble vases, on the other hand, have been uncovered in the settlements of Kato Akrotiri, Mt. Kynthos, Rizokastelia and Kastri. At Vigla pieces of marble as raw material have been found. A marble figurine of the EC IIIA period was uncovered at Akrotiri.

A very interesting feature in the EC IIIA settlements

are the incised scenes and spirals on rocks. Some of them seem to represent astrological signs, indicative of a high standard of living. Such slabs have been found in Daskalio on Keros, Korphi t' Aroniou, Moutsounas, Panormos and Spedos on Naxos, as well as at Kapos Ay. Athanasiou and Ay. Mamas on Herakleia (Zapheirópoulou 1967, 465; Renfrew 1972, 518).

19. Interregional Trade:

The evidence for intensive trade comes mainly from outside the Cycladic islands. Cycladic marble vases, figurines and obsidian indicate that the islanders exported their products and in exchange they would get something that was not so plentiful in their lands.

Bronze was imported from Mainland Greece or Anatolia, while silver could be found in the Cyclades. Silver, zinc and lead were once widely distributed. Nowadays they can be found only on Siphnos and Antiparos. Copper could have been brought from Serifos.

Pottery shapes, such as the *depas amphikypellon*, strongly indicate exchanges with the Anatolian coast.

20. Seals and Sealings:

Seals and sealings are absent from the settlements of Dokathismata, Kato Akrotiri, Christiana, Mt. Kynthos, Daskalio, Kapari, Grotta, Kastraki, Korphi t' Aroniou, Moutsounas, Panormos, Rizokastelia, Spedos, Vigla, Avyssos, Paroikia, Pyrgos, Akrotiri and Akrotiraki.

A small number of seals and sealings has been found at Markiani, Ay. Irini and Kastri. At Markiani a clay sealing was uncovered during the cleaning process in the area

between the summit and Terrace 1 and a rectangular seal^{impression} was found on a piece of pottery.

At Ay. Irini stamp seal impressions decorated the rim of the hearth, in Area C. A seal was uncovered in the Acropolis of Kastri (Bossert 1967, Abb. 5.10).

21. Potters' Marks:

The potters' Marks are in general absent from the EC IIIA settlements. In only two settlements^{has} their existence been attested. These are Christiana (Douglas 1976, 7) and Ay. Irini (Caskey 1970b, 108).

Comparison with the Other Aegean Areas.

The EC IIIA period shows affinities with the EH I (advanced phases) in Mainland Greece, EM IIB (Vasiliki ware) in Crete, Troy II-III, Emporio III-I, Thermi IVB-V, Poliochni IV-V and the late phase at Skala Sotiros Thasos, in the NE Aegean.

A. Mainland Greece:

Substantial remains of well-organized settlements come from Boeotia: Thebes¹⁰¹ (Pottery Group B; Konsola 1981, (Fig 42a) 149), Eutresis¹⁰² (Goldman 1931, 15; Caskey and Caskey 1960, 159),^(Fig 42b) Lithares (Tzavella Evjen 1985, 11),^(Fig 43) Orchomenos¹⁰³ (Bulle 1907),^(Fig 44a) from Euboea: Manika 3 (Sampson 1985, 113),^(Fig 44b) and Lefkandi I¹⁰⁴ (Popham & Sackett 1968, 6), from Attica: Ay. Kosmas (phase B; Mylonas 1959, 20),^(Fig 45) Raphina¹⁰⁵ (Theodoris 1952, 129; 1953, 105, fig. 1),^(Fig 23a) Askitarion (Theodoris 1955, 109, fig. 2),^(Fig 23b) Aigina III¹⁰⁶ (Walter and Felten 1981),^(Fig 46) from the Argolid and Corinth: Zyggouries (Blegen 1928, 4),^(Fig 47a) Berbati¹⁰⁷ (Saflund 1965),^(Fig 47b)

(Fig 48)

Tiryns¹⁰⁸ (Kilian 1983, 312)_(Fig. 4a), Lerna III C-D¹⁰⁹ (Caskey 1960, 285)_(Fig. 50a), Asine¹¹⁰ (Frodin and Persson 1938, 41, 44, 59, 90)_(Fig. 50b-d), Tsoungiza (Pullen 1986, 73)_(Fig. 50b-d); from Messinia: Akovitika¹¹¹ (Themelis 1970, 307; Karagiorga 1971, 126)_(Fig. 51), Ay. Dimitrios¹¹² (Zachos 1986, 29)_(Fig. 52a); and from Skyros Palamari (Parloma 1984; Theochari & Parloma 1986, 51)_(Fig. 52b).

Some of these settlements were fortified (Thebes, Manika, Raphina, Askitarion, Aigina III and Lerna III), while some others seem to have been unfortified, since no traces of defensive walls have been uncovered in their excavated areas. In the majority the fortification is simple, without bastions. The only exception to this is Lerna, with its double defensive wall, towers and rooms inside them.

Most of the settlements¹¹³ exhibit a moderate quality of construction. They have well-built walls, 50-65 cm thick, with stone foundations and stone or mudbrick superstructures.

The houses have narrow doorways, their floors are made of beaten earth and their roofs are usually made of timber, straw and clay.

On the other hand, a group of settlements¹¹⁴ exhibits a high level of construction with their impressive buildings. Their walls, 70 cm - 1 m thick are neatly built and in some cases they are double (e.g. the walls at Akovitika). They have floors paved with slabs or pebbles. Indicative of the high quality of construction is the fact that some of these buildings had two¹¹⁵ or even three¹¹⁶ storeys.

The houses are mostly rectilinear, with only few

examples of curvilinear at Orchomenos, Ay. Kosmas (Structure J), Asine (House R), Thebes (apsidal structures A and B) and Tiryns ("Rundbau" on the Upper Citadel).

Inside the houses were found benches (Eutresis, Ay. Dimitrios), clay hearths (Thebes, Eutresis, Askitario, Berbati, Lerna, Tsoungiza, Ay. Dimitrios), columns or supports (Thebes, Palamari), clay tiles or schist slabs for roofing (Raphina, Askiratio, Aigina, Zygouries, Tiryns, Lerna, Asine, Akovitika, Palamari)¹¹⁷.

As far as the level of urbanization is concerned, these settlements can be grouped into three categories. A higher level of urbanization is attested in Aigina, Lerna, Zygouries, Thebes and Eutresis. All these settlements exhibit developed central functions and elaborate socio-economic community structure with craft specialization, interregional trade and metallurgy¹¹⁸.

The settlements of Manika, Lithares, Ay. Kosmas, Raphina and Akovitika exhibit a lower level than that of the first group¹¹⁹. Their characteristics show a moderate socio-political organization, since the administrative buildings are absent and there is no differentiation in the size and plan of their buildings. On the other hand, the economy seems in these settlements to have been a flourishing one. The remains of metals and the abundance of obsidian, strongly indicate the working of these materials in the settlements.

To the third group, which exhibits the lower level of urbanization, belong the settlements of Asine, Berbati, Askitario, Orchomenos, Palamari, Ay. Dimitrios and

Tsougiza¹²⁰. The architectural remains from these settlements show only small social differentiation and not very elaborate craft specialization and interregional trade.

B. Crete:

In Crete, the EC IIIA period seems to correspond with the EM IIB (Vasiliki ware) period. Substantial remains of this period come from Myrtos-Phournou Koriphi (Period II; Warren 1972)^(Fig. 25), from Vasiliki Ierapetras¹²¹ (Zois 1976)^(Fig. 26), from Malia (Van Effenterre, 1969, 7)^(Fig. 53) and from Palaikastro (Dawkins 1904-1905, 272)^(Fig. 54a-b), while from Knossos only parts of floors and pottery deposits of this period were uncovered (Evans 1921-36, I, 71). All these settlements are unfortified. The walls of the houses are usually double, built upon foundations made of rough stones and bonded with clay, fastened together with horizontal and vertical wooden beams. Mudbrick was used for the upper part of the walls. The walls and some floors were covered with plaster. The roofs were made of wooden beams, straw and clay.

The extensive remains allow suggestions to be made about the morphology of the settlements and the socio-economic structure of their community. All these settlements exhibit a quite high level of urbanization, with a high quality of construction, differentiation in the size of their buildings and buildings with special functions. At Myrtos, different buildings have been used as workshops, kitchens and warehouses, while the Sanctuary was located in the SW edge of the settlement (Warren 1972, 260).

The centre of the settlements, especially at Myrtos and

Vasiliki, is an open space, paved with slabs. Paved roads lead from different areas to these open spaces, which most likely represented the central court of the settlement.

Less clear is the evidence about the settlement layout from Palaikastro, since only remains of a large building were uncovered. The large dimensions of the two rectangular spaces or rooms (20.50 m by 24.50 m for the N room and 20.50 m by 15 m for the S) and its high quality of construction, imply that it had a specific function in the EM IIb settlement.

C. The North-East Aegean:

The EC IIIA period shows close affinities with Troy II-III (Blegen et al. 1950, 204; Blegen et al. 1951, 12), Emporio III-I (Hood 1981, 130), Thermi IVB-V (Lamb 1936, 35), Poliochni IV-V (Brea 1964; 1976, Tav. CXLIII, Tav. CXCI) and Skala Sotiros at Thasos (Late phase; Koukouli-Chrysanthaki 1988, 391, 394; 1991, 422).

The settlements of this period seem to share common features, as far as their structure is concerned. They have an elaborate defensive system, with well-built walls, gateways and towers and houses grouped together and separated by streets, alleys and passages (Fig 55)

Exceptions to the crowded houses of this period are some free-standing buildings at Troy II, such as the Megaron IIA (Blegen et al. 1950, 321) ^(Fig 56), the "House of the King" (Blegen et al. ib., 371) ^(Fig 57) and Building IIS (Blegen et al. ib., 374).

The streets and alleys of the settlements are well-defined and almost always paved either with stones or pebbles. The same applies to the open spaces, which are

located either in the heart of the settlement (e.g. Area N2 of Thermi V)^(Plan 3) or in the centre of a group of buildings or rooms (e.g. Area 210 of Troy IIg; "Plazza 103" and "Plazza 106" of Poliochni V)^(Plan 5)

Less clear is the evidence for Emporio and Skala Sotiros. The architectural remains from Emporio III-I do not belong to houses, but to a defensive wall in the central area (Area A) of the settlement (Hood 1981, 130, fig. 65).

The houses within the settlement are, as a rule, rectilinear, with the only exception the semi-apsidal House O 3 of Town V at Thermi^(Plan 3) and "Isolato XIII" of Poliochni V^(Plan 4), which has its NW and SW corners curved.

The walls are mostly made of stones upon stone foundations. The superstructures at Troy are almost always of crude brick. In some cases the walls are coated with clay plaster, especially at Troy, while most of them are uncovered.

The floors are either made of hard packed earth or paved with stones, pebbles or slabs.

The doorways are often marked by door sockets or thresholds. An interesting feature that appears now at Thermi is the double threshold, in the way that the stones or slabs are arranged like a step or stile (e.g. the threshold between K8 and K9 of Town IVb; and the threshold between K3 and K4 of Town V; Lamb 1936, 37, fig. 14).

There are many sophisticated devices among the remains of these settlements. Hearths inside or outside the buildings are the most common. Small pebble pockets were

possibly used for the support of round-bodied vases (e.g. Room 4 at Thermi IVb). Post-holes filled with ashes and carbonized wood, were used as supports for shelves or cupboards (e.g. in Room 206 at Troy IIg). A semicircular structure of brick resting on two courses of stone and coated with plaster, placed against the NE wall of Room 202 in Troy IIg, could indicate the location of furniture, table or bench. There is no evidence of roof tiles or slabs and it seems that the roofs were made of timber, reeds and brush, ^{wood} covered with clay.

Drainage channels existed in the settlements. A terracotta drain or flue was uncovered at Thermi IVb-V. Large upright slabs are evident at the sides of the walls at Skala Sotiros.

The morphology of these settlements, with an elaborate layout, a high quality of construction and a communal socio-economic structure with clear evidence from the pottery and the small finds for craft specialization, interregional trade and metallurgy¹²², indicate that they reached a high level of urbanization. This applies to all the settlements of that region except Emporio III-I, where the remains of houses are absent, although there are some indications of craftsmanship¹²³.

Some Conclusions.

From the analysis of the data available for the study of the architecture of the EC IIIA period, some suggestions can be made about the level of urbanization that Cyclades reached in this period.

The structures in the settlements show a small to medium average surface area. Exceptions to this are House E and House D, at Ay. Irini, which, if Caskey's estimation about their size is correct¹²⁴, have a large average surface¹²⁵.

Most of the well-investigated settlements exhibit a high or mixed quality of construction, with thick walls 60 cm to 1 m or even more, neatly built of stones or slabs bedded in clay, usually upon thicker foundations. Special Architectural Features are present in most of them, such as hearths, pillars, roof slabs and staircases.

Monumental buildings are absent from EC IIIA architecture, with the only possible exception at Ay. Irini. In this settlement Houses E and D, which belong to different architectural phases within the same period, with their large dimensions, a high quality of construction and a different ground plan from the other structures, could be considered as monumental buildings. In addition, the basement warehouses of House E and the ground plan of House D support this idea.

Warehouses and workshops can easily be recognised in most of the settlements of this period from the large concentration of tools and pottery found in them. Almost every systematically excavated settlement has its warehouses and workshops.

The settlements of this period are small in size with high density and an elementary town structure.

On the other hand, their economic structure is sophisticated with a high degree of specialization in crafts, an intensive interregional trade and some metal_x

objects in great numbers. It is interesting that every settlement, even if it has not been fully excavated, yielded metal objects, usually bronze (e. g. Moutsounas).

The examination of this evidence indicates that the EC IIIA settlements exhibit a lower socio-political structure than the settlements of the first group in Mainland Greece. That is because the administrative or religious structures are absent and there is uniformity as far as the size and the plan of the structures within the settlement is concerned.

On the other hand, the economy of these settlements seems to have been flourishing, most likely because of their privileged location in the middle of the Aegean Archipelago.

In general, the EC IIIA settlements have reached a higher level than that of the EC II period. They resemble those in Crete and in the islands of the NE Aegean, but they differ in their size and character from the settlement of Troy. They, now, appear to be equal, but not identical, to the contemporary settlements of Manika, Lithares, Ay. Kosmas, Raphina and Akovitika in Mainland Greece.

CHAPTER 6: THE EARLY CYCLADIC IIIB PERIOD.

The Chronological Framework.

The EC IIIB period corresponds with the "Phylakopi I" culture and is represented by the Phylakopi I-ii and Phylakopi I-iii material. This is the dark-faced pottery, with incised decoration, the "Geometric" pottery, and some early bowls with matt-black geometric decoration¹²⁶ (Doumas 1977, 23; Barber & Macgillivray 1980, 152; Barber 1984, 89; Evans & Renfrew 1984, 66). Although the presence of incised pottery in Phylakopi I-ii and its absence in Phylakopi I-iii appear to be of chronological significance (Barber & Macgillivray 1980, 151), both phases of the First City are part of the same (EC IIIB) period, since "Geometric" pottery occurs in both.

The relationship between the EC IIIA and the EC IIIB period is not clearly demonstrated stratigraphically at any Cycladic site. There are some strong indications, though, that they are successive phases within the Cycladic Early Bronze Age sequence (Barber & Macgillivray 1980, 151; Barber 1984, 92; Macgillivray 1984, 70).

On the other hand, in terms of external relations, there are some scholars who equate the EC IIIB period with the beginning of the Middle Bronze Age in the islands (Rutter 1984, 95). The evidence from the Cyclades though indicates that the EC IIIB ("Phylakopi I" culture) is a different period, later in date than the EC IIIA ("Keros-Syros" culture). It represents a short period which stands in

between the end of the Early Bronze Age and the beginning of the Middle Bronze Age in the Cyclades (Renfrew 1972, 191).

The best stratigraphic sequence for this period is attested in Phylakopi on Melos (Atkinson et al. 1904, 242; Evans & Renfrew 1984, 63).

In this settlement, the pottery of Phylakopi I-i (EC II) succeeds the "Pre-City" material (EC I) and antedates the Phylakopi I-ii floors (EC IIIB). No pure EC IIIA level has been recognized in the stratigraphy of the site, but small quantities of the Kastri group material were found together with EC IIIB pottery (Evans & Renfrew 1984, 67).

The Architectural Remains.

Almost all the settlements of the preceding period ceased to exist in the EC IIIB period.

Only three of the sites excavated so far have yielded substantial remains for the period under discussion. Phylakopi, the first well excavated site, seems to have been uninhabited in the EC IIIA period. Floors and building remains of Phylakopi I-ii and I-iii are built upon the levels of the EC II period ("Pre-City" Period A2).

Paroikia is the second settlement of the period. It seems to have been inhabited in both EC II and EC IIIA periods, but more substantial remains are dated in the EC IIIB.

Last but not least, Ftellos on Thera was first inhabited in this period and continued to be occupied until the Middle Cycladic (early) period.

Indications of occupation come from other Cycladic sites, which yielded only a few or no architectural remains (Renfrew 1972, 510: Appendix 1.2; Barber & Macgillivray 1980, 152, Table II).

Phylakopi on Melos (Plan 6)

Building remains of this period are scattered all over the settlement area (180 m long by c. 90 m wide), indicating in this way the existence of an extensive unfortified settlement (Atkinson et al. 1904, 35; Barber 1974, 4).

For the layout of the settlement the excavators suggest that "the houses were not packed together quite so closely as a first glance at the plan would lead us to suppose" (Atkinson et al. ib., 26). But the plan of the houses, and especially that of the house in H2, indicates that the houses were clustered together in blocks and divided by narrow streets, in much the same way as the buildings of the Second Settlement.

In the extreme West Sector of the site, there are some wall remains which cannot reveal a definite house plan¹²⁷. A wall (8) in B 5, c. 9 m long, runs obliquely under the Great Wall. A doorway with squared jambs of limestone and a projecting step, most likely led to a building extending South, since none of the walls to the N, NW and NE seem to be connected with wall 8.

In the same area, in C5, there are remains of a small structure with two doorways. One is located in the E wall and probably connected Room 6, to the W, with the less preserved Room 7, to the E. The second doorway was in the E

edge of the N wall and seems to belong to Room 7. A stretch of another wall to the N, and in a distance of c 2 m from the inner face of the N wall of structure 6-7, could indicate that other rooms extended the row towards that direction.

Another small house, House 16, is located in E3. ^(Fig. 58a) This is a rectangular building, with orientation NE to SW and two doorways. One, c. 50 cm wide, in the W wall and the other, c. 40 cm wide, in the S wall. Its walls, built of small stones and mortared with clay, are 40 cm to 50 cm thick.

Considerable remains of building were uncovered in H2, ^(Fig. 59) but according to the excavators "they do not yield, even to the freest imagination, an intelligible arrangement". Indeed, the ground plan of the building or buildings to which they belong is quite vague. In their preserved condition the walls seem to belong to at least two buildings, grouped together.

The NNW Rooms, I, II and III appear to form one building, and Rooms 25a-b and the long and narrow Rooms 2-3 form the other. The three walls joined at right angles, to the NE, could indicate the existence of yet another structure in close proximity to these.

Evidence for this distinction is established by the thickness of the walls and the possible connections between them. The W wall of Rooms I and II is exceptionally thick (1 m), and this indicates that this is the outer wall of the building. The N wall of Room I and the E wall of Room III are quite substantial, too, 70 cm - 80 cm thick, and they represent the N and E walls of the building. To the S, this

building seems to share a common wall with structure 25a-b. No doorway is visible in the preserved part of the walls. A gap, c. 80 cm wide, in the projection of the N wall of the building, which is also 80 cm thick, could imply that a doorway existed here. Similarly, doorways could have existed in the E walls which have not been preserved of Rooms I and II. If this is so, then Room III must be regarded as a corridor, through which the two other rooms were entered.

Otherwise the building could be considered to represent a two-storey structure, with Rooms I-III the basement areas. Indeed, the thickness of the outer walls is in favour of the suggestion. The narrowness of the E and S walls of Room I does not contradict this. A small stretch of wall, c. 60 cm thick, projecting from the W wall of the room and placed at a small distance from the S thin wall could be considered as a spur wall, supporting an upper floor. In either case, the existence of an upper floor seems quite possible for this building.

The second building is of irregular ground plan, almost trapezoidal, with its long axis running NE to SW. A peculiar feature here is that, although the walls of the building are 60 cm - 70 cm thick, the W wall of Room 25a is only 40 cm thick. In the same wall an opening, c. 40 cm wide, is considered to represent a door (Atkinson et al. ib., 37, fig. 22e). There is no other evidence of doorways in the preserved part of the walls. The access to Room 25b is quite puzzling since there is no door in the partition wall between this room and Room 25a. It seems quite likely,

though, that access was through the two narrow rooms 2 and 3. In this case, the main door would have been in the narrow S side of Rooms 2 and 3, and two other doorways, one in each S wall of Rooms 25a and 25b. The same method seems to be followed in the architecture of the Second City, where the remains are much better preserved and all with firmer conjectures (Atkinson et al. ib., 44, fig. 34). Room 3, or at least part of it, was paved with thin irregular slabs of hard stone. The same kind of stone slabs was used to line the E face of the partition wall, between Rooms 2 and 3.

Another house, House 19, was uncovered in J2. ^(Fig 58b) This is a single room structure, rectangular in ground plan, with orientation NE to SW. Its walls, 60 cm thick, were built on the bedrock. They were built of small stones mortared with clay and covered with a kind of earthen plaster. No door is attested in the preserved walls. It could have been in the N wall, which is hidden under the later constructions.

Further to the E, a structure of this period was uncovered in J2. ^(Fig 58c) It seems to be composed of at least two rooms, 11 and 12. A third room is located to the N, and the continuation of the E wall of Room 12, to the S, must indicate that another one existed towards this direction. The connection of these two compartments with Rooms 11-12 is not clear, but it is not impossible that it forms part of the same structure. All the walls are of the same thickness, 60 cm, and they are built in the same masonry: small stones with clay covered with earthen plaster. There

is no evidence of a main doorway leading to this building. A door, c. 60 cm wide, in the partition wall between Rooms 11 and 12 allowed communication from one room to the other. In Room 11, a channel made with stones, runs alongside the W face of the partition wall.

Paroikia on Paros (Fig 60)

Substantial remains of the EC IIIB settlement covered the NE side of the Phrourio area at Paroikia. The settlement occupied an area of 17 m by 15 m, which seems to be less than the original extent. Other remains of the same period could be recognized in the SW edge of the site, but only the lowest courses were preserved in a very poor condition (Rubensohn 1917, 1).

In the excavated area, the walls of the houses are all built in the same style of masonry. They are founded on the bedrock upon a level of filling.

Wall a is founded immediately next to the later Temple, in a lower level. Its connection with the nearby walls is not very clear. To the E, wall c is of very solid construction and very neatly built. It was joined to another wall, wall b, to the S, which most likely was joined to wall a, to form the outer walls of a room. Wall b, less neatly built, seems to represent a partition wall for the room defined by walls a, c, d. There are two projecting walls, one on each side, at the NW edge of wall b. These could indicate that the room was closed on this side, too. In this case, the space between walls a-c-d resembles greatly Rooms 2 and 3 at H3 in Phylakopi (Fig 59)

Four rooms, grouped together, are located to the ENE of

this space. It is not very clear if these belong to one or more houses. In the second case, wall I was the party wall, as is wall c, between Room a-c d and Rooms I-IV.

Room I is defined by walls c, i, l and f. It is roughly rectangular, with its long axis from SE to NW. The uneven bedrock was levelled and above this the floor of the room was made of hardpacked earth and clay.

Room IV (walls c, f, k) could have been closed on all sides, but its southern wall and part of its W wall are missing. There were openings in walls c and f, by way of windows which were blocked in a subsequent phase. The window in wall c was 90 cm wide and its sill was 1.10 m above the base of the wall. This sill was made of two thin slabs of gneiss, 60 cm wide and was partly built in the stone frame of the window. In wall f, from the opening towards wall c, there is a stone construction, which forms a kind of bench.

NW of Room I, the original plan was disturbed by the construction of wall g, in a later architectural phase in the same period. It is quite possible that another room in alignment existed there, defined by the wall attached to wall l' and the NW projection of wall c. In this case, the original plan of the house was of three rooms in a row, communicating with doorways placed along the long axis.

Clearer is the relation between Rooms II (walls l', o, & q) and III (walls l, o, q & m). In the N corner of Room II the raised bedrock was used as part of the floor. In the rest of the room the difference between the bedrock and the stereo was levelled with a filling of earth and small

stones. Upon this levelling, the floor was made either of hardpacked earth and clay or covered with slabs. A small spur wall, r, in Room II and at a distance of 60 cm from wall q, was used as a support for the raised floor of the room. This wall r, together with walls o, q and the bedrock, to the N, form a small subterranean space. A large concentration of pottery in this area indicates that the small room was used as a magazine.

The access to Room III from Room II was through a door in wall o, c. 70 cm wide. This doorway had a threshold made of marble. Room III had its floor paved with gneiss slabs. The slabs rested immediately upon the bedrock, which formed part of the floor. In the S part of the floor, a thin walling determined the edge of the pavement. On this paved area, a large quantity of plain storage and cooking pots and sherds were uncovered. These led to the suggestion that this room was used as a kitchen.

To the W, there are substantial wall remains (e-h and g-s), which represent two different buildings, separated by a corridor, c. 1 m wide. The dimensions and the ground plan of these buildings is uncertain, since considerable parts of their walls are missing. But the remaining parts indicate that these were spacious structures, in contrast with the grouped rooms. The way they are founded on the bedrock and their style of masonry indicate that these structures are dated to the same period as the clustered rooms, but they represent a later architectural phase.

On the inner side of walls e-h there is a neat walling, which strongly resembles that of Room IV and thus it

represents another bench.

Ftello on Th ra (Fig 61),

Recent excavations, limited to the southern area of the site, revealed remains of a building dated in this period (Marthari 1982, 86). It is almost sure that other structures existed in the surrounding area, which were destroyed during the working of the pumice quarry at the site.

The preserved remains form a building, composed of two rooms, Room I and II, and a corridor between them. This corridor is 1.30 m long and 80 cm wide. To the S of Room I there are smaller rooms, whose connection with Rooms I and II is not clear. In the E wall of Room II an opening seems to represent a doorway leading to a third room in alignment.

The ground plan of the structure is irregular, since Room I is elliptical and Room II trapezoidal. It is a dug-out structure, lined in the interior with stone walls. The walls rise vertically and only the last preserved course of stones inclines slightly to the interior.

The stones employed for the construction of the walls are of various sizes and rough. But they are placed in such a way so they present a quite regular face inside the rooms.

In Room I the floor was paved with large slabs, most of which were found in situ.

Remains of wood, found in the layer with the stones (Marthari ib., 91, pl. 3), the top archaeological layer in Room I, indicate that the roof was made of branches and

covered with clay.

These structures were used for habitation¹²⁸.

Some Other Cycladic Sites.

A few more sites yielded scanty evidence of occupation in the EC IIIB period. These are: Ay. Panteleimon on Melos (Renfrew & Wagstaff 1982, 12, 138, 301: site 64), Kapari on Melos (Renfrew & Wagstaff ib., 38, 139, 296: site 27), Spathi on Melos (Renfrew & Wagstaff ib., 27, 37, 139, 301: site 60)^(Fig 62a), Kastro on Sifnos (Brock & Mackworth Young 1949, 15, 31)^(Fig 62b) and Akrotiri on Thera (Marinatos 1972, 23; Doulas 1978b, 778; Sotirakopoulou 1986, 304).

Most of these sites remain unexcavated. At Spathi on Melos evidence of a quite extensive settlement of this period derives from straight walls, built of slabs, scattered in the area. At Akrotiri, the rock-cut chambers seem to belong to this period rather than the preceding EC IIIA. They share many common features with the rock-cut chamber tombs of Phylakopi (Atkinson et al. 1904, 234, fig. 193).

Architecture.

In the excavated settlements stones were used as the main building material in the construction of the house walls. Small and usually rough stones were used for the walls of Phylakopi and Ftellos, lying in more or less regular courses.

Slabs of schist and gneiss were employed in the construction of the walls at Phrourion on Paros. These are

of medium size and they are laid in quite regular courses. Upstanding slabs were used in walls at Phylakopi and Paroikia (e.g. E face of the partition wall between Rooms 2 and 3 in H3 at Phylakopi), which give an impression of a polygonal construction (Atkinson et al. 1904, 44; Rubensohn 1917, 1).

The stones in the walls were mortared with clay. A kind of earthen plaster was attested at Phylakopi (Atkinson et al. 1904, 38), but no plaster is reported from Paroikia and Ftellos.

The walls are thick, usually 60 cm - 70 cm, and substantial compared with the small size of the rooms they belong to. For example, the walls of Room 19 in J2 at Phylakopi, with interior dimensions 3.40 m by 1.90 m, are 70 cm thick. The same is the case at Paroikia, where the rooms are of small size, normally 2.40 m by max. 3.50 m, and their wall thickness is 70 cm. Exceptionally thick, c. 1 m, is the W wall of Rooms I and II in H2 at Phylakopi. The thickness of this wall is in contrast with the thickness of the S and E walls of Room I, which are only 49 cm.

The walls have two faces, as their predecessors did. At Phylakopi, the space between the two faces is usually filled with smaller stones and earth. At Paroikia, there is no space left between the two faces and sometimes large slabs cover the whole width of the wall. At Phylakopi they are founded on the bedrock, while at Paroikia a filling of earth and small stones is used for levelling the difference in elevation.

An absolutely^{ly} different way of construction is attested in the dug-out structure at Ftellos. The vertical faces of the walls indicate that the structure was not hollowed out of the rock¹²⁹ but cut from top to bottom in the side of the hill. This was followed by the lining of the walls inside with stones. Then the roof was constructed.

Clay was widely used in the construction of the floors and most probably of the roofs, too. It was also used instead of mortar in ^{some} of walls construction.

Timber was not used for the walls, but the remains of wood from the dug-out structure at Ftellos, indicate that this material was used for roofing.

Most of the house floors were made of hardpacked earth and clay, as was the practice in the preceding periods. Paved floors were also attested in some rooms in all settlements.

At Phylakopi, Room 3 in H3 seems to have ^{had} its floor paved with irregular thin slabs, part of which is now preserved. At Paroikia, Room III had its floor partly paved with gneiss slabs. Another paved floor with gneiss slabs was found attached to wall u, in the northern edge of Paroikia. Thin slabs of irregular shape, found in situ, covered the floor of Room I at Ftellos.

There are some cases where the existence of a doorway is attested. There seems to be no rule as far as their location or construction is concerned. They can be placed either in the long or in the narrow side of the house, but almost never in the middle of the wall. Their width varies from only 40 cm (e.g. door e in Room 25a:H2, Phylakopi) to

60 cm - 80 cm, which is the most common width for the doorways of this period.

Their location in the wall is usually marked by a threshold composed of one or two slabs. This is the case at Paroikia, where the thresholds are usually made of gneiss slabs. An exception to this is the threshold of Room III, which is made of marble. In their most simple form the doorways are just openings in the walls.

In the case of wall 8 in B5 at Phylakopi, the entrance was approached by a step. This entrance had jambs of white limestone. For the jambs at Paroikia, more regular, rectangular stones were employed. The same technique was used for the "windows" at Paroikia.

Some evidence for roofing comes from Ftellos on Thera. Here the wood remains indicate that this material together with branches and covered with clay was used for the construction of the roof. This was most likely vaulted, like the modern vaulted houses at Thera and Therasia.

The possible vaulted roof of the Ftellos structure seems to be the exception to the rule of the flat roofs. The rectilinear structures at Phylakopi and Paroikia had, almost certainly, flat roofs. From these sites there is no evidence. But the evidence from the succeeding period at Phylakopi could be some support for this suggestion. The roofs of the houses of the Second City were flat, made of reeds and branches and covered with clay (Atkinson et al. 1904, 49, fig. 41). In favour of the flat roofs is the plan of the houses. They are not only rectilinear but also clustered together.

The Settlements.

1. Location:

Most of the settlements are located immediately next to the sea¹³⁰, while only two were located inland¹³¹.

The settlement of Phylakopi nowadays appears to stand on a slope of limestone, 17 m above the sea level, with flat land to the E. It seems very possible though, that in antiquity the land extended almost a mile further to the N, and the plain to the E was a lake or lagoon (Atkinson et al. 1904, 29).

For Akrotiri, Marinatos believed that the "Minoan" shore line near the settlement was at least 800 m seaward of its present location. This sea level change was attributed to a sinking of the S edge of the island during the eruption (Rapp & Kraft 1978, 183).

Ay. Panteleimon is almost in the middle of the central part of the island of Melos with no connection to the sea. Kapari, on the other hand, is in a very short distance, only 1 km., from the sea, in the Phylakopi area.

2. Land Morphology:

Most of the settlements are located on a high hill. These are the settlements of Ay. Panteleimon (150 m), Kapari (40 m), Spathi (80-100 m), Kastro (80 m), Akrotiri, Ftellos (240 m).

Paroikia is located on a low hill (13 m), while Phylakopi and its associated settlement of Kapari cover a hill and flat ground.

3. Size of the Settlements:

At Phylakopi, the buildings of the First City I-ii and

the floor deposits of I-iii are scattered over the whole area. This indicates that the extent of the First City was similar to that of the Second City, covering an area of 16.200 m². In addition, taking into consideration that Kapari was part of the settlement of Phylakopi the ^{full} extent must be considered as much larger.

The remains of the EC IIIB settlement at Paroikia, cover the NE area of the hill, 17 m by 15 m (255 m²). It is very possible that the original size of the settlement was greater since its remains are very poorly preserved on the SW edge of the site.

At Ftellos, the area excavated measures c. 8.50 m from N to S and c. 10 m from E to W (85 m²). Other structures of the settlement covered the area to the N, but they were destroyed by the working of the pumice quarry, which have reached the pre-eruption layer at the site.

4. Morphology of the Buildings:

The rock-cut chambers at Akrotiri are an exception to the rule of the rectilinear houses of the EC IIIB period. This cavity ~~and~~ the dug-out structure at Ftellos, form an interesting type of Theran architecture in this period, as a result of the individual morphology and geology of the island.

5. Average size of Buildings:

No EC IIIB settlement has so far revealed structures of large average size. This, of course, could be considered as accidental, since large proportions of the settlements of this period were covered by later constructions, or have been damaged by modern activities.

In the central area of Phylakopi, the buildings of the Second City (in G3) and the Third City (in G2/H2 and G3) are of relatively large size. If it is assumed that the architectural remains of the First City are of rather similar nature to those of the Second City (Renfrew 1972, 186), then, structures similar in size could have existed in this area. Stretches of walls here, running in various directions could belong to large structures.

House I-III of the First City in H3, has dimensions (45.92 m²) similar to those of the structures of the Second City (House in H1:40.70 m²; House in K2/K3:40.50 m²).

Similarly, the plan and dimensions of the trapezoidal Rooms 2, 3 of the First City, in H3, (13.13 m²) are almost identical to those of Rooms 2, 3 of the Second City (14.04 m²). Moreover, the building of the Second City was constructed in exactly the same position and with the same orientation.

This evidence shows conservatism in the architecture of Phylakopi.

In general, the settlements of this period appear to be of small average surface¹³².

6. Settlement Density:

Only estimates can be made because only part of the settlements have been uncovered so far.

At Phylakopi, almost twenty five structures of the EC IIIB period can be recognized from the stretches of walls and the remains of buildings. These structures extend over an area of 16.200 m² (Small density 1.5).

At Ftellos, only one structure has been uncovered so

far, in the excavated area of 85 m² (Large density 11.7).

In the excavated area of 255 m² at Paroikia, six structures were revealed. It is quite possible, though, that the density of this settlement was lower (15.68) in the first stage of this period, since Buildings e-h and g-s represent another architectural phase (Very large 23.5)

7. Surface Homogeneity:

Small is the surface homogeneity at Ftellos (.000), medium at Paroikia (.427) and large at Phylakopi (1.182).

8. Quality of construction:

A medium quality of construction can be attested in Ftellos. At this settlement, although digging from top to bottom was a quite easy operation, because of the soft volcanic soil, the inhabitants required a neater appearance for their house. Therefore, they used the stones available in the vicinity to line the interior of their structure. Attention was paid to placing the stones in such a way so that they present a neat and regular face. Their skill in construction appears in the roof of the elliptical Room I, which was vaulted. In addition to the neat appearance of the walls, the floor of the room was paved with slabs.

At Phylakopi, the preserved remains indicate a mixed level of construction, but mostly high. The usual thickness of the outer walls is 60 cm, while the cross-walls are normally 40 cm thick. The walls stand immediately upon the bedrock, without socles, and they are covered with plaster.

On the other hand, the walls are usually joined at right angles (e.g. House I-III and the Room to the E, in H2/H3; House 19 in J2).

House I-III exhibits a careful construction, with strong outer walls, 70 cm to 1 m in thickness. Most probably it had a broad doorway in the corridor, c. 80 cm wide. Indicative of its high level is the possibility of a raised floor.

Room 3 in House 25a-b/Rooms 2-3 had its floor paved with slabs and its W wall lined with similar upright slabs.

The doorway in wall 8 (B5) had squared jambs of limestone and it was approached from a projecting step.

Paroikia on Paros had a quite high quality of construction, as well, but the remaining walls have the normal thickness (50 cm - 60 cm) and they are almost never joined at right angles.

On the other hand, there is much evidence for skillful construction. The walls are neatly built, sometimes upon stone socles (e.g. walls e, h, f) and almost always upon a fill, used for levelling. Much attention was paid in the neat appearance of the walls, even to their outer face. Small stones, placed between the flagstones and representing alterations or repairs, were covered with a kind of plaster. Upright slabs in the walls gave an overall polygonal impression.

A more rectangular and neat masonry appears in the corners, door jambs and window frames.

All the floors, of the uncovered buildings, were made either of hardpacked earth and clay or they were paved with slabs. Moreover, Room II, at Paroikia, had a raised floor supported by a spur wall. The threshold in the doorway between Rooms II and III was of marble.

9. Special Architectural Features.

Hearths do not seem to be a very common feature in the house of the EC IIIB period. There are no hearths reported from the settlements of Phylakopi and Ftellos.

Only at Paroikia are two areas reported to represent hearths (Rubensohn 1917, 5). One is located at the S part of Room III and the other is next to wall u.

Evidence of benches also comes from Paroikia. On the inner face of walls e-h, a neat walling running the whole length of the preserved walls, 20 cm wide and 40 cm high, represents a bench. A similar construction, 24 cm wide and 43 cm high, is attached to wall f in Room IV, in the same settlement. Both these constructions are quite convenient for sitting or for storage, a practice common in the EC IIIA period and nowadays.

A channel built of stone was uncovered inside Room 11 in J2 at Phylakopi. This could have been used to drain the water from that room out to the N, since there is no evidence of its continuation to the S. In that case Room 11 could have been used as a bathroom or as a kitchen. Otherwise, the room should be considered as an open space, which seems quite unlikely, since wall c has the same thickness as the remainder of the walls of the house and closed the room to the S.

Interior supports for an upper floor come from Paroikia and most probably from Phylakopi as well. In the Paroikia wall r in Room II supports the floor above. It is 1.20 m long, 40 cm wide and in a distance of 60 cm from the NE wall of the room.

A similar arrangement seems to be followed in Room I of the House in H2 at Phylakopi. The S and E thin walls of the room are strengthened by the addition of another wall to the S. This is 60 cm thick and placed alongside the main S wall in a distance of 20 cm.

The small dimensions of Room II and the thickness of its walls make the support wall quite unnecessary. But the difference in elevation between the ground and the raised bedrock justifies its existence.

Different is the purpose at Phylakopi. Room I is quite spacious, 4.80 m by 3.80 m, and the thin S and E walls are not enough to support the floor above.

10. Differentiation of Buildings:

The buildings at Phylakopi, although all rectilinear, differ in plan, dimensions and level of construction. The only building of relatively large dimensions is House I-III (45.92 m²), with a high level of construction. The others are quite small¹³³, with various plans and mixed quality of construction.

At Paroikia, structures of different rectilinear plans, dimensions and construction level exist side by side. House I-IV and House II-III have almost similar dimensions¹³⁴, but different ground plans. Building a-c-d is of small size (4.95 m²), different in ground plan and of a lower level in its construction. Buildings e-h and g-s resemble one another in ground plan, dimensions¹³⁵ and construction level. But they are certainly very different from the remainder of the houses of the same settlement.

11. Buildings with a Special Function:

There is no safe evidence, so far, about the existence of an administrative or religious centre with or without workshops and warehouses in the EC IIIB settlements. Only assumptions can be made, about the existence of such a building at Phylakopi.

At the North-Central area of the settlement, the Houses in H2 and H3 could have been used as an administrative or religious centre. It is not without significance that the marble figurines of this period, were found exclusively in these squares (Atkinson et al. 1904, 194, pl. XXXIX:3,4,7,8), in layers associated with the First City. Two of these figurines (Atkinson et al. ib., pl. XXXIX:4,8), found in the deep soundings in H2/H3, were of local manufacture. The dimensions, plan and level of construction of these houses and especially of House I-III, could indicate that the administrative centre of the settlement was in this house.

Clearer is the evidence for the workshops and warehouses, in both excavated sites.

At Phylakopi, workshops for obsidian were located on the SW sector of the settlement. In square B5:3 a "regular factory of obsidian knives" was uncovered (Atkinson et al. ib., 218, fig. 192, pl. XXXVIII:19-28). Another layer of obsidian flakes, representing yet another workshop in the same area, was uncovered in the middle of C 5. This layer was related to walls of the early settlement (Atkinson et al. ib., 11). The location of these workshops close to the sea, and perhaps close to the original harbour, was very

convenient for commercial activity.

Copper was most probably worked at Phylakopi. A fragment of a crucible, a lump of copper waste and pieces of copper were uncovered in J2, at a depth 2.20 m to 3.20 m (Atkinson et al. ib., 191, fig. 59:Section YZ and Section: WX).

At Paroikia, in the narrow space formed by walls r, q, o and the bedrock, in Room IIa, a large amount of storage pottery was uncovered. This suggests that this space was a small subterranean cellar, very suitable for storage.

The S paved corner of Room III, with its walling edge and the large concentration of cooking and storage pots, indicate that here was the "kitchen" of the house. Another cooking area, belonging to a different house, existed on the northern edge of the settlement, close to wall u.

Room IV could have been used as a storage area for House I-IV. Its small dimensions, unsuitable for living, as well as the windows and the bench alongside wall f, are normal features for a storage room.

12. Town Planning:

An elementary town planning can be seen at Paroikia. The houses have more or less the same orientation and they all are of rectilinear type, with small variations in their ground plans.

A more elaborate planning is followed at Phylakopi. Here, apart from the structural features of the houses, there is a separate area where the workshops were located.

13. Fortifications:

None of the settlements of this period excavated so far yielded evidence of a fortification or even perimeter wall.

This is one of the characteristics of the period, in contrast with the preceding EC II and EC IIIA periods.

14. Organized Cemeteries:

Cemeteries which yielded EC IIIB pottery were uncovered in the surroundings of Phylakopi and in close proximity to the site (Atkinson et al. 1904, 234). They are formed by rock-cut chambers, the predominant and very characteristic type of this period (Doumas 1977, 49, figs 33-35) (Fig. 63a)

The cemetery to the S of Phylakopi, which is referred to as one of the settlement's burial grounds (Atkinson et al. ib., 234a), seems to belong to the settlement of Kapari, which occupies the slope to the west of the cemetery. The settlement of Kapari has not been excavated, so far, but surface finds scattered all over the settlement area, indicate habitation in this period, too, contemporary with the rock-cut tombs.

15. Craft Specialization:

The First City of Phylakopi yielded a good deal of evidence about craft specialization. The obsidian workshops in the SW sector of the settlement, with the great obsidian deposits, indicate that the material was intensively worked at the site. This is very natural, since Melos is the main source of obsidian in the Aegean. Great quarries exist at Adamas and Demenegaki, near Komia, both on the N side of the island. Remains of walls on both quarry-sites, most probably belonged to the workmen of the quarries. It seems, thus, that Phylakopi was the main industrial area which controlled these two quarries.

Obsidian was the main source of prosperity for the

settlement of Phylakopi. From the port that existed near the workshop area, obsidian was exported to Crete, Mainland Greece and Anatolia.

Flint was another material extensively worked at Phylakopi. Again, the raw material exists very close at hand, to the site. The flint region extends from Komia all the way to Phylakopi.

Marble was most likely worked at the settlement, since the three figurines, found in H2/H3 are of local manufacture. The type they represent has not been found elsewhere and is a representative of the "Phylakopi I culture" (Atkinson et al. *ib.*, 194).

The pottery of the First City is of a porous character, which is very characteristic of the Melian clay. This indicate that the vases were made at the site or very close at hand, possibly at Kapari¹³⁶.

The lump of copper waste and the fragmentary crucible indicate that this material also was worked at the settlement, imported from another area, perhaps from Sifnos.

The available data from Paroikia and Ftellos do not allow any suggestions about craft specialization, although their pottery seems to be of local manufacture (Rubensohn 1917, 14; Marthari 1982, 92).

16. Metals (Bronze, Lead):

There are quite a few objects of bronze and lead, that could belong to the First City of Phylakopi, but their stratigraphical position is not stated (Atkinson et al. *ib.*, 190, 192; pls XXXVIII:7-11; pl. XL:20). Thus, there is

no conclusive evidence, so far. What is certain, is the use of lead for pottery mending, in all the settlements.

17. Precious Metals (Gold, Silver):

Metals such as gold or silver have not yet been found in the excavated settlement sites.

18. Marble/Stone:

Marble was used at Phylakopi for figurines and vases (Atkinson et al. ib., 194).

At Paroikia, marble was used as a building material, for the threshold of the doorway, between Rooms II and III (Rubensohn 1917, 7).

19. Interregional Trade:

There is much evidence that trade transactions were the most important and flourishing occupation for the Phylakopi inhabitants. Melian pottery of this stage and obsidian are reported from contemporary sites in Mainland Greece, Crete and Anatolia.

20. Seals and Sealings:

There is no evidence for seals or sealings in the reports from the excavated sites. There is a possibility, though, that they existed at Phylakopi. Some irregular oval cones, made of grey clay could represent such objects. They have one side flat and the other pinched up, by way of a handle (Atkinson et al. ib., 213, pl. XXXVIII:30). The location^{of} the finding of objects is not recorded.

21. Potters' Marks:

There are plenty of potters' marks in the pottery of the Phylakopi First city. The feature becomes extremely common in the latest floor deposits of the First City and it is

associated with the geometric wares of pottery¹³⁷ (Atkinson et al. *ib.*, 96, 177, figs 150-159; Table of Signs). These signs represent either simple marks of the owner, for the majority, or signs denoting numbers. There are also some pictographic marks, for example the fish (Atkinson et al. *ib.*, pl. V:8A, 18; pl. VII:17).

Similar marks, but not pictographic, occur at Paroikia (Rubensohn 1917, 45; Abb. 47, 48)¹³⁸.

There are no reported potters' marks from the pottery of Ftellos.

Comparison with the Other Aegean Areas.

The EC IIIB period corresponds with the EH III period in Mainland Greece, the EM III ("White Ware")¹³⁹ in Crete and Troy IV-V in the NE Aegean region. It partly overlaps with Poliochni V on Lemnos (Period Giallo; Brea 1976, 17). Thermi seems to be uninhabited in this period, since just above the remains of Town V, on the S and SE, there are remains of the Middle and Late Bronze Age (Lamb 1936, 52). Similarly, evidence of occupation from Emporio on Chios and Skala Sotiros on Thasos is absent, for this period.

A. Mainland Greece:

Evidence of occupation of this period come from Boeotia: Eutresis¹⁴⁰ (Goldman 1931, 20) and Orchomenos¹⁴¹ (Bulle 1907, 25); from Euboea: Manika 4¹⁴² (Sampson 1985, 151; 1986, 47) and Lefkandi II¹⁴³ (Popham & Sackett 1968, 8); from Attica:Raphina¹⁴⁴ (Theocharis 1952, 117; 1953, 111) and Aigina IV-V (Walter & Felten 1981, 23; Felten 1986, 21); from the Argolid and Korinth:Berbati¹⁴⁵ (Saflund 1965, (Fig 64a-b) (Fig 65a))

(Fig 65b)
117), Tiryns¹⁴⁶ (Kilian 1983, 277), Lerna IV (Caskey 1966,
(Fig 66d)
144) and Tsoungiza¹⁴⁷ (Pullen 1986, 73); (Fig 67a) and from
Skyros:Palamari¹⁴⁸ (Theochari and Parlama 1986, 51) (Fig. 67b)

The settlements of this period are unfortified. An exception to what appears to be the rule for the era is Aigina V, with its elaborate fortification. The thick defensive wall has five horse-shoe shaped towers. Two of them were used as gates.

All these settlements share common features. They have a moderate or small average surface covered by buildings, which are usually uniform in ground plan and dimensions. Their level of construction is moderate, as well. Monumental, administrative or religious buildings are absent in this period, in contrast to the settlements of the previous period in the same area. In this way, it may be that no social differentiation existed in these communities.

Their industrial and trade activities were limited, since almost no division of labour can be established in the excavated areas. No separate workshop areas have been uncovered and only small quantities of metal objects and obsidian have been revealed.

Exception to this is Lerna IV and Aigina V. A mould and a variety of bronze tools, indicate the existence of a workshop in Lerna.

The south sector in Aigina V was the area where the workshops of the settlement existed: a pottery workshop (Structure 1; Walter & Felten 1981, 37), a blacksmith's shop (Structure 3; Walter & Felten ib., 37) and a granary

(Structure 4; Walter & Felten ib., 40). To the W of Structure 7 there was an open space, most probably connected with industrial activities (Walter & Felten ib., 33).

Moreover, Aigina V has a planned layout and elaborate fortification system. It thus represents a level higher than that of the other settlements.

An interesting feature that appears in the architecture of this period is the apsidal free standing house. These structures were found in all levels of Lerna IV, in layer 10 at Tiryns and in the Bothros Horizon at Orchomenos. Once established in Greece, the apsidal house enjoyed a long history right through, to the Early Iron Age.

B. Crete:

The architectural remains of the EM III period are few. The settlements of this period are located in the Central and East side of the island¹⁴⁹. In these areas the "White Ware" pottery occurs, indicating that EM III existed *was long and distinguishable* from MM Ia (Zois 1967, 141).

Vasiliki IV is the first site which yielded architectural remains of this period. The buildings seem to have occupied a limited area on the SE section of the settlement. Most of the walls, built of small stones, were located above the "Red House". Others are situated in section P. ^(Fig 67c) The preserved condition of these is not such as to give a clear idea about the layout of the settlement or its level of construction.

Seager, when he first excavated the layers of Vasiliki

IV had the impression that this represents a small and poor settlement and that the period exhibits a certain degree of decline (Seager 1906, 113). Zois on the other hand, who continued the excavations at the site, believes that this was a prosperous period, from which many MM features derive (Zois 1976, 56; 1978, 306; 1979a, 326; 1980, 333; 1981, 376).

Palaikastro-Kastri, in the same region of Crete is the second site with architectural remains (Sackett & Popham 1965, 269)^(Fig 67d). Remains of a building, which most probably was destroyed by an earthquake, were found in layer 4-6. Again, no suggestion can be made, concerning the morphology of the settlement and the socio-economic structure of its community.

C. The North-East Aegean:

Evidence for comparison between the architecture of the Cyclades and this region come almost exclusively from Troy IV-V (Blegen et al. 1951, 102).

Both settlements of Troy continued to be enclosed by a massive wall, which grouped together in roughly parallel alignment, sharing common walls and there are roads running between them.

The plan of the structures is always rectilinear. They are composed of spacious rooms and small compartments, which served as cooking or storage areas.

The house walls were built upon low foundations of rough stones, with mudbrick superstructures. This style of masonry resembles that of Troy II and differs from that of Troy III. This technique applies to both settlements of

Troy IV and V. But in Troy V, the walls are much more neatly built than those of Troy IV, except the walls of the late subperiod of Troy V (Phase Vd; Stratum V3:House 504). All wall faces are usually covered with a thick clay plaster.

The floors are normally made of hardpacked earth, while some roads are paved (e.g. Road 458 in square E6 of Phase IVb). The doorways are marked by door sockets and thresholds.

Sophisticated devices are represented by numerous benches, hearths and ovens. The last is an innovation, first introduced in the settlement of Troy IVa. These domed ovens are located either inside a room or in an open yard. They occur in every house of each phase in both settlements. Hearths are another feature that can be found in every house in both settlements. Benches neatly built, more carefully in Troy V, and covered with plaster is another favourite element in the Trojan architecture.

Miscellaneous objects of metal, stone, bone and terracotta, indicate the continuity of the culture developed in the site in the previous periods. All these materials were skillfully worked at the site. Moreover, in metallurgy, real bronze has been achieved in Troy V. In the same settlement, all the evidence from the small finds and pottery indicate a tendency to neatness and precision, which suggests more skilled craftsmanship.

Evidence for trade is less than in the preceding settlements, but does exist. Pottery and obsidian implements indicate contacts with the Cyclades in this

stage, and especially with Melos.

In addition, pottery of EH III character suggests communication with the Mainland, though smaller in scale (Blegen et al. 1951, 109, 227).

The planned town structure, the high level of the house construction, as well as the advanced socio-economic structure of their communities with trade transactions, and especially an advanced technology in metallurgy are factors which testify to a high level of urbanization for Troy IV and V.

Some Conclusions.

Although there are not many excavated settlements of the EC IIIB period, the evidence from those which have been thoroughly investigated can give quite a clear idea about the level of urbanization which these achieved.

The structures in the settlements, like their predecessors, are of small to medium size. Paroikia presents a surface homogeneity, while the structures at Phylakopi present a quite large deviation in size.

The level of construction in all the settlements could be considered as high. Thick walls, above the average of 50 cm, are neatly built of stones or slabs and covered with a kind of plaster. Upright slabs were employed in the lower courses of the walls for constructional and aesthetic purposes. Special attention was paid in the formation of the corners, door jambs, and, in the settlement of Paroikia, of the window frames.

Some special architectural features are attested in the

houses of the EC IIIB period, namely, benches and spur wallings for the support of raised floors. But hearths appear to be less common and they are now associated with cooking rather than with heating.

Monumental buildings are still absent, as was the case in all the previous periods. This does not necessarily mean that there was no administration in the Cycladic Communities. Buildings of common size could well have been used for such purpose, for example House I-III at Phylakopi. In the mind of the islanders, a building for administrative or religious function did not demand monumental dimensions. This could reflect the political status of the islands. The central authority of the communities could have been a group of people, and not one person, who could meet in a house of ordinary dimensions to discuss production, sea routes and other trade activities.

Warehouses and especially workshops occupy a distinct, separate area in the settlement or in the house. In the case of Phylakopi, this implies an advanced craftsmanship.

Trade continues to be the main occupation of the islanders, as is evident from the existence of their pottery and obsidian all over the contemporary sites in the Aegean basin.

In relation to the EC IIIA settlements, the settlements of the EC IIIB period have reached a higher level of urbanization. This is the first time that the settlements, and especially Phylakopi, could be regarded as towns.

In contrast to them the contemporary sites of Mainland Greece and Crete seem to be in decline. The only exception *

to this is Aigina V and, on a smaller scale, Lerna IV.

In the NE Aegean the settlements of Troy continue their cultural development undisturbed.

CHAPTER 7: THE END OF THE EARLY BRONZE AGE AND THE MIDDLE BRONZE AGE IN THE CYCLADES.

After the analysis of the EC settlements and their characteristics it ^{is} worth taking a short look at the settlements of the Middle Cycladic period. This will help to answer to the question of continuity or discontinuity *in* the architectural tradition from the Early to the Middle Bronze Age in the Cyclades.

The settlements that will be used as guides to give an answer to this question are Ayia Irini on Keos and Phylakopi on Melos. These are the settlements that have been excavated so far, and *have* quite clear stratigraphical sequences.

Ayia Irini on Keos.

At Ay. Irini, the last stage of occupation in the Early Bronze Age is represented by Period III, Ceramic Phase C. This phase is marked by pottery of the so-called Lefkandi I culture, which in terms of Aegean chronology is EC IIIA (Caskey 1972, 270).

At the end of this period there is no evidence of violent destruction, but the site seems to remain unoccupied until the early stage of the Middle Bronze Age. This temporary abandonment is marked by a level of hard red earth, traced all over the site directly beneath the early MC levels.

Periods IV and V, Ceramic Phases D and F respectively, represent the stratigraphical definition of the MC period (Caskey 1971, 358; 1979, 412).

That a new era begins with Ay. Irini IV is attested not only in the pottery from the settlement, but also in the development of the town.

As is evident from the West Area of the settlement, the structures of Ay. Irini IV are entirely new and their layout seems to ignore the earlier buildings beneath (Caskey 1971, fig. 7).

That the change from Ay. Irini IV to V was a gradual one is documented by the layout of the settlement and the continuity of occupation, even in individual rooms.

Evidence of habitation in the MBA is to be found chiefly on the eastern and western sides, under the structures of the later periods (Fig. 16)

Several phases of habitation are represented by house walls and structures which succeeded one other. A fortification wall was constructed for the first time in the early MC period (Period IV) ^(Fig. 67a). This was later replaced by the early Great Fortifications of Ay. Irini V.

Walls and floors of successive houses have been discovered in the deep soundings at three places in Area C, below the Long Building in Area B, ^(Fig. 68) below the Building Complex in Area A ^(Fig. 69b) and below the LC Temple (Fig. 68).

To the first period within the MBA (Period IV) belong the remains in Area B, Area C and the Temple Area.

In Area B walls of this period are represented beneath the LC floor in Rooms I and II of the long and narrow structure.

In Area C, evidence of long occupation in this period comes from the area above the room with the hearth of the

EC IIIA period. Walls and floors in stratigraphical sequence indicate that the houses have been altered and repaired on many occasions.

In the Temple Area, Rooms IV, V, XI and XII belong to an early phase, dated in the early MC period. In Room IV there is a floor paved with slabs above the earliest destruction layer. Between Room IV and Room V there was a white marble step and a threshold with a white pivot stone. Just over this a high narrow bench was built along the face of wall U. There are subsequent minor periods of use of these rooms. A probable short interval in their occupation is represented by gradual accumulations above the step.

In Room V fallen stones indicate a period of destruction like that of Room IV. A stepped bench was built against wall G. In the middle of the room and on the MC floor, patches of burnt matter seem to represent hearths. In this case they could indicate continuing religious practices from the MC until the LC period.

From Room IV there was a doorway to Room XI with a step of fine white marble. The architectural plan of Room IX, with its peculiar orientation and its elaborate doorway approached by a step suggests that this room must have had some special function in the MC settlement. The space inside the room was occupied by stone platforms and on the floor level many terracotta statues were found in a fragmentarily condition. They could not be later than MMIII-LMIB. These, most likely, indicate that a shrine or a small Temple of Ay. Irini was located in this rooms. Rooms IV and V, associated with this room have evidence for

religious practices, as well. According to the evidence from the pottery the construction of Room XI can be dated in Period IV.

Room XII was most likely part of the earliest structure. Its walls also present the slight divergent orientation from that of the later stage. The Grey Minyan pottery from the room dates it into the same period as Room XI.

In the same stage within the MC period (Period IV) Ay. Irini appears to become a fortified settlement for the first time. Remains of the earliest fortifications can be traced at the NW side of the site. ^(Fig 69a) It is not known whether this defensive wall was carried around the town on the sides towards the sea. Part of these fortifications is represented by Wall DJ. The construction of the deep basements of later House F destroyed parts of the wall. Along the inner face of the wall there was an open passage, which ^{served} as a gateway. Beside the gateway, Tower W projects 5 m outwards from Wall DJ. This is of curvilinear shape and with a room inside.

This early defensive wall was succeeded in the late MC period by a more elaborate system, which, with obvious signs of alterations and additions, survived until the LC period.

The settlement of Period V was expanded to a considerably large area, as in the preceding stage. The same areas as Ay. Irini IV continued to be occupied, in addition to some new ones.

In Area J, inside the line of the fortification wall, a series of house walls was uncovered. The pottery, associated with these, suggests that most of these

buildings were constructed in the late phase of the MC period.

In Area N, to the N, the defensive wall of this stage turned S then E and then S again, in an almost straight line to a projecting rectilinear Tower e. From the deposits against the inner faces of these walls it is evident that these parts were first constructed in the late MC period (MM III pottery wares). Evidence of the early fortifications comes from Area M, to the E, as well.

In Area L, a building with massive walls, behind Tower e, was constructed in the late MC period. The unfinished wall-ends may imply that it was not completely finished, but modified, perhaps after its damage by one of the earthquakes that afflicted the island.

An independent building was constructed and occupied in this period in Area A, composed by Rooms 12, 13, the area of Room 14 and quite possibly the room under LBA Room 9 (Fig 69b). Remains below Rooms 5 and 6 could also belong to the same structure (Cummer & Schofield 1984, 30).

Phylakopi on Melos.

The Second City at Phylakopi represents the stratigraphical definition of the MC period. A break between EC III and early MC may not have occurred until after the beginning of the MH on the Mainland.

Phylakopi "Second City" is clearly defined stratigraphically between two major destruction levels (Barber 1974, 4). There are clear indications that Phylakopi II was destroyed in MMIIIB, or possibly a little later, in Cretan terms. But there is no such

certainty about the chronological relations of its earlier MC stages. At present, these seem most reliably related to MH/MMII, possibly preceded by a gap in occupation. Since late Phylakopi I (I-iii) also seems to have MH features, this gap may have occurred within the MH period on the Mainland.

An early phase of Phylakopi II pre-Kamarea MMII) was postulated by the original excavators on the basis of some pottery finds but this was not stratigraphically attested (Atkinson et al. 1904, 258). The preceding stage at Phylakopi (I-iii) has some MH characteristics which appear partially paralleled in the earlier MBA at Kea (D) (Barber 1974, 48; 1978, 367).

The MC period at Phylakopi is divided into three sub-periods. Of these, phases II-i and II-ii represent the early stage of the period, while the last (II-iii) represents the late.

The Architectural remains of Phylakopi "Second City" are at least as extensive as those of the First City. ^(Plan 6) The settlement appears to have had a well-planned layout. Streets, 1.5 m wide, running from N to S and from E to W, divide the area into blocks of houses. ^(fig 63b) It is quite possible that the streets had steps where there was a difference in elevation (Atkinson et al. 1904, 39). The houses were larger and more complicated in their ground plans than those of the EC period. They were composed of two to four rooms. Sometimes it is not easy to clarify the limits of individual houses within the block (e.g. in G3, H2, F2).

A fortification wall was constructed now for the first

time at Phylakopi (MC early). Remains of these earliest fortifications can be traced in the westernmost sector of the town (Atkinson et al. ib., 31). Most probably, the wall went across the neck of the original promontory. The early date of this defensive wall has been disputed and it was redated in the Phylakopi City III (LBA I) (Renfrew & Wagstaff 1982, 38). But the pottery from this area of the wall is of MC character¹⁵⁰.

In addition, there is a difference in the masonry of the wall in this section, which probably points towards an early date for these fortifications. Roughly squared masonry was used for these instead of the beach boulders employed for the construction of the LC defensive wall. Yet another piece of evidence which supports the early date is that other contemporary sites, and especially Ay. Irini on Keos, became fortified for the first time in this period.

An individual building that seems to have a special function is G3:6, 11, 17. It is composed of three rooms in alignment, communicating with each other by doorways off the long axis of the cross walls. Room 6 seems to be the most interesting one. It is the largest of all and has a stone column close to its E wall. The column is formed by two blocks of white limestone resting on a base. Fragments of a fresco and the fresco of the flying-fish were found in this room (Atkinson et al. 1904, 254).

Although the structure and consequently the frescoes are not securely dated in the MC period (Renfrew & Wagstaff ib., 38), it is quite possible that a kind of shrine of the

MC settlement was located here.

Paroikia on Paros (Fig 60)

Although the site has been excavated (Rubensohn 1917, 1) it did not provide a clear stratigraphical sequence. In the original excavation report the structures are dated to the last phase of the EBA (EC IIIB), according to their context.

Re-examination of the pottery from the settlement (Overbeck 1989) had the result of confirming this date only partly. According to this re-examination the settlement is dated to the final stage of Phylakopi I on Melos (Phyl. I-iii) and the earlier part of Period IV at Ay. Irini on Keos. The problem that arises is that Phyl. I-iii is generally supposed to represent the late stage of the ECIIIB period, while Ay. Irini IV represents the early MC period.

Slipped and Burnished wares in the characteristic EB III B forms of duck vases and barrel jars coexist with Grey Minyan, Matt-painted and Cycladic White wares in the pottery of the main group from Paroikia (Overbeck ib., 7). But there is no specific recorded context for the vases, except that some were found still in situ on the floor of particular rooms. The rooms that are reported to contain pottery from the two different stages are Room II and III (Overbeck ib., 8). Both these rooms reveal strong indications of alterations and modifications. Similar evidence occurs in other rooms of the settlement as well, when new walls are built next to the old ones or cut through the rooms that previously existed, changing in this

way their original plan (e.g. Room I).

From the evidence mentioned above and since there was a time of destruction at the settlement in the period under discussion it could be suggested that the settlement was occupied in the ECIIIB period. After the destruction there was some need for repairs and alterations, without any major changes in building techniques and architectural plans. In this period, most likely, structures e-h and g-s were constructed. All these activities took place at the beginning of the MC period.

Other MC Settlement Sites.

There are a few more settlements which remain unexcavated, but are dated to the MC period by their surface finds.

Scanty evidence of occupation, with extremely few architectural remains which are not well preserved come from Ay. Irini on Kythnos (Scholes 1956, 12).

Kapari on Melos produced sherds of the MC period, contemporary with Phylakopi II. It could therefore be suggested, that this small site had been continuously occupied from the EC III period. It seems to have been very closely connected with the settlement of Phylakopi and it could have been used by the same people, as an area for some special purpose, for protection in the unsettled periods when Phylakopi appears to have been unoccupied, and as a working area. It has been suggested, on the basis of magnetometer survey, that Kapari was used as a kiln site during the MC period. The vast production of Melian pottery, for trade purposes, demands a special area.

Indeed, it seems quite possible, that a potter's workshop or even more, existed on this site, very conveniently for the settlement of Phylakopi.

Minyan sherds scattered on the S slope of the small flat-topped hill at Palaiokastro on Mykonos indicate activity in the MC period. On the summit, there are traces of a fortification wall which could belong to this period. This might well suggest that a MC fortified settlement was located here (Bakalakis 1964, 556; Scholes 1956, 12).

Substantial quantities of MC pottery have been recognised at Mikri Vigla on Naxos, both of early and late MC phases (Barber & Hadjianastasiou 1989, 140). Among the material the prominence of Melian pottery is striking. Also there are many Minoan imports in both phases, which indicate Cretan influence (Barber & Hadjianastasiou ib., 107). A number of clay figurines must be dated in the late MC phase (Barber & Hadjianastasiou ib., 130).

The structures of the settlement at Mikri Vigla are scattered on the S slope of the promontory. ^(Fig. 7a) These indicate occupation in subsequent periods from EC II to LC. Since the site has not been excavated yet, it is not possible to date these structures securely. Only one could be quite safely attributed to the MC period, ^{on the evidence of} the fine Cycladic White pottery it produced (Barber & Hadjianastasiou ib., 70). This is Structure 7, in Area 16. ^(Fig. 7b) It is the most impressive construction uncovered so far not only because of its plan and dimensions, but also because it had its walls decorated with painted plaster. The sophisticated nature of this building, which could have

served as a shrine, is emphasised by the remains of what appears to be a monumental doorway (Barber & Hadjianastasiou ib., 70, 139).

MC fragmentary pottery from a deposit and scattered sherds of the same period indicate the existence of a MC settlement at Kastro on Sifnos (Brock & Mackworth Young 1949, 15, 31). The relatively concentrated deposit contained mainly Grey Minyan pottery and it was located outside the 6th cent. B.C. terrace walls. The deposit, however, is not associated with structures in this area and so it has been suggested that the sherds were dumped here by later builders (Brock & Mackworth Young ib., 15). In this case a MC settlement could have existed in the nearby vicinity.

Indications of a settlement of this period come from Akrotirio Ourion (Vryokastro) on Tenos. Remains of a fortification wall, built of large roughly worked blocks, can be traced on the W and S slopes of the high conical hill (Scholes 1956, 13, 15, 21).

Two more sites, which have been excavated yielded evidence of occupation in the MC period.

The settlement of Akrotiri on Thera continued to be occupied in the MC period (Doumas 1978b, 780). For the first time some architectural remains are preserved. These suggest that the town plan of the MC period was quite similar to that of the LC town. Imported Matt-painted MH pottery and Kamares ware pottery indicate contacts with the Mainland and with Crete respectively. Local wares are made of fine fabric. Matt-painted Dark-on-light, Cycladic White

of "Curvilinear style" and pictorial decorations are predominant.

Last, but not least, Dark Burnished pottery and Cycladic White wares from the upper layer at Ftellos on Thra indicate that the dug-out structure was in use in the early MC period, without obvious alterations (Marthari 1982, 86).

Some Conclusions.

From the pottery from the settlements, it could be suggested that no clear line can be drawn between the local late EBA wares and those of the early MC period in the two representative sites of the MBA. The geometric decoration with a curvilinear tendency in design is associated with floor deposits of Phyl. I-iii. The beginning of the matt technique can also be assigned to this phase. The characteristic Geometric pottery of the EC III B period seems to continue into the first stage of Phylakopi II (II-i), although its stratigraphical character is not clear.

At Ay. Irini on Keos, early MC associations occur with material found in EC IIIB context at Phylakopi (Barber 1987, 30). Duck vases from the settlement of Ay. Irini, incised or plain, dated to Period IV, are in MC Burnished Ware. Incised decoration, in both Burnished and Plain wares is very common throughout Period IV (Caskey 1972: D56-57). It occurs on shapes that recall an early period, such as pyxides (Caskey 1972: D137-138) and also on distinctly MC shapes.

The Dark Burnished pottery of the early MC period is a development, in technical level, from the heavier burnished pottery of the EC period.

In terms of external links in the early MC phase, Grey Minyan and imported MM pottery establish contacts with MH II and possibly MH I on the Mainland and MM IB/MM II and possibly MM IA in Crete. The late MC period correlates with MH III and MM III in Mainland and Crete respectively.

In general, the pottery of the MC period, and especially that of the early stage indicates changes in techniques, which could be considered as a development from those of the EC period. To some degree there is also continuity while certainly some new elements (e.g. Cycladic White) appear now for the first time.

The settlements of the period exhibit a degree of continuity, as well. The vast majority of them were located at sites which had been occupied from the EC period. Two possible exceptions to this are Palaiokastros on Mykonos and Akrotirio Ourion on Tenos.

As becomes apparent from the distribution of the sites, each island had a single main centre. This indicates a tendency to centralization. Consequently the centres could be more carefully planned and organized and more effectively protected.

Both Ay. Irini IV and V and Phylakopi Second City give a quite clear idea of town planning, although their layout is not entirely clear because of the later structures that remain above them.

Phylakopi II is the best example to mention. The houses

are arranged in blocks with orientated streets and some open spaces between them.

For Ay. Irini IV and V the plans are less clear. Rooms were clustered too, but in a far more irregular way than at Phylakopi (Caskey 1971, fig. 3).

These have as result a more efficient social organization. Elements of the style of pottery, such as the matt geometric, black-and-red and "Early Mycenaean", seem to have been invented at Phylakopi on Melos. Moreover, the Melian pottery is the predominant material to be found in the settlements of the MC period. This indicate extremely intensive trade, and implies political power and advanced craftsmanship. In this case the possibility of the existence of a special area, at Kapari, for the production of this pottery cannot be surprising. On the contrary, it could have been very convenient and ^{even} necessary.

The early shrine or Temple at Ay. Irini IV furnishes a very good illustration of the social life of the community. It indicates that sophisticated ideas begin to exist beyond the basic human needs. The same suggestion applies to the settlements of Phylakopi and Mikri Vigla. This sophistication will increase in the later stage of the MBA, as it is evident from the frescoes at Phylakopi.

Building materials, house plans and methods of construction indicate a degree of continuity from the EBA. The materials available locally are used, as it was the case in all the EC periods. No major changes occur in the ground plans of the houses, except that ^{they} in the MC period are larger and more complex than in the EBA.

This must be considered as a natural process, since the social standards became more demanding. The types of masonry are the same as in the preceding periods, except for the limited use of ashlar masonry in roughly regular courses, attested at Phylakopi.

Defensive walls are evident from Ay. Irini IV and V, Phylakopi II, Akrotirio Ourion and Palaiokastros on Mykonos. All the other sites, despite the lack of fortifications, are located in good defensive positions.

The earlier fortification wall (Wall DJ) at Ay. Irini IV, with its circular projecting tower (w) and the room inside certainly resembles the fortifications of the EC IIIA period (e.g. Kastri on Syros), and thus indicates a continuity in Cycladic tradition. Its striking contrast with the Great Fortifications of Ay. Irini V, which seem closer to the later Mycenaean tradition, supports the suggestion of the cultural continuity between the Early and Middle Bronze Age.

So, as it becomes apparent from the pottery, as well as from the architecture, the Cyclades, at least during the early MC period, were independent of the contemporary cultures on Mainland and Crete, though in contact with them. It was only towards the end of the late MC period that Cretan influence became overwhelming (Barber 1974, 51).

Thus, the islands continued the heritage of the EC period, despite the destructions or gaps in occupation at the end of the EBA. In addition, they seized the opportunity to develop the legacy of the EBA into a more

advanced culture in the MBA, still uninterruptedly
Cycladic.

CONCLUSIONS

A. THE CYCLADES.

1. THE SETTLEMENTS.

From the architectural analysis in this study, it becomes apparent that there are a few settlement sites which can contribute a great deal to the study of architecture and urbanization in the Early Cycladic period. For this reason, the best excavated and stratified settlements from each period will be considered as guides to the methodological analysis. In some cases there are references to data from contemporary cemeteries¹⁵¹, associated with the settlements, in order to acquire a clearer idea about the socio-economic structure of the settlement community.

The settlement sites which yielded the most substantial remains throughout the Early Bronze Age in the Cyclades are Markiani on Amorgos, Mt. Kynthos on Delos, Skarkos on Ios, Ay. Irini on Keos, Phylakopi on Melos, Grotta and Panormos on Naxos, Paroikia and Pyrgos on Paros and Kastri on Syros. Most of these have more than one period of occupation.

Markiani appears to be inhabited for the first time in the EC I period and continues to be occupied until EC IIIA¹⁵² (Pl. 4).

Mt. Kynthos is considered as one of the representatives of the EC IIIA period. It was originally proposed that the settlement was established in this stage. But pottery from

the preceding EC II period indicates occupation at this stage, too (Pl. 5a).

The settlement of Skarkos on Ios yielded a single stratum of destruction. The pottery from this dates the final use of the structures in the EC IIIA period. The two commonest pottery shapes, the sauceboat and the saucer with ring-shaped base, date the main period of occupation in the EC II period. ^{Stratigraphical} Irini on Keos and Phylakopi on Melos ^{are the two excavated sites} so far. The history of the two settlements, as it ^{flourished and yielded the most complete} can be established by their stratigraphy is not a parallel one.

Ay. Irini must have been occupied in the EC I period, as pottery, without associated architectural remains, indicates. The site remained continuously inhabited from the EC I until the LC period, except what might be a short gap of occupation between the EC IIIA and MC early period (Pl. 6).

Phylakopi was first established in the EC I period, with permanent stone built houses and it continued into the EC II period. Absence of "Kastri" groups of pottery from its strata most probably indicates a temporary abandonment of the settlement in the EC IIIA period. Shortly after this, the site was reoccupied in a much more elaborate form and continued developing this into the MC period (Pl. 7).

Grotta seems to have two periods of occupation, but there is no clear stratigraphical definition for the site (Kondoleon 1949, 112). The settlement was considered to be a representative of the EC I period, giving thus its name to it ("Grotta-Pelos"). But EC I pottery was found in the settlement together with "Kampos" pottery, which suggests

that the transitional period from EC I to EC II was the first occupational phase of the settlement. Without any major changes Grotta remained occupied until the EC II period. No pottery later than EC II has been attested in the settlement, which seems to be *abandoned*, without any signs of destruction (Pl. 5b).

The fortified citadel of Panormos is one of the characteristic settlements of the EC IIIA period. The pottery from the site indicates a short occupation in this stage. But remains of a house below Rooms 16-18 of the main habitation period indicate that the site was not initially inhabited in the EC IIIA period (Pl. 5c).

Paroikia on Paros was first inhabited in the Final Neolithic period, as pottery with no associated architectural remains suggests (Overbeck 1989, 20). Stone-built house remains at the foot of the hill, date the first permanent occupation at the site in the EC II period. In the succeeding EC IIIA period, the inhabitants appear to move *to* higher ground, on the top of the hill, building curvilinear and rectilinear houses. The settlement continued to be occupied in the EC IIIB period, without signs of destruction. In this stage the EC IIIA structures were, most likely, out of use and new rectilinear houses were built. These buildings with alterations and additions *but* without a break lasted until the period of the settlement destruction, *in* the late MC period (Rubenson 1917) (Pl. 8a).

Pyrgos on Paros appears to be inhabited for the first time in the transitional stage from EC I to EC II

("Kampos") and continues uninterruptedly until EC IIIA. A stretch of a thick wall, wall I, and another stretch of a similar wall towards the edge of the settlement indicate one more occupation phase of uncertain date. It is quite possible that these walls too belong to the Early Bronze Age, since nothing later has been found at the site. Moreover, Tsountas reports that all pottery fragments are of the same general date (Tsountas 1898, 174). Wall I was partly built upon the EC IIIA house E-F and thus it is dated ~~to~~ a later stage than this. Unfortunately, no specific context is reported for these walls and so their date must remain unclear, although within the Early Cycladic period (Pl. 8b).

The fortified stronghold at Kastri is the chief representative of the EC IIIA period. The site ~~on~~ the high hill was first inhabited now and it ~~went~~ out of use at the end of the period. There is another settlement, though, in extremely close proximity which could be related to Kastri. This is Chalandriani, to the E, situated on lower ground with fertile land around, dated ~~to~~ the EC II period. The problem that arises is, ^{whether} Chalandriani and Kastri were inhabited by the same people and consequently, ^{whether} the occupation in the area goes back to the EC II period. As Tsountas first pointed out, there is only one large village in every Cycladic island, which houses the entire population (Tsountas 1899, 107). Numerous small villages gradually appear, which are established by the inhabitants of these centres who moved out of them. This is the case for Syros as well, which even nowadays has only one main

centre, its capital Hermoupolis. In the case that Chalandriani and Kastri represented two different settlements, with no relation between them, two quite large and well-organized settlements would ^{have} existed side by side. This is unusual even for nowadays, when the islands are more populous.

Moreover, it would have been very difficult for the inhabitants of the citadel to survive without the crop production from the fields near Chalandriani. It also appears that both settlements used the same cemetery. In its graves there are no differences, neither in burial practices, nor in grave goods (Tsountas 1899, 78). In addition, examining the architectural remains from Kastri it becomes quite obvious that more than two architectural phases are represented. This is especially apparent in the NE (Rooms 1-5) and central (Rooms 18, 19, 22-24, 42) areas of the acropolis. Unfortunately, no stratigraphical sequence ^{was} reported and thus no structure can be securely assigned to a certain phase. What seems quite possible, though, is that the settlements of Chalandriani and Kastri were inhabited by the same people (Hood 1986, 36).

The historical framework and the preserved architectural remains of these settlements can be used as guides to the study of architecture and settlement urbanization in the Cyclades in the Early Bronze Age. To the settlements mentioned above, two more should be added. These are Christiana and Ftellos on Thera. These will be included not because of the substantial remains they revealed, but

because of the individual character of their remains, due to the volcanic deposits of the island.

According to the available data mentioned above, guide settlements for each period are considered in this study Markiani I for the EC I; Grotta I, which revealed the most substantial remains, together with Markiani II and Pyrgos I for the Transitional EC I to EC II stage ("Kampos"); Skarkos, together with Markiani III, Ay. Irini II, Grotta II and Pyrgos II for the EC II period; Kastri, together with Markiani IV, Mt. Kynthos II, Ay. Irini III, Panormos II and Pyrgos III for the EC IIIA; and Phylakopi I-II, Paroikia IV and Ftellos for the EC IIIB period (Pl. 9).

In the Cycladic bibliography the settlements are mentioned without any distinction between villages and towns, based on some firm characteristics of criteria. This indicates the lack of an established system for the Cyclades, in settlements classification. A system like this would be based on the study of the liturgical relations of the human activities in the specific area, as well as on the socio-economic and settlement structure. For this reason, criteria must be established, which can be defined either objectively or by application of modern methods of analysis and correlation of the available archaeological data. The application of these criteria to the specific area of the Cyclades and to a number of sites will allow a classification of the settlements.

A number of characteristics for each settlement in their context has been distinguished and analysed in the previous chapters of this study¹⁵³. Some of these

characteristics are related to space organization and others to the socio-economic structure of the settlements.

In general, there is an attempt to consider the settlements as a result which derives from various parameters in relation, and not only as a result of the socio-economic proceedings or as a mere gathering of buildings and population without economy.

Organized settlements are usually defined by the term "town" in the bibliography. But not all the settlements are towns. There must be some differentiation in the terms used for each settlement, according to the established criteria, so that it can be classed as "city", "town" or "village".

A city can be considered a settlement which covers a large area, is populous and has strong social differentiation, intensive trade and craft specialization, public constructions, as well as settlement structure and planning on a large scale (Konsola 1984, 35, 165).

Town is usually smaller than a city. It has a few hundreds of population, a quite small extent, similar to that of the village but it has a more complex social and economic structure and enterprise. Public constructions, such as an enclosure wall or a simple fortification can be, sometimes, one of their characteristics though not necessary (Konsola ib., 35, 166).

Villages are small in extent, with a few inhabitants. They have few or no indications for craft specialization and social differentiation. Indications for public constructions or fortifications are few or absent in these settlements (Konsola ib., 35, 168).

Taking into consideration the theories about urbanization in different areas and eras of the ancient world (Child 1942, 97; Konsola 1984, 37), the theories about the same aspect for the Aegean area (Renfrew 1972; 1974; Service 1962) and the available archaeological data from the Cycladic settlements, an attempt will be made to define the level of urbanization they achieved. According to this they will be classified into cities, with high level of urbanization, towns, with medium and villages, with low.

The criteria used for the definition of the terms city, town and village can not be considered as absolute but vary according to the geographical area ^{are applied} to which they ~~are applied~~. Thus, for the classification of the Cycladic settlements no theory can be considered a priori, but must be related to the characteristics, which have been analysed for each period. The analysis of factors of urbanization has a dual function: to follow the development from the small Neolithic communities to the better organized societies of the Early Bronze Age, as well as to examine urbanization as a phenomenon in the Cycladic islands.

The absence of an established urbanization pattern, based on certain standards for the period and area under discussion, makes the systematic analysis of these factors essential. This absence, added to the small amount of available archaeological data, leads to the determination of the method of analysis. According to this, the settlements and their characteristics have been examined in their context. The second step is the reduction of the

urbanization factors in arithmetical scales and the definition and analysis of the structure of the relations of the urbanization characteristics (Katos 1984, 10). Next is the arrangement of the settlements into groups and finally their classification according to their characteristics. * Appendix

For the analysis, the urbanization characteristics which are closely related will be co-examined in groups.

The first group of characteristics refers to the morphology of the settlements (Pl. 10). The factors which make up this group are the average size of the buildings of a certain settlement in a specific period, the deviation in their sizes and the existence or absence of special function^{al} buildings within the settlement. The sizes of the buildings and their deviation reflect the socio-economic conditions of the community. Buildings of large size ^{pre}suppose wealth, the presence of central authority and social differentiation. In addition, a large deviation between the sizes of the buildings within the same settlement indicate the existence of a social scale. Settlements with small houses and small differentiation in their sizes indicate a similar social level. The relation between the average surface of the settlement buildings and the deviation can not be always estimated accurately (Group 1) (Pl. 11). This is due to the limited excavation data. For some settlements only one structure from each period has been preserved, so that the average value can not be estimated (e.g. Pyrgos). The average value determines also the surface homogeneity of the settlement.

The second main group refers to the productive activities of the settlement (Pl. 12). The interregional trade and the craft specialization in relation to the use of metals, consist the factors of this group. The first two characteristics are bound together in an extremely close relation. Large craft specialization presupposes raw material. This is connected with trade transactions either for importation of the raw material or for the exportation of the products. These two factors are related, though in a smaller degree, to the use of metals. The existence of a large number of metal objects, usually metal tools, in a settlement, indicate advanced technology and high skill.

The differentiation in the buildings, the existence or absence of devices and marble are factors which determine the quality of life in the settlements (Group 2) (Pl. 13). More closely connected are the first two characteristics. Differentiation in the sizes and plans of the buildings and the existence of devices in some structures only indicate social and economic differentiation. In addition, the co-existence of marble objects or marble building material in these buildings is indicative of wealth.

The fortification and the town structure consist another group of analysis (Group 3) (Pl. 14). The simplest type is represented by settlements with elementary town planning and no fortification or enclosure wall. This is the most common type in the Cyclades. They have houses with similar orientation and roads or alley^a running between them. There are a few settlements with elementary town planning and a fortification wall with^a bastion (e.g. Markiani, Daskalio,

Panormos). In these settlements the presence of some central authority is suggested, responsible for the construction of the fortification. A well planned settlement with an elaborate defensive system, like that of Kastri on Syros, represents an advanced type of settlement. The orientated town structure should be considered as the basic characteristic of this group. The fortification can not be seen as an absolute criterion since it depends on different factors, such as the security that the times and the area provide. There is no Cycladic settlement representing this type. Kastri on Syros, with the most advanced defensive system does not reveal a clear town plan. This may be due to the additions and replacements that took place at the site, during its habitation. The most carefully planned town structure is suggested for Phylakopi I-II, an unfortified settlement.

The existence or absence of organized cemeteries used by the settlements as well as the existence or absence of precious metals in the settlements or in the graves is strongly related to the wealth and social status of the settlements (Group 4) (Pl. 15).

The higher values of these groups of factors indicate a high level of urbanization, attested in the settlements which can be considered as large towns or cities. The characteristics for a settlement ^{such} are the large average size of its buildings and the large deviation in their sizes; the presence of buildings with special function, such as workshops in special areas of the settlement or warehouses; the large productive activities

and intensive trade; the high quality of life; social differentiation and wealth.

Settlements in a lower level according to these factors can be considered to represent towns. They usually have medium average size buildings and small or medium building differentiation; workshops and warehouses are represented in the structures of the settlement; interregional trade and indications of craftsmanship can be attested; the quality of life is not very high but they seem to enjoy a life without privation.

The lowest level of urbanization is represented by settlements with small or medium average size buildings, small deviation in their sizes and without buildings of some special function. They do not have intensive trade and the craftsmanship is usually limited to pottery.

For the Cycladic settlements of the EC I period no suggestions are possible about their level of urbanization. This is due to the extremely limited available data. But there are some features that should be pointed out. Two of the EC I settlements, Markiani I on Amorgos and Zoumbaria on Despotiko, seem to be enclosed by a wall. . Even if their purpose was not for defence, a wall indicates some care to define the area of the settlement and . involves the presence of a central authority to undertake the task. Moreover, at Zoumbaria the organized cemetery existed close to the settlement (Tsountas 1898, 164). The finds from the graves and especially the marble figurines and the stone beads indicate craft specialization and skilled artists. These two features could suggest that a structured society

and economy existed in the Cyclades from the EC I period. Evidence about metals and interregional trade is scarce in the EC I period. Two fragments of lead from Cheiromylos on Despotiko, furnish evidence about the existence of metals in the EC I period. In addition, a recent discovery from the Cave of Zas on Naxos, provides more information about trade transactions in this period. The rectangular gold strip from the cave is closely connected with the golden finds from the cemetery of Varna, on the coast of the Black Sea (oral information by Zaxos 13.3.91; Varna 1989). Moreover, spondylus shells and marble vases, imported from the Aegean, uncovered in the same cemetery at Varna, strongly indicate cultural intercourse between the Balkans and the Aegean at the very beginning of the Early Bronze Age.

More clear evidence about urbanization comes from the transitional EC I to EC II stage ("Kampos") (Pl. 16). The characteristics analysis of the best preserved settlements have shown that they share common features. Indications of trade and metals are in general absent from the settlements themselves. Craftsmanship is attested by the pottery. But information about the productive activities of these societies derive from the associated cemeteries and from areas outside the Cyclades, mainly from Crete. The marble vases and figurines, as well as the stone beads from the graves indicate skilled craftsmen, division of labour and subsequently, a structured economy (Tsountas 1898, 158; Kondoleon 1970, 146; 1971, 172; 1972, 143). "Kampos" groups of pottery found at Ag. Photia cemetery and at Pyrgos cave

in Crete, strongly indicate Cycladic-Minoan economic and most probably population contacts in this period. (Davaras 1971, 392; MAN: Doumas 1976, 69; 1979, 104; Warren 1984, 55).

As far as the morphology of the transitional settlements is concerned, they have buildings of small average size and small deviation in their sizes. An exception to this is Grotta I. The preserved remains suggest that the houses were of medium size but with small deviation¹⁵⁴. The small number of structures preserved in each settlement does not allow suggestions about the existence or absence of special function buildings.

Evidence about town planning comes only from Grotta I. It appears to have an elementary town structure, with common orientation of buildings, a road running N-S and an alley running E-W dividing the buildings. The preserved remains indicate that it was unfortified in a coastal location. Pyrgos I was unfortified in a coastal location, too, but the single structure which has been preserved from this period is not sufficient to reveal a certain town plan.

Markiani II is the only excavated settlement of this period, until now, which appears to be enclosed by a wall and has an elementary town structure.

Grotta I and Pyrgos I are associated with organized cemeteries, but no precious metals have been found in them, at this stage. From the cemetery of Pyrgos certain features can be observed, concerning the social status of its community. Two of the graves (No 98 and 104) are the

largest of all¹⁵⁵ (Tsountas 1898, 159, 160). These are the *only two* graves of the cemetery where marble kandilas have been uncovered. It has been suggested that these marble objects should be considered as "prestige items", possessed by certain members of the Cycladic community (Doumas 1987, 18). Their existence exclusively in these two large graves of the Pyrgos cemetery seems to be in favour of this suggestion. In this case, the large dimensions of the graves, their grave goods and the fact that they contained single burials, indicate social differentiation in the community of Pyrgos I. Moreover, in the same cemetery and in a small grave¹⁵⁶ a large concentration of marble figurines¹⁵⁷ was uncovered, together with worked shells (Tsountas 1898, 159). This is the only grave in the cemetery which yielded such objects. The small dimensions of the grave are in strong contrast to its rich grave goods and this could indicate that the deceased was an artist. In this case, this grave is one more indication of social differentiation and craft specialization for the Pyrgos I community.

The available data from the settlements of the transitional EC I to EC II period indicate that these were small communities with some social differentiation and economy. No major changes occur and the culture continues uninterrupted from the EC I to the EC II period.

The most clear evidence about settlement organization of the EC II period derives from Skarkos on Ios and Grotta II. The architectural features from these settlements, as well as those from the contemporary Cycladic settlements,

indicate development in architecture and quality of life. The buildings become now more spacious and a more advanced technology is applied in their construction. This is evident for example in the two storey houses of Skarkos or at the double curved wall of House Γ at Grotta II. The settlements have elementary town planning and are unfortified. Special areas of the houses served as workshops or warehouses.

The productive activities have reached a higher level than in the preceding periods. The settlements appear to be self-sufficient in pottery and obsidian production. Spindle whorls found in special areas of the houses indicate cloth production. A piece of emery from the deposits of the L-shaped house at Avdeli, could indicate that the emery mine, which is located only few kilometres away and is still in use nowadays, was exploited by the EC II inhabitants. Bronze is still absent in the vast majority of the settlements, with the only exception the "metallurgical workshop" at Markiani III. Lead was used for pottery mending. Precious metals have not been attested in the settlements, but evidence about their existence comes from their organized cemeteries¹⁵⁸. Avdeli, Grotta II, Phyrroges on Naxos and Pyrgos II on Paros are associated with organized cemeteries (Pl. 17).

All the evidence from the EC II settlements and those associated with them indicate an advanced level of urbanization, higher than that of the EC I period (Pl. 18). The settlements can be considered as towns, which have not reached the highest level.

The settlements of the EC IIIA period appear to develop further the patterns of the EC II period, with different forms of settlements (Pl. 19). This is especially obvious in the settlements of Kastri and Ay. Irini III (Pl. 20). These two settlements exhibit the highest *values* of urbanization characteristics, although they represent two different types of settlements.

The settlement of Kastri is a stronghold placed on a high hill, while Ay. Irini III has no fortification, not even a perimeter wall, and is located next to the sea. The dwellings at the fortified citadel of Kastri are *usually small* with no sophisticated devices. These and the fact that the houses are clustered together indicate the need to exploit the available space in the best possible way. The *house* level of construction is in strong contrast with that of the two defensive walls and the towers. This indicates that there was no care for comfortable and spacious houses, but the prime objective was safety. The planning and the accomplishment of the defensive system indicate strategic knowledge and skilled builders. They *also* furnish evidence about the existence of different social classes in the settlement. A kind of central authority would have been responsible for the planning of the public constructions. A group of builders would undertake the task of accomplishing the plan. This group would need the assistance of yet another group of workers to quarry and carry the stones for the construction.

More evidence about the division of labour and social

differentiation in the Kastri community derives from *the* finds. The discovery of a large number of bronzes in special rooms¹⁵⁹, as well as the presence of moulds and crucibles, strongly indicate that metal was worked in the settlement. Thus, another group of people of the Kastri community was involved in metallurgy. Moreover, as lead isotope analysis has shown, the bronze objects from Kastri contained tin, which is extremely scarce in the Cyclades (Gale & Gale 1984, 269). Thus, the bronze was imported as raw material from somewhere outside the Cyclades¹⁶⁰.

Few objects from Kastri are of Kynthian copper (Gale & Gale 1984, 269), indicative of interisland transactions.

An object which indicates high social status at Kastri is the silver diadem with the impressed dotted decoration, found in the settlement. This, most likely, was worn by a person of high rank in the Kastri community.

All the evidence from the architecture and the settlement organization suggests that Kastri was a town with a high level of urbanization. It had advanced technology, the best known from the Cycladic settlements, not only in metallurgy but also in construction. The settlement of Chalandriani was most probably part of the same town, *or* lower fertile ground, *was* responsible for food supply. The evidence from the cemetery of the settlement indicates that a similar social status existed at Chalandriani from the EC II period (Tsountas 1899, 78). The presence of tin bronze and *Kynthian* bronze indicate trade connections with the North, *far* beyond the NE Aegean islands, as well as between the Cycladic islands.

The size and the very large density of the settlement, as well as the small average size of its structures are not contradictory to the classification of Kastri as a EC urban area. These are due to the limited available area upon the high hill. But Chalandriani, set on flat ground, was the settlement which ~~was home~~^{for} the numerous inhabitants who used the extensive cemetery nearby¹⁶¹.

A high level of urbanization is attested at Ay. Irini III on Keos. It represents the unfortified settlement type, set on flat ground with no limitation as to construction ----- covering an extensive area with houses that appear to be free in space.

Unfortunately, only a few buildings of the EC IIIA period have been uncovered and no generalization is possible about the sizes of the houses. Houses E and D, which succeeded one another in the same area, are of large size even in their preserved ^{dimensions}: 450 m² and 60.50 m² for House E and D respectively (Caskey 1971, 369). In any case, both these houses are the largest ever known among the Cycladic houses of the EC IIIA period. From the preserved remains in other areas of the settlement, e.g. in Area C, it can be suggested that there was differentiation in the sizes of the buildings, as well as in their plans. This becomes apparent from the differences in the ^{construction of} house-walls.

House E has substantial stone-built walls, which, in addition to the lack of doorways leading to the rooms, indicate that a second storey existed above. On the other hand, the clay walls in Area C are ^{too} weak to support another floor.

The level of construction in the preserved buildings is high, with carefully built walls of worked stones laid in courses. Special care has been taken in the construction of the doorways, which are marked by thresholds and pivot stones. Sophisticated devices have been attested in Area C and House D. It seems quite possible that there have been roads and alleys leading to the houses or to different areas within the settlement. Some of them could have been paved, as is attested by the road leading to the water supply, above the EC II Building XI.

The existence of a Potter's kiln, in a special area of the settlement and at some distance from the settlement, indicates craft specialization. The absence of metals and especially bronze ^{in quantity} could indicate that the productive activities were concentrated on pottery. But a considerable number of clamps and lead ^{fragments}, uncovered in Room 4 of House E, suggests that metals were not unknown. On the contrary, it has been suggested that Cycladic people started the exploitation of the Laurion mines in the EH II period and it is possible that these people were the inhabitants of Ay. Irini, from the nearby island of Keos (Gale & Gale 1981, 208; Doumas 1988b, 113).

The rest of the EC IIIA settlements present more or less the same urbanization characteristics, which classify them into small urban areas.

Markiani IV exhibits the same characteristics *as* those of Markiani III, and appears to be a step higher than the other settlements of the same group, namely Mt. Kynthos II, Panormos II and Pyrgos III.

Mt. Kynthos II and Panormos II represent the second rank within the same group.

Mt. Kynthos II presents a medium level of settlement morphology, because, although the average size of its buildings is small, there is differentiation in their sizes, from 0,75 m² to 10.36 m². It has elementary town planning and is unfortified. Its location on the high hill determines the settlement density, which is very large, as well as the small size of the structures. The quality of life does not appear to be high, since devices are absent from the houses. On the other hand, the level of construction in all structures is mostly high and marble exists in means of vases and tools.

The productive activities on Mt. Kynthos II are on a medium level, since metals are absent. But imported clay from Naxos, Paros and Sifnos, as well as pottery of Mainland forms (Macgillivray 1981, 11, 14) indicate trade transactions. Moreover, pottery forms of Anatolian origin suggest contacts with Anatolia (Macgillivray ib., 19, 23). A satisfactory level of craft specialization is attested from the various workshops that existed on a lower ground, around the peak of the settlement.

The small size of the buildings, the absence of an organized cemetery, which originally could^{have} existed, and the absence of precious metals or other objects ^{are indicative} of social classes within the settlement. From the layout of the settlement, though, an assumption is possible about the presence of some central authority. The three passages leading to the three inhabited areas, the substantial walls

placed in front^{of} the entrance of the settlement, as well as the circular massive walls (o and ω) around the peak, suggest the presence of such an authority, responsible for the planning and execution of these public constructions.

The settlement of Panormos II presents a similar character to that of Mt. Kynthos II. It exhibits a low settlement morphology. Its structures are of small average size, with almost no differentiation. There is only one structure (House 5-6) which is the largest of all, placed not in the central area, but in the S sector of the acropolis. The level of construction for the structures within the fortification is medium, with no sophisticated devices. This is in strong contrast ~~with~~ the construction of the fortification, which is solidly built, with curved outworks representing bastions and an entrance approached by a staircase.

The layout of the settlement ^{is} quite regular. The rooms incorporated ~~in~~ the fortification wall share common features, such as the irregularly curved ground plan and the similar dimensions. Three passages gave access to the areas within the settlement, while Room 12, which has its E wall exceptionally thick, was placed in front of the main entrance of the settlement. Indications about the existence of an administrative or religious building are missing. Because of the small size of some rooms and their location in the settlement, it is possible ~~to~~ to identify some buildings ~~with~~ special function connected with the defence.

As far as the productive activities of the settlement is concerned, the level appears to be medium. Strong trade

indications are absent and no craft specialization has been attested. The metal objects found in the settlement are few and in general goods indicating social status are absent. It is very possible though, that such objects existed but they were removed by the inhabitants, when the settlement was abandoned. There are some indications, *however*, which suggest the presence of a central authority in the settlement. These are the fortification wall, the town planning, as well as the settlement's organized cemetery.

The settlement of Pyrgos III presents a similar level of urbanization *as* that of Mt. Kynthos II and Panormos II, as the preserved structures suggest. It represents an absolutely different settlement type *from* those of Mt. Kynthos and Panormos.

The three buildings of this period imply that the houses were of medium average size and most probably had no differentiation. Their level of construction appears high, but the walls, which are built with slabs in neat regular courses, are thin.

There is no evidence about the existence of workshops, warehouses or administrative buildings. Workshops should *have* existed in the demolished part of the settlement. The inhabitants of Paros, an island rich in marble and clay sources, most certainly *were capable of* exploiting these materials.

Pyrgos III was a planned, unfortified settlement in a coastal location. The presence of some central authority is attested in the construction of the retaining walls, placed on either sides of the roads, in House E-F area. Moreover,

the presence of a slab at what appears to be the beginning of the road next to House E-F, could indicate that at this point was the entrance to a different area of the settlement. No other evidence about social classes exists and such evidence *is* missing from the organized cemetery of the settlement, too.

The highest *values* of urban features are evident in the settlement of Phylakopi I-II, dated *to* the EC IIIB period (Pl. 21). Although the average size of its buildings appears small, there is a great differentiation in their sizes, the largest among the studied EC settlements. This suggests differences in the socioeconomic structure of the community. House I-III is the largest of Phylakopi I-II and the largest preserved building among all settlements (45.92 m²). This is located in the central area of the settlement and buildings of medium size are also located in the same area. Buildings of administrative function have not been attested in the settlement, but workshops existed in a special sector, to the W. Moreover, it seems quite possible, that Phylakopi I-II was the main centre for other areas of production, e.g. Komia for obsidian and Kapari for pottery. These indicate the existence of a strong central authority in the settlement, which controlled the large production of obsidian and pottery and certainly such authority *have* should *have* had a place of its own. The absence from the architectural remains of a building of administrative function with monumental dimensions, as it is the case in Mainland, does not seem to be accidental. Similar buildings are absent from the succeeding period, too. The most

possible explanation for this is that power was not concentrated in the hands of a single person.

The planned town structure of the coastal and unfortified settlement, the existence of more than one organized cemetery, in addition to the high settlement morphology and the advanced productive activities, indicate that the settlement of Phylakopi I-ÍÍ had reached a high level and justifiably is called City in the bibliography.

Paroikia IV belongs to a lower level of urbanization than that of Phylakopi I-ÍÍ. Its buildings appear to be of small average size, with medium deviation. Buildings of special function are absent in the preserved architectural remains, but special rooms of the houses were used as warehouses.

The high level of construction indicates high living standards, but there is no evidence about social differentiation. Moreover, its organized cemetery, which could give some information about this aspect, has not been found, yet.

The productive activities of Paroikia IV do not appear to be very developed. Indications about trade transactions derive mainly from the pottery. The craftsmanship was most probably limited to pottery production and marble working, while a small number of metals was uncovered, used mainly for pottery mending.

According to this urbanization characteristics' analysis (Pl. 22), three Cycladic settlements could be classified as cities, namely Phylakopi I-ÍÍ of the EC IIIB period and Ay. Irini III, of the EC IIIA period, which represent the most

advanced group, and Kastri-Chalandriani, of the EC II and EC III period, with slightly lower *values* and a different character (Pl. 23).

The majority of the EC settlements can be characterized as towns with a advanced culture. The first group, which is composed by the settlements of Markiani III and IV, (EC II and EC IIIA), Ay. Irini II (EC II), Skarkos (EC II) and Paroikia IV (EC IIIB). Grotta II (EC II) is a step lower than this and represents the second rank, within the same group.

Mt. Kynthos II (EC IIIA), Panormos II (EC IIIA) and Pyrgos II and III (EC II and EC IIIA) *comprise* the third rank of Early Cycladic towns.

The settlements of the Transitional stage ("Kampos") are villages, with some attempts for more advanced settlement organization. From these settlements Grotta I appears to be in the lead, while less clear is the evidence for Markiani II and Pyrgos I, which seem to follow Grotta I.

Apart from the three groups of settlements, there are some houses which appear to be isolated and do not belong to a settlement. These *are* farmhouses, which served the basic needs of people who cultivated or exploited the country. As such can be considered the elliptical house at Korphi t' Aroniou and the lonely house at Avdeli. Both these houses have high level of construction, which indicate that they were used for permanent habitation. Their small size was not a problem, since as . is the case nowadays, every corner or surface could be used to serve the basic liturgical needs. Examples

of such farmhouses are numerous nowadays in the countryside of the Cycladic islands, which are called "katoikies".

2. THE EARLY CYCLADIC HOUSES.

The vast majority of the early Cycladic settlements have buildings of rectilinear ground plan (56,10%). Rectangular buildings are the most common of this group (46,10%) (Pl. 24). They have been attested in the settlements from the EC I period until the end of the Early Bronze Age and they continue in the later stages of the Bronze Age. They are formed by one or two rooms, usually in^a row and with a vertical or parallel arrangement of their doorways (but and ben type).

Most of the two-roomed houses appear to have their doorways in the narrow side of the room, while a doorway in the cross-wall gives access to the rear room. For the position of the main entrance some suggestions are possible, determined especially by the climatic conditions of the Cycladic islands. Nowadays, the climate of the islands is equable, with no frost, small rainfall but with prevailing winds. Evidence from the deep volcanic deposits on Thera testify that the climate in the Early Bronze Age was the same as today (Doumas 1983, 18). The most striking feature of this climate are the strong winds. During the winter time they blow from the SW, bringing warmth and rain, while in the summer severe winds, known as meltemia, blow from NNE. The NNE gales are extremely fierce and sometimes they sweep everything in their way or even

prevent the movement of people and animals. Because of this, the islanders nowadays avoid to place their entrances in this direction, and this seems to be the case for the EC houses as well. Doorways, most probably were located to the W or SSE side. A southern location of the door ^{ideally} exposes the room to the sun and brings coolness in the summer and warmth during the winter. The southern orientation is also ideal for equable exposure to the sun. A western ~~orientation~~, a common practice even today, is suggested for entrances, because the western rooms are hot during summer and cool during winter. The rooms ^{therefore} could not be placed in this direction ^{leaving} the area ^w unexploited. To avoid that, they would use this place for their entrances (Varelidou 1979, 21). In these ways the houses were protected both from the SW and NE winds.

One more reason for the position of the doorways in the narrow sides of the rooms was ^{to provide} support ~~for~~ the roofs. The narrow faced rooms could be easily roofed with no need ~~for~~ interior supports. This is the commonest type of house through the entire Early Cycladic period.

There are some exceptions to what appears to be the rule, where some rooms have their doorways in one broad side. On Panormos II, for example, House 12 has its entrance placed to the long S side, due to its location immediately in front of the fortification entrance.

Square and trapezoidal buildings cover a small percentage of the rectilinear houses (Pl. 24). These shapes seem to be represented in the architecture of the EC IIIA

and EC IIIB periods. But trapezoidal and square houses are known from the Neolithic settlements of Saliagos and Kephala (Coleman 1977, 38, pl. 7; Evans & Renfrew 1968, 16, Fig. 6).

Curvilinear houses do not appear to be much favoured in Cyclades and they seem to be present in the settlements of the EC IIIA period only.

Apsidal structures are the most numerous of this category (15,73%) (Pl. 24). From the fourteen buildings of this ground plan, recognised in the Early Cycladic settlements, thirteen are dated in the EC IIIA period. Only House F at Grotta II is attributed in an earlier stage (EC II). This is not of the typical apsidal form, but the two curved walls to the S, added to the structure in the the EC II period, give an overall apsidal look.

From the remaining thirteen apsidal buildings, eight (at Kastri and Panormos II) are in close relation to the fortification wall of the settlement, and thus not free-standing. They can be either attached to the fortification wall or built within it. The one-roomed structures at Panormos are not very regular in shape and represent a very simple type, which is created by the need to exploit the available area in the best possible way. In the same settlement, the houses with two rooms have an almost triangular shape, with a triangular room in the rear and a front porch or antae. The last, because of the relatively large width and the absence of its exterior wall, was most probably open.

The apsidal house at Kastri (House 7-8), which is not

incorporated in the fortification wall but is attached to it, reveals a more regular ^{plan}, than those at Panormos II. This resembles the free-standing apsidal buildings, in shape, arrangement of the rooms and position of the doorway.

Free-standing apsidal buildings are not represented in the architectural remains of the fortified settlements. There are though some curved stretches of walls at Kastri, in the SE edge and in the central area of the settlement, which could suggest the existence of such structures. In this case, the free-standing apsidal houses would ^{have} belonged to a different architectural phase, but within the EC IIIA period, since nothing earlier is reported from the settlement.

Free-standing apsidal structures are securely attested in the unfortified settlements of Mt. Kynthos II and Pyrgos III, of the EC IIIA period. The structures in these settlements represent two absolutely different types: the simple free-standing and the elaborate megaroid free-standing apsidal building.

The most simple type, formed by a single room is represented by buildings ψ , χ , and ϕ on Mt. Kynthos II. They are built one upon the other, suggesting thus three subsequent architectural phases (Fig. 12).

The apsidal structures at Pyrgos represent the most elaborate type of these houses¹⁶². They are free-standing formed by two rooms: a rectangular main room and a smaller apsidal, which most probably was where the main entrance to the houses was.

The next commonest type among the curvilinear houses is the D-shaped (7,86%) (Pl. 24). D-shaped structures are represented for the first time in the settlements of the EC IIIA period, namely at Kastri, Panormos II and Mt. Kynthos.

Only very few structures are of elliptical shape (Pl. 24). These make their first appearance in the settlements of the EC IIIA period at Kastri and Korphi t' Aroniou¹⁶³. They are of small size and they are formed by a single room. The only exception to the small size of the rooms is Room 27 at Kastri, which is the largest of the settlement (36 m²). Its large width (6 m) makes its roofing quite difficult, without the use of interior supports, which have not been attested. In addition, its location to the NW sector of the settlement, near a group of houses to which it appears to give access, suggests that this room was an open yard to the houses in this sector of the acropolis.

Four rooms in the EC IIIA citadels of Kastri and Panormos II represent the only round structures, attested in the Early Cycladic architecture (Pl. 24).

The evidence mentioned above indicates that curvilinear structures are mainly attested in the EC IIIA architecture. This applies especially to free-standing apsidal buildings, since curvilinear structures are known from the settlements of Markiani I and II and Grotta II dated in the transitional EC I to EC II phase. The existence of circular buildings goes even further back into the Late Neolithic period. At the settlement of Saliagos circular structures and stretches of curved walls are present in all three strata of the settlement¹⁶⁴. Evidence about the existence of

curvilinear structures in the EC I period is quite ambiguous, since the preserved architectural remains are scarce. The only possible exception to this could be the "bastion" and another slightly curved wall at Markiani I¹⁶⁵. The walls at Markiani are related with pottery of "Kampos" group, which exhibits plenty of EC I elements. Renfrew has suggested that this group at the site should be dated to the end of the EC I period, rather than at the beginning of the EC II. The date for these curvilinear constructions must remain provisional, until the final publication, but within the EC I-II period. Curvilinear, circular, walls can be dated more securely in the EC II period at Markiani III, since the associated deposits revealed EC II pottery¹⁶⁶.

In the EC II period the curved walls were added at House F in Grotta II. This could be considered as the first example of the long free-standing apsidal house, although not of the usual type attested in other regions (Warner 1979, 138; Hood 1986, 38).

Various suggestions have been made about the origin of the curvilinear and especially of the long free-standing apsidal houses, which are usually related to the fortified settlements and thus furnish evidence about invasions in the Cyclades from other Aegean regions (Hood 1986, 39). Indeed, the majority of the curvilinear structures has been uncovered in the fortified settlements of the EC IIIA period. But none of the preserved structures in these settlements is of the long free-standing apsidal plan. On the contrary, this type is represented only in the unfortified settlement of Pyrgos III.

It seems more likely though, that the curvilinear shape of the houses within the fortified settlements is due to the limited available space for construction.

Moreover, the suggestion that the curvilinear plan was introduced in the Cycladic architecture in the ~~the~~ EC IIIA period is no longer valid ; (Doumas 1972, 170; Hood 1986, 43). On Mt. Kynthos, the three free-standing apsidal buildings represent three architectural phases. The pottery from the settlement indicates occupation from the EC II period and it is possible that at least the earlier of these apsidal buildings, ψ , could be dated in this period (Macgillivray 1980, 12, 16, 45). Although Plassart had noticed three occupational phases, their stratigraphical definition remains unclear (Plassart 1928, fig. 9). Building ψ differs in construction from buildings x and ϕ and shows affinities with similar apsidal buildings from ~~the~~ Mainland, dated in the EH II period¹⁶⁷. Building x is closer to the EC IIIA tradition, resembling similar structures of the EH III date in ~~the~~ Mainland¹⁶⁸. The apse becomes now more curved than pointed and the thick wall at the base of the apse becomes thinner.

The most advanced house types, the Building Complexes and the "Corridor House" are represented in the Cyclades by few examples only (Pl. 24).

Six Building Complexes could be recognised in the Early Cycladic settlements. The earliest possible example, dated in the EC I period, is at Samari on Melos, but its plan is ambiguous (Mackenzie 1897, 86; Atkinson et al. 1904, 244). The system of walls and cross-walls at the site could

represent a building complex with rooms arranged in a N-S axis, but it can also represent an enclosure wall with houses attached to it.

Clearer . evidence comes from the EC II period. The Building Complex at Markiani III, composed *of* three rooms or two rooms and a yard was first founded into the EC II period and continued to be used until the EC IIIA period, when it was abandoned.

Two Building Complexes came to light on Skarkos, divided by a road. Each one is composed by three or four rooms. Moreover, the building to the left of the road had an upper storey, used for different activities than the rooms on the ground floor.

In the succeeding EC IIIA period, House E at Ay. Irini II becomes a large Building Complex¹⁶⁹ composed *of* five or even more ground floor rooms and an upper storey.

At Phylakopi I-ii, House I-III seems to represent a Building Complex, dated in the EC IIIB period. It was formed by at least three rooms, while most probably other rooms existed in an upper floor.

These structures, with their large dimensions, though non monumental, the high level of construction and the differentiation in the function of the upper storey and ground floor indicate advanced technology and socioeconomic status. Only one possible example of the type known as Corridor House in the Mainland, has been attested, so far, in the Early Cycladic architecture. This is House D at Ay. Irini III on Keos, which is formed by two rooms in alignment and a long corridor along the E side of the

rooms¹⁷⁰. The location of this building under the remains of later architectural phases does not allow any suggestion about the existence of another corridor along the opposite side.

3. ARCHITECTURAL FEATURES.

From the study of the EC architecture it becomes apparent that less evidence ~~is~~ known for the first period of the Early Bronze Age (EC I). A few years ago, the existence of EC I settlements was attested only by pottery, without associated building remains (Doumas 1972, 151). This was explained by the suggestion that the dwellings of this stage were constructed of perishable material (Doumas *ib.*, 152). This assumption can be true ~~up~~ to a certain degree.

As perishable material is considered the timber, branches, straw, reeds, seaweeds and clay. The problem that arises is to what extent these materials were available in the Cyclades and how broadly they could be used for the construction of entire settlement houses.

As far as wood, suitable for construction, is concerned, there is not much evidence about its existence in the Cyclades. Evidence about tree moulds, leaves and roots come from the volcanic deposits on Thera (Doumas 1983, 18, fig. 4). The species that have been recognised¹⁷¹ though, are not suitable for building material. In addition, they testify that there has been a little change in the climatic conditions of the Aegean in the last 37.000 years, since the same kind of trees still exist not only in the Cyclades

but in Thera itself (Doumas 1983, 18).

Official statistics have shown that the Cyclades is the most bare area of Greece, as far as forests are concerned (Greece I, 114) (Pl. 25). Cypresses, olive trees, vines, palm trees, fig trees and citrus trees grow in the Cyclades.

Except the citrus trees, all the rest are suitable for construction, as the ancient sources testify (Orlandos 1955-56, 23, 25, 27, 28, 29).

The wild fig trees give durable timber but not straight and thus^{is} not suitable for horizontal beams, used in wall construction (Theophrastos, Phyt. Hist. V, 6,1).

The olive trees have been used as building material, in means of short beams, posts and for bonding clay walls, but again they can not produce large horizontal beams suitable for walls (Theophrastos, Phyt. Hist. V, 6,1).

The palm trees produce soft but robust timber. The wood from the vines had been used for posts and staircases, due to its hard and long lasting nature.

A kind of cypress, which belongs to the same family with the cedar, is one of the most suitable trees for timber. It does not decay easily and is not effected by the humidity. In addition, it produces long beams, suitable for wall and roof construction. The kind of cypress that grows in the Cyclades, and it is called fides by the locals, produces timber of short length and small cut, but very strong.

The olive trees, the fig trees and the vines would have been of great importance as food supplies for the

islanders. Thus, the cutting of these trees, which produced food and wine, does not seem very possible. Palm trees on the other hand are very few nowadays and they grow mainly in the islands to the South, e.g. Ios and Thera, where the climate is warmer. The small quantities of these trees would not have been sufficient for house construction, and although the timber they produced is strong, it is not strong enough to accept the roof pressure. Only the cypress could have been suitable for wall and roof construction, but the certain species which grows in the Cyclades is available only for roofing, because of its small cut and its short length.

So, the quantity and the quality of the Cycladic trees are neither enough nor suitable for construction of entire houses in a settlement. That does not exclude the possibility that small huts could have been built of such material. But these kind of dwellings could not be used broadly in settlements and for permanent habitation. This is due to the climatic conditions and the geomorphology of the Cyclades, which are poor in soil and suffer greatly from strong prevailing winds.

Moreover, wood, because of its scarcity in the Cyclades, would have been a very valuable material, especially necessary for building ships, considering that the economy of these communities was based on fishing and trade. Thus, it would have been much more essential for the Cycladic islander to use timber for his ship than for his house, since the islands poor in wood were very rich in stones.

Another perishable material that decays easily, without

leaving remains, especially when it is unbaked, is clay. Clay can be used in various ways for construction: pisé, wattle and daub, mudbrick or baked brick.

Baked bricks have not been attested in the Early Bronze Age Cycladic architecture, until now. If they have been used, they could easily be recognised because they do not dissolve, since they are baked. In addition, they are baked in ovens and such evidence is absent from the Cyclades. The oven found at Ay. Irini III was used for pottery and not for baking bricks.

Mudbrick, has not been attested either, except a few ambiguous cases in the Late Neolithic settlement of Saliagos (in Sq. K3) and Koukounaries (in Trench 1 of the Lower Plateau).

Mudbricks should be made of fine, clean earth, without any mixture of sand, pebbles or gravels (Vitruvius II, 3.1; Orlandos 1955-56, 69). On the other hand, straw or dry grass were necessary in the mixture, to make the mudbricks more durable. The colour of the mudbricks depends greatly on the colour of the clay source, and since usually the source is of local origin, it becomes quite difficult to recognise the sun dried bricks from the debris in the excavation area. But the main problem with the mudbrick is that dries slowly and dissolves extremely easily. According to the ancient sources, mudbrick should be made in the shadow, so that the sudden heat could not crack them (Vitruvius II, III, 2). It is also recommended that the bricks should be made during spring or autumn, so they can dry uniformly and the time they need to dry thoroughly is

not less than two years (Vitruvius II, 3.2). In this way, the construction of a house with stone built foundations¹⁷² and a mudbrick superstructure would have been a time consuming operation.

On the contrary, ~~the~~ wattle and daub was a very convenient technique that could save time and space. This is a construction of woven thin sticks or straws covered with clay. This method needs high foundations, so that the wattle and daub can not contact the floor level and ^{become} rotten (Vitruvius II, 8.20). But this construction can easily catch fire or disappear and thus it is not very safe, especially for a windy place, like the Cyclades. It worth mentioning that Vitruvius in reference to the wattle and daub construction writes: "as for the "wattle and daub" I could wish that it had never been invented" (Vitruvius II, 8.20).

The only possible use of clay in wall construction is the pisé. The term is used to indicate both, the building material and the technique. As building material pisé is mud, sometimes mixed with organic material (e.g. straw); as a technique it indicates a wall, constructed with pisé material cast and hardpacked in moulds, in situ. This technique was probably used in the Late Neolithic settlement of Saliagos¹⁷³. So, it is not impossible that at the beginning of the EC I period, following the Neolithic tradition, they built their house-walls in pisé technique. In this case, the EC I settlements would ^{have} had their houses made in pisé technique upon stone foundations. But even the stone foundations of such constructions are absent.

Perishable building materials for house construction could have been used for some buildings of temporary character, e.g. for huts used either for storage or for temporary habitation in the fields. The stone walls at Kephala, which is later in the sequence than Saliagos and closer to the EC I stage, as well as the few examples of stone built walls of the EC I period, most probably indicate that the EC I houses were made of stone walls, a material so abundant in the islands. Stones are not only a local available material, but it is also durable in the Cycladic climatic conditions, and requires less work. The kind of stones that the islanders used in the Early Bronze Age is mainly schist that splits easily in fine slabs. So, with less labour they could build neat and durable houses. The problem of the absence of EC I settlements could be explained by their possible location beneath later structures. This is the case at Phylakopi "Pre-City". The first excavators did not find any architectural remains associated with the earliest Pelos pottery. But recent excavations uncovered an EC I wall, uncontradicted evidence of an EC I settlement in the deepest strata of the site (Evans & Renfrew 1984, 63). In addition, the stone walls at Markiani I reinforce the suggestion that the EC I buildings had their walls made of stones, as their Final Neolithic predecessors and their EC II descendants. It is also quite possible that the stones of the early structures have been used as building material for the houses of the subsequent phases, especially in settlements with continuous occupation. Thus, not much architectural remains could have

been preserved.

One of the basic problems in architecture and the essential problem of the construction is the bridging of the space. The main objective of the construction is the definition of the space and subsequently the problem that arises is how to cover this space. Nothing of the EC roofs has been preserved and only assumptions are possible about the kind of roof certain house types had. The main factors that affect the roof type is the available material and the climatic conditions, while the roof seems to be a major factor that affects the house form, its position and relation to other structures within the settlement.

The EC rectilinear buildings most probably had flat roofs. This is the most simple type and it could be easily supported by beams resting vertically on the walls. Sometimes, when the width of the room is large, interior supports are necessary, but this is not the case for the EC houses. These are of small width (AVG 2,38 m) that could be bridged easily without interior supports. This is the reason that evidence about such supports have not been attested. Indeed, the vast majority of the EC houses (86,66%) are less than 3.50 m wide. Very few settlements have broad rooms which in most cases represent open spaces, e.g. Room 6 on Panormos II; Rooms 22 and 27 at Kastri. At Phylakopi I-ii, a stone cross wall, most probably had been used as interior support for the upper storey in Room I of House I-III. Only the settlement of Ay. Irini on Keos had houses with broad rooms, which could be explained by the location of Keos very close to the wooded Euboea.

For the construction of a flat roof the available local timber, reeds or straws, seaweed, mud and earth most probably have been used. It is quite possible, that for the EC roofs the same technique was followed, as in recent times. The technique has been attested in the oldest preserved remains in the Cyclades, dated in the 15th cent. A.D. and it can be followed from that period onwards. According to this, a strong beam is placed across the long axis of the house, then smaller beams laid along the width; above these a layer of densely packed seaweed; overlay a course of straws, usually not woven; the whole construction is covered by a layer of clay; and to make the roof waterproof another course of clay is placed on the top¹⁷⁴. Such kind of roof can not be easily preserved, especially since the long beams are used over and over until they rot. Evidence about such roofs come from recent excavations on Amorgos¹⁷⁵ and Paros¹⁷⁶.

Similar techniques and materials have been used in other areas of the Aegean and for different kinds of roofs, even in areas where timber was available (Mainland: Blegen 1928, 13, fig. 12; Mylonas 1959, 21; Sampson 1985, 323, pl. 72; Crete: Warren 1972, 256; Warren-Tzedakis 1974, 335; Vagnetti-Belli 1978, 145, note 82).

The timber that the Cycladic cypress produces is of short length and diameter, something that explains the small width of the EC houses. A room with a minimum width of 2.50 m could be easily roofed with the local beams¹⁷⁷ (Philippa-Apostolou 1982, 21). For the wide rooms large and strong beams would have been necessary to accept the roof

pressure. This kind of beams could not be found in the Cyclades and the islanders would ^{have} needed to import it from more wooded lands, probably on ^{the} Mainland¹⁷⁸.

According to the *Annuaire Statistique de la Grece*, Macedonia, Sterea Ellas, including Euboea, and Peloponnese have the largest forest lands in Greece, producing timber suitable for building and shipping material (Greece 1944, I, 114) (Pl. 25).

The flat roof is very convenient for rectilinear structures, since in this way they could expand in any possible direction. This applies to both, free-standing and grouped together houses and seems to be especially convenient in the latter case. A house with a flat roof could add ~~some~~ more rooms towards any direction or could have other houses attached to it. Any other kind of roof could limit the extension only in length.

Curvilinear houses could have flat roofs too, especially in cases where such buildings were attached or clustered together. It has been suggested though, that other types of roofs have been used in the Cyclades, especially for the curvilinear structures (Zapheirou 1969b, 406; Kondoleon 1972, 152). Four pyxides and a house model, found in Naxos¹⁷⁹, Amorgos¹⁸⁰ and Melos¹⁸¹, furnish evidence in favour of this suggestion (Fig. 71).

The two examples from Naxos¹⁸² (Fig. 71b) are similar, with their long sides slightly concave. They both suppose to represent elliptical structures with curved quadrilateral roofs, made of woven branches or straws, because of the pattern they bear (Kondoleon 1972, 152). The

problem with the pyxides from Naxos is that they have their long sides slightly concave. Thus, if they represent a house type, this is not a type known from the Cyclades or other regions of the Aegean, until now. It has been suggested that the concave walls of the pyxides indicate that they belong to the double pyxis form (Kondoleon 1972, 152). But the covered examples of this type have two lids, one for each compartment (e.g. Zapheirou 1988, 35, fig. 1). Moreover, both pyxides come from grave contexts and their elaborate form and decoration could be explained by their use as grave offerings. The labyrinthoid pattern on the Aplomata pyxis and the spirals on the National Museum example could not represent woven branches or straws to form the walls and the roof, as it has been suggested. On the contrary, such motifs are the most popular on special pots, like the frying pans.

The same spiral motif occurs on the two other pyxides, from Melos and Amorgos. It has been suggested for the pyxis from Melos (Fig. 71c), that ^{it} most probably represents a settlement with an enclosure wall (Rider 1965, 152). In this case, the spiral motif could depict the construction of the enclosure wall. But a wall of this character should be made of much more solid construction, for both safety and stability ~~reasons~~. In addition, the pillars which support the thatched roof of the entrance are quite thick. In this case, the solid construction of the porch would have been in contrast with the less stable enclosure wall.

The roof of the entrance is thatched and such roofs usually need a support, at least at the centre, where the

highest point is. But here the roof covers only the small space of the entrance and the massive triangular pillars that lean inwards, making the upper space narrower, could support the roof without a central beam. This indicates also, that the thatched roof was made of light material, laid in two courses, with an empty space between. In this case, the roofing material could have woven branches or bushes bonded together without clay, which could make the construction heavy. But the decoration of the roof is not the same as that on the walls of the pyxis. If the spirals on the walls of the pyxides depict their masonry, the same motif should be used for the roof of the Melos model.

Spirals occur on the walls and on the lid of the pyxis from Amorgos, too (Dummler, 1886, 18, Beil. 1:A4; Rider 1965, 152, fig. 4) (Fig. 71d). This is a round pyxis with a conical lid. Round pyxides have conical lids, from the first stage of the EC period (Doumas 1984, 63, fig. 12; Barber 1987, 86, fig. 58; Zapheirópoulou 1988, 32). Spirals is a very common motif, which does not necessarily indicate masonry of walls or roofs. So, in this case the lid of the pyxis could not indicate a conical roof, but it follows the same practice used for the pyxides of this type.

All the examples mentioned above represent curvilinear structures, for which a roof other than flat is not excluded. But the pyxides, grave offerings and thus elaborate forms of their everyday shapes, do not depict certain Cycladic architectural forms. Neither the elliptical, with slightly concave sides, nor the round

houses are common in the Early Bronze Age Cycladic architecture, specially in the periods before the EC IIIA, where the pyxides are dated.

The only example that certainly represents a rectangular house with a projecting vaulted roof is the model from Melos (Zapheirópoulou 1969b, 406) (Fig. 71a). This, most probably comes from a grave context and it has been suggested that it represented the dwelling of the dead (Zapheirópoulou ib., 408, note 11). This suggestion implies a burial practice, which has not been attested in the EC tombs (Doulas 1987, 15). On the other hand, it has been suggested that grave offerings could indicate the social status of the deceased (Doulas ib., 18).

Study of the "architecture populaire"¹⁸³ suggests that criterion for the choice of the construction and the form of a building is the value of its building materials. The kind of material that demands large effort and skill in working can lend prestige and thus they are used by priests and leaders (Rapoport 1976, 150). In the case of the house model from Melos, a rectangular house with a vaulted roof would have been something different from the other houses of the settlement with the flat roofs. In this way, it could indicate that the dead was of some social status in the settlement community.

It is worth mentioning that exactly this kind of projecting vaulted roof is used only for churches or chapels nowadays in the Cycladic islands.

The only island where this type of roof is used for houses, too, is Thera. It is used in the dug-out dwellings,

due to the individual geomorphology of the island (Kontaratos 1986), 19). This kind of roof was probably used for the structures at Ftellos and Christiana (Marthari 1982, 98). The vaulted roofs of the modern dwellings on Thera are made of small rough stones connected with solid volcanic material. A construction, made of branches and clay and supported with wooden beams, gives to the vault its shape and supports it (Kontaratos ib., 20). The wood remains, found in the layer with the stones, in the structure of Ftellos, indicate that a similar construction was used for the EC dwellings (Marthari ib., 98).

For the free-standing apsidal buildings a gabled roof has been suggested (Warner 1979, 141). Evidence about such roof comes only from House E-F on Pyrgos III (Tsountas 1898, 172). The clay fragments, triangular in section, indicate that the free-standing apsidal house of Pyrgos had a roof like that suggested for similar buildings in other regions (Warner ib., 141, ill. 4). But the house type is not typically Cycladic and thus its roof can not be considered as representative.

The masonry of the EC house-walls can be classified into four types.

The most common type is the two faced wall (Type 1). It is built in two faces, the outer and the inner, with a filler of smaller stones between them. Sometimes earth and potsherds have been used for the filling of the two faces (e.g. on Mt. Kynthos). The faces are built of different kind of stones, but schist is most broadly employed. During the Neolithic times, rough stones have been used in a

drywalling technique for the Saliagos walls, while local schist was employed in the drywalls of Kephala.

Rough stones were mostly used for the walls of the first stage of the EC architecture, as is suggested by the house wall of Phylakopi Pre-City (f308), Grotta I, Pyrgos I and Panormos I, dated in the EC I and Transitional ("Kampos") periods. In these cases the stones are bonded with clay.

From the EC II period onwards, flat or flattish stones are used, indicating a need for a more neat appearance in construction. The drywalling technique was not used any more and all the walls used clay as bonding material. The only settlement which seems to follow the old-fashioned drywalling construction is Markiani. This is explained by the re-use of the earlier structures.

The walls of this type are usually 40-60 cm thick. Some of these, dated from the EC II period onwards are more than 60 cm and some can reach even more than 1 m in thickness¹⁸⁴. In most of these cases the thick walls appear to support another floor above, indicating thus a population increase and an advanced technology (Marthari 1990, 97, 100). In some other instances, the thickness of the wall is relevant to the function and the position of the house in the settlement, as well as the settlement's location (e.g. Panormos 12 located in front of the gate; Mt. Kynthos' structures on a high peak exposed to prevailing winds).

There is no rule, as far as the foundations of these walls is concerned. They are either founded on the bedrock

or upon slightly thicker foundations.

A variation of the two faced wall, is the wall built in two rows, but without a fill between (Type 2). In this type slabs are mostly employed, which sometimes occupy the whole width of the wall, which usually is 40 cm to 60 cm. This type has been attested in House E-F on Pyrgos III and at Paroikia.

The third type is the double wall, which has been attested in two EC houses, so far: the curved walls of House Γ at Grotta II and the L-shaped house at Avdheli on Naxos. Although both walls are double, their construction varies considerably. At Grotta, there are two single-row stone walls, with a quite broad space within them, probably filled with earth. This kind of construction could be used for isolation of the room to the N, which in this case was ideal for storage.

At Avdheli, there are two stone walls, of regular construction, attached one to the other. The outer wall stands up on thicker foundations and it is built of regular flat stones, laid in horizontal courses, embedded in clay. The inner wall is of more irregular masonry and it is founded immediately on the bedrock. It has been suggested that the inner wall served as a bench, while the space left between the out wall and the bedrock was a draught (Doumas 1972, 155).

A fourth type could be recognized in walls formed by a single row of stones. Such walls have been attested at Ftellos and Christiana, lining the inner face of the rock cut structures. In no other settlement such walls have been

found. This is again/ due to the individual character of the Thera architecture, where the earth wallings of the structures dug in the volcanic stereo have to be lined with stone walls for stability (Kontaratos 1986, 19).

A difference in masonry can be attested between the house walls and the enclosure or fortification walls. In contrast to the vast majority of the house walls, which are built with stones bonded with clay, the enclosure and fortification walls are always built in dry masonry. The enclosure wall at Markiani, the fortification walls of Panormos and Kastri, even the perimeter wall of Saliagos have no packing between the stones.

At Panormos, the houses have their walls built with stones mortared with clay, while at Kastri the house walls follow the same drywalling technique applied for the defensive system.

In general, a *tendency* towards a more solid and neat construction for the fortification walls can be attested. At Panormos, the defensive wall is built with large worked stones, which are placed in regular vertical courses. In this way the cohesion is greater, making the wall stable and the appearance neat.

A difference between the house walls and the defensive walls is in the foundations. The fortifications are built directly upon the bedrock, while the houses are founded upon a course of stones and earth, used for levelling the uneven surface. This can be explained by the need for stability of the fortifications and for levelled surfaces in the habitation areas.

It has been generally suggested, that the fortified settlements appear for the first time in the Cyclades in the EC IIIA period (Doumas 1972, 170; 1988a, 27; Barber & Macgillivray 1984, 297; Macgillivray 1984, 70). They are related to the appearance of new elements, such as the apsidal houses, the hearths, the "Anatolian" pottery and the metallurgy, as well as with the disappearance of old commodities, such as the marble vases and the figurines. Thus, the EC IIIA period is considered as a time of disturbance and invasions in the Aegean area (Hood 1986, 36; Doumas 1988a, 24). There are different theories concerning the origins of the intruders. Some scholars suggest a movement from the North (Hood ib., 33, 62; Doumas 1988a, 28,)¹⁸⁵, while some others consider Anatolia to be the invaders' homeland (Barber 1984, 88; Macgillivray 1984, 74; Hood ib., 34, 62).

The EC IIIA fortifications present quite a lot of problems as far as their first appearance and origin is concerned. It has been suggested that the fortified settlements were established in new locations during the EC IIIA period and had a short life (Barber & Macgillivray 1984, 297, Macgillivray 1984, 70), referring mainly to Panormos and Kastri.

As far as Panormos is concerned, the EC II house remains uncovered beneath the corridor between the EC IIIA Rooms 12, 16 and 18, most probably indicate that the site was inhabited before. Otherwise, the existence of a lonely house on the barren and high hill would be problematic. Lonely houses are usually interpreted as farmhouses and a

located close to the fields or exploitation areas. But on the hill of Panormos there is no field to cultivate or mine to exploit.

Kastri was certainly founded in the EC IIIA period for the first time on the high hill. But its inhabitants, most probably have been the same or their descendants with those who occupied the EC II settlement of Chalandriani, on a lower ground across the gorge (Tsountas 1899, 78). In this case, the new location of the fortified citadel would indicate a need for safety and consequently the uncertainty of the times.

Mt. Kynthos, though unfortified, was long considered as a representative of this group (Doumas 1972, 162). But the site was occupied from the EC II period, as pottery Group A indicates (Macgillivray 1980, 45).

All the evidence mentioned above indicate that the EC IIIA fortified settlements have not been founded on virgin soil. On the contrary, habitation existed either at the same site for some years (e.g. Panormos, Markiani), or in close proximity (Kastri-Chalandriani).

Moreover, the practice of an enclosure wall for defensive reasons reinforced with one or more bastions does not appear to be absolutely new in the EC IIIA period.

Going back to the Late Neolithic period, Saliagos was enclosed by a wall with a circular bastion (Evans & Riefwieser 1968, fig. 11), which invites comparison with those of Kastri and Panormos, but in much smaller scale.

The settlements of Samari on Melos, Panagia on Pholegandros and Zouparia on Despotiko, dated in the EC I

period, unfortunately still unexcavated, are reported to be enclosed by a wall (Mackenzie 1897, 86; Tsountas 1898, 164; Atkinson et al. 1904, 86, 244 note 3; Zapheiropoulos 1960, 246; Renfrew & Wagstaff 1982, 308).

Markiani on Amorgos has an enclosure wall with a bastion from its establishment in the EC I period until its abandonment in the EC IIIA. Its defensive character is not yet certain, since the publication is in progress. But it becomes apparent that the enclosure wall, either in a simple form or with a bastion has been used in the Cyclades from the Late Neolithic period and was not introduced suddenly in the EC IIIA phase.

From the twenty five settlements dated in the EC IIIA period only seven (28%) have been fortified. From the remaining eighteen, seven continued to be inhabited from the preceding periods, while eleven new settlements had been established¹⁸⁶. There seems to be no rule as far as the location of these new settlements is concerned; most of them are in coastal areas on low hills or flat lands¹⁸⁷ and few of them are located inland on quite high hills but with the sea close at hand¹⁸⁸. Unfortunately, most of these settlements remain unexcavated, so they can not reveal much of their history.

Various theories have been arisen about the origins of the people who built the fortifications. The first suggestion made by Doulas was that the Cycladic people built them in an attempt to defend themselves against the Cretan threat (Doulas 1972, 170). Macgillivray instead, proposed that this was a result of newcomers who either

settled in the Cycladic islands or travelled through them on their way to the Mainland (Macgillivray 1984, 75). This idea was partly adopted later by Doumas who added some more suggestions to this (Doumas 1988a, 26). According to his new theory, refugees from the destroyed settlements of the NE Aegean travelled through the North Sporades and Euboea on their way to familiar places in the Greek Mainland, such as Manika and Aigina. In this places they built their new settlements in the same manner with those they left behind. After establishing themselves in the South they "tried to expand their authority into the Cyclades where they hastily settled on some remote coastal hill-tops which they fortified in their own way" (Doumas 1988a, 28). The short life of these strongholds is explained by the violent reaction of the Cycladic islanders (Doumas 1988a, 28).

A lot of questions arise according to this theory. If the newcomers settled first in Mainland, then the Cycladic islanders knew about their existence in the region. Why then they ^{did} let the refugee-pirates come in their lands? What is suggested by this, is that the people of the Cyclades accepted the intruders peacefully at the beginning, since there ^{are} no signs of conflicts and confusion in the Cyclades before the end of the EC IIIA period. They not only accepted them in their islands, but they gave them land to build their elaborate fortified citadels on high, naturally defensive and inaccessible positions. But it would be easy for the Cycladic islanders to realise that once the intruders were established in these positions it would be extremely difficult to face

them, who would be very strong opponents in their strongholds and because of the power of their metal weapons. Reasonably enough, the islanders would have tried to prevent them from building their fortifications, which certainly needed a lot of time for their construction. But such evidence is missing.

On the contrary, the fortification system and the town planning at Kastri indicate that these operations lasted for quite a lot of time and were not hasty. Moreover, the finds from the acropolis and especially the silver diadem and the moulds for metal objects indicate the existence of a stratified community, which had all the time to deal with productive activities, instead of fighting.

After the fortifications were established, it is needless to mention the advantaged position of the intruders inside them and in a higher position, and the great disadvantaged position of the Cycladic people, who first had to climb the high hills and then face the entrenched newcomers.

The evidence from the settlements seems to point towards another direction. The fact that the EC IIIA period is characterised by turmoil in the Cyclades and in the Aegean area, is indubitable. During that time the proto-urban centres of the NE Aegean, namely Poliochni and Thermi, were destroyed and abandoned. The people of these centres certainly had long trade and exchange relations with the islanders (Lamb 1936, 210; Blegen 1950, 41; Brea 1964, 703; Doumas 1977, 84). It is reasonable thus, that the inhabitants of this area sought shelter after their destruction in the Cyclades. The Cycladic islands were

familiar to them and the insular mentality and way of life very close to theirs. So, they settled in the Cyclades and they lived together with the natives in the same settlements, since the "Kastri" group of pottery bears both Cycladic and new elements (Bossert 1967, 67; Barber 1984, 88; Macgillivray 1984, 70). It ^{is} worth mentioning that the asteroid decoration on the silver diadem from Kastri is extremely closely related to the decoration on the EC II frying pans. These evidence strongly indicates *amalgamation* of the two insular civilizations; that of the NE Aegean which had the technical skills and of the Cyclades with the rich repertoire.

The same can be attested from the architecture of the period. There is no change in construction and house types. The stone built walls continue the tradition of the previous periods and so do the houses, which in their vast majority remain rectilinear in traditional forms. In addition, the locals did not adopted the fortified settlement as their way of living, and they continued to build their new settlements unfortified and with the sea in close proximity. The fortification and the limited space within it did not *Suit* the Cycladic islander. It most probably caused him distress, the greek word for which στενωπία < στενός+ώπος, means the narrow space. But the native inhabitants were used to living in spacious locations with views towards the open sea. Because of the uncertainty in the Aegean during the end of the EC IIIA period, they moved *to* higher places to protect themselves from the attackers. The NE islanders had faced the force of these

people which pushed them out of their homelands. So, as soon as they arrived in the Cyclades they helped their inhabitants to protect themselves. Maybe a first group of the refugees arrived on the NE coast of Syros, which is one of the northernmost islands of the Cyclades and thus closer to the NE Aegean islands. There they were infiltrated with the inhabitants of Chalandriani and helped them to build their fortifications at Kastri.

A similar story can be followed in the unfortified settlement of Phylakopi. The settlement was temporary^{ly} abandoned in the EC IIIA period. Its occupants seem to ^{have} moved to Kapari, located on higher ground, not so close to the sea, but very close to their settlement and with a view towards it. Both settlements remained unfortified in this stage and when the peril ceased to exist the inhabitants returned to their original settlement at Phylakopi I-ii.

The fortified settlements, except Kastri, appear to be arranged in an open circle in the central Aegean area: from the South coast of Paros (Avyssos) and the South coast of Naxos (Kastraki, Spedos, Panormos) to the West coast of Keros (Daskalio)¹⁸⁹. This distribution of the fortified settlements is contradictory to the idea of the refugee-pirates who tried to dominate the Cyclades.

Because of their location, concentrated only in the Central Cyclades, the supervision of the rest of the islands would have been very difficult. On the other hand, these settlements are proportionate to ^{the size of} each island and their location is indicative of the direction where the peril was coming from.

As far as the short life and the abandonment of these settlements is concerned, it has been suggested that it was due to the reaction of the Cycladic people, who finally expelled the intruders (Doumas 1988a, 28). It has been already pointed out the difficult and disadvantaged position the locals would have been in operations like that. In addition, the evidence from Panormos

contradicts the idea of a sudden destruction. The rooms of the settlement were found empty, except ^{for a} few sherds *which cannot make up* a whole pot. The only few vases *were uncovered* in the corridor, to the left of the gate as well as out of the gate, in a layer of heavy fire (Doumas 1964, 412). These suggest an effort of the inhabitants to save their belongings, which thus imply that they had some time to clear their houses. Moreover, it is indicative of the identity of the inhabitants who tried to save not ^{only} *their* treasures, but ^{also} *their* every day cooking pots.

B. THE CYCLADES AND THE AEGEAN.

From the study of the EC settlements it becomes apparent that they started to be organized in villages from the EC I period and gradually became small trading towns in the EC II period, to achieve a highest level of urbanization in the EC IIIA and EC IIIB periods.

A similar pattern has been followed in the Mainland, as the study of the Early Helladic architecture and urbanization has shown, (Konsola 1984). The main interest in this study is concentrated in the settlements of the EH II (EC IIIA) and EH III (EC IIIB) periods, from which the

most substantial remains are preserved.

The settlements of the EH II period appear to be in a formative stage of urbanization. New elements made their appearance in this stage, such as central authority, craft specialization and interregional trade. But the lack of a certain urbanization prototype indicate that the procedure was not completed yet.

Not all the settlements of the EH II period had reached the same level of urbanization. The Mainland settlements which represent the highest urbanization level¹⁹⁰ had advanced socio-economic life with a central authority and division of labour. It has been suggested for the settlements of this group that they represent the centres of agricultural production and its distribution, although their possible satellite settlements have not been studied yet (Konsola 1984, 166). All these settlements are dated in the EH II period, which according to the pottery they produced corresponds to EC IIIA.

In the Cyclades, at this stage, settlement centres could be considered Ay. Irini III and Kastri, but their character is absolutely different. This differentiation between the Mainland centres and those of the Cyclades, derives from the morphology of the areas where they have been developed. The Mainland settlements with the extensive plains for cultivation, certainly needed centres for the collection and distribution of the harvest. This consequently leads to the presence of a central authority, concentrated in the hands of a single person, who would decided about the productive activities.

In strong contrast, the Cyclades had almost no land for cultivation and thus, no massive production which would make necessary the existence of a powerful central authority. On the contrary, the maritime activities of the Cycladic settlements needed a kind of collective leadership.

The different socio-economic pattern of these two subsystems could also explain the absence of such centres in Mainland, in the preceding period. High urbanization settlements have not been attested in the EH III period, which shows a degree of decline and recess (Konsola 1984, 171). The reason for this phenomenon in ^{the} Mainland is the incursion of new people and the agitation they brought. But the contemporary EC IIIB settlements reveal a different story. It is in this period that the settlement of Phylakopi I-ii was developed and became a city. Not only it did not stop its productive and trade activities, but also it is now that controls other areas of production, as for example the obsidian quarries at Komia and possibly the potter's workshop at Kapari. Moreover, the evidence from the EC IIIB settlements indicate that a kind of centralization occurred and towns that existed before became populous centres. So, the kind of central authority that existed in the Cycladic islands was never affected by the disturbance of the period, because the sea was something that could not be controlled or possessed easily. In addition, the small area each Cycladic island occupies¹⁹¹, explain the small size of the settlements and consequently the small size of their buildings.

As far as Crete is concerned, the main source for the study of the EBA architecture are the excavators' articles and publications, since there is no collective study.

As is the case for the Cyclades and Mainland, in Crete, too, EM I architectural remains are not sufficient to provide information about settlement patterns and organization. In the EM II period, the settlements appear to be well organized, as the best preserved settlements at Myrtos and Vasiliki indicate. In these two settlements, large building complexes have been uncovered, for which has been suggested to represent the harbingers of the LM palaces (Hutchinson 1962, 144, 162; Branigan 1970, 44; Warren 1972, 261). The same was proposed by Evans for the EM IIa remains at Knossos (Evans 1972, 127). These suggestions imply the existence of chiefdoms in the mansions and consequently strong social differentiation in the EM IIa-b period. Unfortunately, the evidence from the settlements have not been studied in relation to other aspects of the EM civilization, such as cemeteries, grave offerings, metallurgy etc.. A study like this could offer a great deal in understanding the socio-economic structure of these communities.

From a brief analysis of the grave offerings of the EM period though, it becomes apparent that there was social differentiation¹⁹², developed economy and trade transactions with the Cyclades, Anatolia and Egypt (Alexiou 1964, 18; Branigan 1970; 1974, 100; Warren 1984, 60).

The suggestion about the forerunners of the Minoan palaces has been argued recently, and the general idea

about the settlement organization in the EM period is that they represent relatively small communities without complicated social organization (Zois 1979b, 211; Konsola 1984, 172). This is probably due to the insular character of Crete. The EM I period exhibits very close affinities with the Cyclades. It is almost certain that Cycladic islanders were the colonists of sites like Ay. Photia and Pyrgos (Davaras, MAN; Warren 1984, 60). The next generations adopted the insular way of life, which they combined with other productive activities, because of the land for cultivation they had in their island. They thus created a new civilization, which shared features from both, the maritime and agricultural societies.

Much more elaborate settlement patterns were developed in the area of the NE Aegean, Poliochni, Troy and Thermi were organized settlements from the beginning of the 3rd millen. B.C.. The town planning public constructions, division of labour and developed metallurgy are evidence about the high level the settlements have reached in the very first stage of the Early Bronze Age. Poliochni on Lemnos is considered to be the first City in the Aegean basin and possibly in the whole Europe (Doulas 1990, 3, note 5). The rest settlements appear to be developed in a similar way, following Poliochni, as far as their patterns and finds is concerned.

The development of Poliochni in a proto-urban centre should be considered as natural, because of its predominant location in front of the gate to Ellispontos, where the routes from North, South and West meet. The rest of the NE

Aegean settlements were located in sites which could also control the navigation routes from North to South and vice versa. In this way the character of these settlements resembles that of the Cyclades and differs from that of Mainland. But the much more developed patterns they present in relation to the Cyclades is due to the geomorphology of their lands. They are bigger than the Cyclades and thus more area was available for construction¹⁹³.

Timber, metals and minerals existed in the islands and in the neighbouring lands (Muhly 1985, 283; Doumas 1988b, 112). In this way, plenty of available building material and metal tools exist, which consequently led to more elaborate constructions.

The social life and structure of the NE Aegean communities appear to share common features with that of the Cyclades. In the architecture of the NE Aegean islands there is no isolated structure, distinguished among the rest of the settlement. Moreover, there is no structure of monumental dimensions that could easily indicate a building of some special function, such as the "Megara" ^{the} ~~On~~ Mainland ^{at} and Troy. The long building, with the three rows of benches next to the entrance at Poliochni II, most probably served as a meeting place (Brea 1964, 182). The number of benches and their length indicate that a lot of people participated in these meetings, suggestive thus, of a collective leadership. Undoubtedly, the tradesmen and the seamen held an important role in these communities, whose ~~the~~ main living source was the sea. Thus, the settlement patterns that had been developed in Mainland, Troy and less in Crete, and

those developed in the Aegean islands are due to the differentiation of the sources their economy was based on. Extensive cultivated lands assist the pattern of a centralized authority and consequently the construction of a place to host this authority, a palace or a megaro. This had to be of monumental dimensions, since it had to be predominant among the rest buildings, to indicate power. The dwellings of the settlement were simple houses in relation to this and the town planning closely depended on this.

The monumental character of the building is most necessary and affective in mountainous regions, such as the Greek Mainland, where the mountain determines the scale. Nothing like this occurs in the islands. The settlements, built next to the sea, have nothing high to be compared with. Everything is flat and open, with no natural obstacles. Thus, the monumental scale is completely unnecessary. The sea does not belong to a person, but to all those people who exploit it in various ways. Consequently, the power can not be centralized in the hands of a single person. On the contrary, everyone who had interest in the sea should have the right to participate in meetings, concerning decisions about maritime activities. It has already been suggested that the Lex Rhodia de Jastu was one of the rules of the prehistoric maritime Aegean communities¹⁹⁴ (Doumas 1988c, 78; 1990, 7).

The similarities between the insular settlements and the differences between them and those of the Mainland settlements can be attested in the house types, as well.

The most predominant type in the Early Bronze Age architecture is the rectilinear house in various forms. It has been attested in all the Aegean regions, where different factors determine its form. For example, at Poliochni, Thermi and Troy, the rectilinear houses are long and narrow, because plenty of space for construction existed, as well as a lot of wood to roof these houses¹⁹⁵. In their simplest type they are formed by a single room, but usually there are two rooms with a vertical or perpendicular arrangement of their doorways. The houses of the NE Aegean and Mainland have their main entrances in one of their short sides and the rooms are aligned along. In Mainland though, the houses which are formed by two rooms in a row have the small room in front and the large room in the rear. On the contrary, in the NE Aegean long two-roomed houses, the large room is in front and the small in the back (e.g. Houses A, D at Zygouries; Houses I, L at Eutresis; Houses at Thermi, Troy, Poliochni Blue).

The same alignment is followed in the case of houses with three or even more rooms across the long axis (e.g. Raphina Γ, Δ; Tsoungiza A; Aigina Haus der Pithoi & Farberhaus).

This type has not been attested in the Cyclades, where the two-roomed houses have their rooms of similar dimensions. Only House D at Ay. Irini III is long with a small room in front and the largest in the rear, following the Mainland examples. But this house, with the corridor along, at least, its E side represents another house type, the "Corridor House". The best examples of the "Corridor

Houses" have been attested in Lerna (Building BG and House of the Tiles), Aigina (Haus am Felsrang & Weisses Haus), Akovitika (Megaron A & B) and Thebes ("Fortified Building") (Fig. 72). This type has not been attested outside the Greek Mainland and thus it represents a local phenomenon. The location of Keos close to the Mainland justifies the existence of a Mainland house type in the island. But House D at Ay. Irini, in its preserved condition, appears as a simple version of this type, since its corridor does not have the interior arrangements, which are known from houses on Mainland (Konsola 1986, 9; Hagg & Konsola 1986, Fig. 4).

In the second and third phases of the Early Bronze Age, the rectilinear rooms are grouped together to form Building Complexes in Mainland (e.g. Houses H, S, W, L at Zygyouries; Houses 1, 10, 18 in sector III at Manika; Houses K, L at Lithares; House H at Ay. Kosmas), Crete (Myrtos, Vasiliki) and NE Aegean (Poliochni Verde; Isolato XXV, XXiv, XVIII, XVII etc.; Troy IV Sq. E6; Troy V Sq. E6 V1 & V2). The Building Complexes, in the areas mentioned above, have their rooms in a parallel arrangement and across the long axis. This kind of houses is present at four settlements in the Cyclades, from the EC II period onwards, namely at Markiani and Skarkos, dated in EC II and Ay. Irini and Phylakopi, of EC IIIA and EC III~~B~~ date, respectively. The Complexes on Skarkos, Ay. Irini III and Phylakopi I-ii most probably had two storeys and this is indicative of a population increase in the EC II period. The same can be attested from the Building Complexes in the other regions.

In contrast to the rectilinear houses, which are the

favourite type of the Early Bronze Age architecture, a few curvilinear houses have been attested.

The most predominant type among them is the free-standing apsidal house. Only few examples have been found in the Cyclades, classified into two types.

The single-roomed apsidal (Type I) is represented only by the three buildings ϕ , χ , ψ , of Mt. Kynthos II. Nowhere else in the Cyclades similar structures have been found. In fact the pointed shape of the earliest building ψ and its thick side walls recalls only one example from Mainland. This is structure J at Ay. Kosmas (Mylonas 1959, 41, fig. 20, draw. 12) (Fig. 73 a-b). These two structures are the only known in the Aegean, until now.

The other two apsidal buildings, ϕ and χ , on Mt. Kynthos II find their closest parallel in house type C from Orchomenos (Bulle 1907, 35, Abb. 9) (Fig. 73 a,c). Especially building χ is more closely connected with this type because of the thickness of the wall at the base of the apse. The latest building ϕ has its walls equally thick.

The second type of free-standing apsidal house is equally rare in the Cycladic architecture. It is composed of two rooms, a large rectangular and a small apsidal, with a cross-wall between them (Type 2). This kind of apsidal house is usually connected with the megaron type and the characteristics that classify it as such are the axial arrangement of the rooms and the free-standing position (Warner 1979, 138, note 13, 147).

The earliest apsidal buildings of the Early Bronze Age

found in the NE Aegean have been attested at Poliochni I, but they are represented only by scattered walls which can not reveal an actual plan (Brea 1964, 53, 86, 538) (Fig. 74). The best preserved apsidal house, House 103, was uncovered in the earliest level of Troy IA (Blegen et al. 1950, 82) (Fig. 74b). In no other settlement of the NE Aegean free-standing megaroid apsidal buildings have been attested, during the Early Bronze Age¹⁹⁶.

In Mainland Greece, the earliest free-standing apsidal buildings have been found in Thessaly. At Rachmani, House P, dated at the beginning of the Early Bronze Age (3rd millen. B.C.) has the cross-wall between the two rooms near the NE end (Fig. 74c). Thus the apsidal room becomes larger than the rectangular (Wace & Thompson 1912, 37). In this way it differs from the rest known examples of this type, with the small apsidal room.

The free-standing megaroid apsidal house is considered as a hallmark of the third stage of the Early Bronze Age. Indeed, these houses are predominant in Lerna IV, dated in the EH III period (Caskey 1966a, 144) (Fig. 66d).

It has been suggested though, that these buildings existed in the Mainland from the EH II period. At least one of the two apsidal buildings at Thebes is considered to be of EH II date, representing thus the earliest example of this type in the region (Dimakopoulou 1975, 192) (Fig. 42a). Most recently, a date in the advanced stage of the EH II period was proposed, for both the apsidal buildings in Thebes (Konsola 1981, 149). This advanced stage of the EH II period is characterized by the Lefkandi I group of

pottery and thus is contemporary with the EC IIIA period in the Cyclades (Konsola 1981, 146; 1984, 60).

Two more apsidal buildings dated in the EH II period have been uncovered in Manika at Euboea (Sampson 1985, 49, 90, 325, sx. 12,13) (Fig. 21). Another early apsidal building is reported from Mourteri, near Kyme at Euboea (Sampson 1979, 247, fig. 3). In their preserved stage, the Euboean apsidal buildings do not appear to have a cross-wall at the base of their apse and thus they do not represent the type under discussion.

The apsidal house from the region of Plato's Academy, near Athens, could represent an early example. But the associated pottery is either EH II or EH III and thus its date is ambiguous (Stavropoulos 1956, 53; Vanderpool 1957, 282).

What appears to be certain though is that the type is represented best in the settlements which produced Lefkandi I pottery (Hood 1986, 38). The earliest example of this group is House A1 at Lerna IVA, which is the forerunner of a long series of apsidal houses in all layers of Lerna IV (Caskey 1966a, 144).

Building R from Asine is also dated in this stage, but it represents a variation of this type, because of its interior arrangement with three cross-walls (Fig. 50a).

The only free-standing apsidal buildings at Pyrgos on Paros resemble, in their ground plan the earliest apsidal Houses A1 and B1 of Lerna IV. Of course House E-F of Pyrgos and probably the other one at the same site are of smaller dimensions than those of Lerna¹⁹⁷. This is due to the

area available for construction , which in the case of Pyrgos is limited on the narrow promontory. Most closely the House from Pyrgos recalls House B1 of Lerna IVB, mainly because of its construction. House A1, with its wooden framework without stone foundations recalls apsidal constructions of the Northern Greece and the South Balkans (e.g. the "Burnt House" at Sitagroi Va; Renfrew 1972, 119; Hood 1986, 39). This kind of construction reflect a semi-nomadic life, which has been suggested for the people of House A1 (Caskey 1966a, 146; Hood ib., 39). House B1, on the other hand, has stone-built walls, a stone platform, a large hearth and a bench, which reveal a permanent character. House E-F although lacks the devices it is stone built, too.

The long free-standing apsidal "megara" survived until the end of Lerna IV, which overlaps with the EC IIIB period in the Cyclades. But in the Cyclades the type had a very short life. In no settlement of the EC IIIB period the type has been attested. In this way they could be considered as a special feature of the EC IIIA period.

Single-roomed or long free-standing apsidal houses have not been attested in the Early Minoan architecture, and it seems that the fashion never reached Crete.

From the study of the architectural forms of the Early Bronze Age in the Aegean, a parallel history can be followed for the Mainland, NE Aegean and the Cyclades. Similar, though not identical, house types occur on contemporary settlements in these regions. The Cyclades follow the house types of these regions, although in

smaller scale, since the trade connections were tight with all these regions. Local peculiarities are due to the land morphology, size and nature of the regions, as well as to the available building materials. Thus, the mountainous, large areas inland are in favour of monumental architecture, in strong contrast to the coastal insular landscape, where the human-size scale fits.

Various building materials, suitable for large constructions are plenty in the Mainland and NE Aegean. Wood, earth and stones can be used generously, and they can be combined in different constructions. Thus, the mudbrick superstructures upon stone foundations have been attested in almost all settlements, outside ^{the} Cyclades, through the entire early Bronze Age.

Houses with wooden frames have been uncovered in Mainland settlements of the EH II and EH III periods (Manika: Sampson 1985, 323; Thebes: Konsola 1981, 103; Lerna IVA: Caskey 1966a, 146).

Stones are mainly used for the foundations, as well as for the superstructures of the Mainland houses. The stone walls are always bonded with clay, except the drywalls of House R at Asine and the houses at Orchomenos (Frodin & Persson 1938, 91; Bulle 1907, 20).

The stone walls are built in different masonry types. The most common type is built of rough stones laid in two rows, with a filling between them. This type is similar to the usual Cycladic house wall. But in the Cyclades, the stones are either worked or most often slabs, which can be laid in horizontal courses easily, to give a neat

appearance.

Another difference between the Cycladic and the Mainland house walls of this type is that in Mainland the lower courses are built in "herringbone" or "feather arrangement". This kind of masonry is also present in the NE Aegean architecture from the earliest level of Troy I (Treuil 1983, 262; Blegen et al. 1950, 47, figs 9, 141). The "herringbone" masonry is not attested anywhere in the Cycladic architecture, nor in Crete. This is due to static reasons. It is not without significance, that the stones, used for the walls with herringbone masonry, are rough and they support light superstructures. By placing the stones in a diagonal arrangement, a better cohesion was achieved, since the edges of the rough stones were wedged between the other stones. That the reason was not a beautiful appearance of the wall is testified by the coat these walls had, which covered the "herringbone" masonry.

The EC architecture did not follow that practice because the building material they used for their construction was different. The schist stones, which were broadly used, have the advantage to split easily in slabs, revealing regular faces. In addition, the Cycladic houses were stone built in their entire height. Thus, the pressure of the stone superstructure was very heavy and a most solid construction was achieved, by regular stones or slabs placed in horizontal courses.

That the Cycladic islanders were familiar with the herringbone pattern is attested by their pottery designs. This motif is one of the most favourite of the EC pottery,

from the EC I period (Barber & Macgillivray 1980, 149, ill. 3). Moreover, this pattern would have been an everyday picture for them since fishes were one of their main dishes. It seems though that they did not adopt it in their architecture because it was not suitable for their land and the material they used.

The same kind of "herringbone" masonry used for the house foundations in the Early Bronze Age, was used for the foundations of the fortification walls in the NE Aegean and Mainland. Lerna was fortified with mudbrick superstructure upon "herringbone" stone foundations in the late EH II stage, which corresponds with Lefkandi I group (Lerna IIIC). The same kind of foundation is attested in the fortification walls of Troy I and Skala Sotiros on Thasos.

Poliochni I is considered to be the earliest known fortified settlement of the Aegean Early Bronze Age, preceding the foundation of Troy I. The fortification of Troy I with its rectangular towers on either sides of the gate, strongly recalls the early fortifications of Poliochni I. This tradition was followed for a long time in both settlements and was later adopted by Thermi. Thermi V was fortified for the first time, with a wall similar to that of Troy II, but of less impressive character.

The defensive walls of the NE Aegean, except that of Skala Sotiros, closely resemble one another in the rectilinear shape of their towers next to the gate. This is in strong contrast to the circular projecting towers of Mainland and Cyclades, even to that of Skala Sotiros on Thasos, which belongs to the same cultural area and shows

very close affinities, especially with Troy (Koukouli-Chrysanthaki 1988, 391; 1990, 421).

As far as the appearance of the fortified settlements in the Mainland is concerned, it has been suggested that these were built by the refugees of the NE Aegean, as it was the case for the Cyclades (Doulas 1988a, 28). This is explained by the absence of such elaborate fortifications in the EH I and II periods and by their resemblance with those of the NE Aegean.

The earliest fortifications that have been attested in Mainland are in Sesklo and Dimini in Thessaly. They are formed by three and six¹⁹⁸ successive walls respectively, with gates placed in axial arrangement and corridors between the walls (Tsountas 1908, 31, 75).

Sesklo is dated in the Middle Neolithic period, preceding Saliagos, while Dimini is dated in the Late Neolithic succeeding Saliagos and preceding Kephala (Theocharis 1981, 168). Thus, ~~there~~ appears to be no continuation in the fortified settlements on Mainland, which reappear in Lerna IIIC.

The settlement of Lerna III is dated in the EH II period, but the subperiods IIIC and D show affinities with the Lefkandi I group, which corresponds with EC IIIA (Konsola 1984, 85; 1986, 9). Thus, the fortifications of Lerna III C-D, are contemporary with that of Kastri and Panormos. In addition, the fortifications of Lerna III are similar, but much more simple than those of Kastri. They lack the outwork of Kastri, they have their projecting circular towers close together and the arrangement of the

gates not in strategic positions. In this way, the defensive system of Lerna III is not as elaborate and well-planned, as that at Kastri.

Panormos has an even more simple fortification. The only feature that recalls the fortifications at Kastri and Lerna III are the two circular bastions, projecting next to the gate. On Panormos, the fortification wall plays a vital role in the architecture of the settlement, since it forms the walls of the houses. In the citadel of Kastri only some of the houses are attached to the main wall, while at Lerna they are not connected with this in any means. Lerna ceased to be fortified in the next stage, but remained occupied, while at Kastri and Panormos, no habitation is attested immediately after the EC IIIA period¹⁹⁹.

The tradition of the elaborate fortification though, appeared in the settlement of Aigina V. This settlement is dated in the EH III period, which corresponds to the EC IIIB in the Cyclades (Walter & Felten 1981, 29; Konsola 1984, 76, 104).

The fortification of Aigina V strongly recalls that of Kastri in the arrangement of the towers, their circular shape with the rooms inside, as well as in the location of the gates, not in a parallel but in a vertical arrangement of strategic importance. In this way, the fortification wall of Kastri should not be considered as an "exact replica" of Aigina's wall (Doumas 1988a, 28). On the contrary, Aigina's wall should be considered as a survival of the fortification at Kastri.

From the analysis of the fortifications derives ^{the conclusion} that the

first fortified settlements are attested in the Neolithic Thessaly. It has been suggested that these fortifications were not merely for defence, but they also served as indication of power (Theocharis 1981, 142, notes 86, 87).

At the beginning of the Early Bronze Age the settlements of the NE Aegean become fortified, and they remain like this until their abandonment (except Troy) while in Thessaly such evidence, from this period, are absent. In fact, evidence about fortifications are absent from Mainland Greece, until the advanced stage of the EH II period. Eng

On the other hand, the enclosure walls with circular bastions or towers, either for defence or for definition of the settlement area, seem to be present in some settlements of the Cyclades ^o from the Late Neolithic period.

C. THE CYCLADIC SETTLEMENTS AND THEIR HISTORICAL FRAMEWORK.

During the first stages of the human life, in the Palaeolithic period, solid structures were not necessary. The people of that period lived a nomadic life, with their economy depending merely on hunting, fishing and fruit collecting. Since they had to move, from time to time, in order to provide themselves food, they did not need stable, permanent houses. Eng

With the Mesolithic period, the hunting-collective stage came to an end and was succeeded by the productive stage of the Neolithic period.

The productive stage is based on an agricultural economy, which influences the way of living. The

cultivation of the land presupposes permanent occupation and the protection of the production requires stable buildings. In this way, the first permanent settlements made their appearance.

The first permanent²⁰⁰ settlements in the Cyclades, dated from the Late Neolithic period, had built houses, E, which indicate that their inhabitants had already reached the productive stage. But the barren Cycladic islands had nothing for them to cultivate. This could indicate that the first settlers arrived in the islands, from some place, close at hand, where they have reached that stage. It is E, difficult to determine the homeland of these first inhabitants, and various suggestions connect them mainly E with Anatolia and Thessaly (Evans & Renfrew 1968, 81; Hood 1984, 26).

Once they established themselves in the Cycladic islands they started to be organized in small communities, making the best possible use of the local islands they started to be organized in small communities, making the best possible use of the local materials and exploiting the sources the islands had, namely the sea and the obsidian. Since the sea was the main living source for them they built their houses next to it in simple rectilinear forms.

In the EC II period, an increase of population led to creation of more elaborate house forms, such as the Building Complexes and to better organized settlements, which are not villages any more. They became trade centres with collective leadership and advanced culture. This period can be considered as the most prosperous for the

islands. In this period the most advanced Cycladic
figurines types are created, the bronze objects ^{and} ~~are~~ trade
expands towards all the known regions. The islanders had
the knowledge²⁰¹ and the boldness to travel in the Aegean or
beyond this, to meet people and new ideas. But they were not
affected by the new elements they came upon. This is
evident in all aspects of their civilization,
architecture, cemeteries, pottery, figurines, which are
developed ^{from} ~~forms~~ of their predecessors.

In the EC IIIA period an agitation is obvious in the
settlements, which, though, do not decline as is the
case in Mainland and the NE Aegean, but on the contrary,
show that they have moved a step further. It is in this
stage that the first indications of urban centres can be
attested at Ay. Irini III and Kastri.

The development of urbanization in the Cyclades
continues and becomes completed in the final stage of the EC
III period (EC IIIB), as is evident from the settlement
of Phylakopi I-ii, which now becomes a City.

The study of their architecture is ^{not consistent with} ~~controversial to~~ the
piratical activities in the Early Cycladic communities. On
the contrary, the Early Bronze Age settlements testify
^{to} ~~about~~ the high level of Cycladic civilization. In all
the buildings of the EC architecture a human-size scale
exists, which reflects the mentality of the people who
lived in them. Λόγος is their main rule. This is obvious in
their buildings, settlement patterns and central authority
form, the centre of which is the human being and not the
supernatural. Their well-built houses indicate a tendency

For order, which is apparent in all aspects of their civilization, as for example in their marble figurines, marble objects, pottery etc..

The study of Early Cycladic architecture will be concluded with a reference to the legend of a painting by the modern Greek painter Phasianos, which in few words describes the Early Cycladic architecture in the best possible way: πέτρες, πέτρες πολλές, βαλμένες με σοφία.

APPENDIX B :

A more detailed analysis of the method used in this thesis follows.

The urbanization factors used in the analysis of the Cycladic architecture describe certain characteristics. A detailed examination of the twenty one factors for all the settlements included in this study, as a whole, would have been very difficult and complicated, due to the various subdivisions of these characteristics. For this reason the use of statistics became essential. The basic need was the translation of the urbanization characteristics into numbers which could describe them. So, the lowest values of the characteristics took number one (1) in the statistical analysis. These lowest values are the small size, the small number of objects, the absence of a characteristic, the uniformity in the buildings, the elementary town planning and the lack of fortification.

The next higher values represent number two (2). These are the medium size, the existence of a characteristic, the differentiation in the sizes of the buildings, the additional town planning and the simple fortification.

Number three (3) represents the highest values in this study, namely the large size, the large number of objects, the planned lay out of a settlement and an elaborate fortification.

This conversion makes possible the drawing of graphic presentations which depict the relations of the urbanization characteristics in the settlements. They also help to group the settlements according to these factors.

On Plate 10, for example, the values for the Average Size of the Buildings (5), the Homogeneity (7) and the Buildings with Special Function (11) are placed on the vertical axis of the graphic presentation. The Arabic numbers, on the horizontal axis, represent the settlements included in this study (Vol. II, Pl. B). The Latin numbers in front of them refer to their periods of occupation (Vol. II, Pls 4-9). The reading of this graphic presentation indicates that settlements I 27 and I 38 of the Transitional EC I to EC II period share common characteristics, namely the small (1) homogeneity and the absence (1) of buildings with special function. But settlement I 27 has medium (2) average size of buildings while settlement I 38 has small (1). For settlement II 2 evidence from this period is missing. Thus, settlement I 27 is at a highest level in relation to its contemporary settlements, as far as these characteristics is concerned (I 27 = 1st group of Low Urban).

Settlements 13. III 2, and II 27 of the EC II period have common all their features: medium (2) average size of their buildings, small (1) deviation in their sizes and existence (2) of buildings with special function. In this

way they present the highest values in the EC II period
(13, III 2 & II 27 = 1st group of Medium Urban).
Settlement II 14 of EC II date although has buildings of
large (3) average size it does not have clear evidence for
the rest of its characteristics. Thus, it belongs to a level
lower than this of settlements 13, III 2 and II 27 (II 14 =
2nd group of Medium Urban). The lowest level of the EC II
settlements is represented by settlement II 38. It has
buildings with medium (2) average size, buildings of
special function are absent (1) and there is no evidence
of uniformity or differentiation between its structures (II
38 = 3rd group of Medium Urban).

From the settlements of the EC IIIA period settlement
III 14 has buildings of large (3) average size, small
(1) differentiation in the sizes of its structures, as
well as a potter's kiln (2). Thus, it has reached a high
level of urbanization, as far as these characteristics is
concerned in the EC IIIA period (III 14 = 1st group of High
Urban). In the same period, settlement 42 although has
small (1) average size of buildings, has a large (3)
deviation in their sizes and certain buildings of special
function (2). In this way it represents a high level of
urbanization, though a step lower than this of settlement
III 14 (42 = 2nd group of High Urban). Settlements IV 2
and III 38 have buildings of medium (2) average size and
small (1) deviation in their sizes, while buildings of

special function have been attested (2) only in settlement IV 2 (IV 2 & III 38 = 1st group of Medium Urban). Settlements II 6 and II 31 appear to be on the same level, a step lower than this of settlements IV 2 and III 38. They have small (1) average size of buildings and medium (2) deviation in their sizes. Buildings of special function have been attested (2) in settlement II 6, while they considered to be absent from settlement II 31 (II 6 & II 31 = 2nd group of Medium Urban).

Settlement I-ii 23 of EC IIIB date has the highest values in this period: small (1) average size of buildings, large (3) differentiation in their sizes and buildings of special function (2) (I-ii 23 = 1st group of High Urban). Settlement IV 37, within the same period has buildings of small (1) average size with medium (2) deviation in their sizes while buildings of special function are absent (1). It thus represents a lower stage of urbanization (IV 37 = 1st group of Medium Urban).

This is the method of reading the graphic presentations included in this study (Vol. II, Pls 10-22). These presentations will analyze the urbanization factors according to groups and date. In this way it will become possible the final classification of the Early Bronze Age Cycladic settlements into cities, towns and villages (discussion on p. 209-226; Vol. II, Pl. 23).

NOTES

- (1) Dokathismata and Kato Akrotiri.
- (2) Cheiromylos.
- (3) Avyssos and Pyrgos.
- (4) Ayios Andreas.
- (5) Chalandriani and Kastri.
- (6) Stephanos 1903, 244; 1904, 57; 1908, 114; 1909, 209; 1910, 270; 911, 357; Kontoleon 1949, 112; Zapheiropoulos 1960, 244; 1965, 505; Caskey 1962, 263; 1964b, 314; 1966b, 363; 1970a, 339; 1971, 359; 1973, 547; 1979, 412; Zapheiroulou 1967, 464; 1968, 381; Marinatos 1968-76.
- (7) To the 146 sites known from Renfrew's and Simpsons' & Dickinson's Gazetteers, there must be added some more (Marthari 1982, 86; 1990, 97). A large number of EC sites has been identified in the Melos survey (Renfrew & Wagstaff 1982), in the Amorgos survey (Marangou 1990a, 170) and in Paros survey (Schilardi 1975, 210).
- (8) These are Grotta-Pelos, Keros-Syros and Phylakopi I cultures.
- (9) It is estimated by the division of the Standard Deviation by the average value of the sizes of houses. The Standard Deviation is determined by the function
$$\sqrt{\frac{\sum (V_i - \text{AVG})^2}{n}}$$
 where V_i is size of one house, AVG the average value of the sizes and n the number of the houses.
- (10) These are on Mainland Greece, Crete and at NE Aegean.
- (11) For the "Kampos" group of pottery and its date see Doumas 1977, 24; Barber & Macgillivray 1980, 148).
- (12) Excavated settlements are Saliagos near Antiparos (Evans & Renfrew 1968), Kephala on Keos (Coleman 1977) and Cave Zas on Naxos (Zachos, publication in progress). Partly excavated are Kokkinovrachos, near Grotta on Naxos (Hadjianastasiou 1988, 11) and Koukounaries on Paros (excavation in progress).
- (13) Agrilia on Melos, (Evans & Renfrew 1968, 74), Mavrispilia on Mykonos (Belmont & Renfrew 1964, 395) and

Vouni on Antiparos (Evans & Renfrew 1968, 74).

(14) Recent excavations on Markiani, Amorgos uncovered a wall of similar construction dated to the EC I/II period (Marangou, Doulas, Renfrew, "Amorgos and Keros: Recent Researches in the Cycladic EBA", Lecture at the Society of Antiquaries, London 14.12.1989).

(15) I would like to thank Prof. Renfrew for the information and his permission to include the photograph of wall 308 in this study.

(16) Kampos group pottery mixed with EC I.

(17) Only the tombs have been excavated, Tsountas 1898, 164; Zaphiropoulos 1960, 246.

(18) Chapter 1: The Neolithic Background, p. 25.

(19) The Perimeter wall with a circular buttress in Stratum 3 at Saliagos near Antiparos.

(20) Group II contains rolled rim bowls, thick slipped and dark burnished wares, and it is dated to the end of Neolithic period and the "preliminary" stage of the EBA in Mainland terms (Caskey & Caskey 1960, 159).

(21) Segments of rectilinear walls have been found under the Western side of the Central Court of the Palace and the Western Court, below Rooms 25, 29, II, XXVII - XXVIII, and Kouloura III.

invite (22) A site which revealed "Kampos" pottery outside the Cyclades is Ay. Photia in East Crete (Davaras 1971, 392; MAN). The finds from the cemetery are wholly Cycladic in character, which ~~drive~~ conclusions about a plausible movement of Cycladic people in Crete at this period.

(23) Oral information by Renfrew, publication in progress.

(24) Max. preserved length 4 m, width 3.70 m.

(25) House A-B represents the 1st phase; House C-D the 2nd phase and House E-F and walls c the 3rd phase; the thick wall I could represent one more stage within the Early Bronze Age.

(26) This period in the Cyclades seems to correspond to the last horizon of Emporio VIII (levels above the D-shaped house horizon in Area A). The micaceous, red slipped or washed, smooth or burnished pottery is represented in levels 146 and 147 of the VIII period. The quite abrupt change in the character of the pottery in period VII gives a terminus post-quem for correlation with the Cyclades of this period (Hood 1981, I, 104). Incised decoration and pattern burnished are no longer so much in evidence on Emporio VII and the decoration in white paint is now predominant.

(27)At Thermi, pottery Class B (bowls 1, 3, 4; collar-necked jar 2) (Lamb 1936, 78-82, fig. 28) shows affinities with the Kampos group. Incised decoration, highly executed, sometimes filled with white substance, resembles this known from the Kampos bottles (Lamb 1936, pl. XIII, 565). Class B pottery is assigned to towns III to IVa, and considered to be transitional since it includes late elements of Class A and early elements of Class C group of pottery. This allows us to establish a link between the transitional EC I/EC II and Thermi IIIA.

(28)At Poliochni the fruitcup or chalica is very closely paralleled in the Blue Archaic phase (Brea 1964, 553-4, 556, pl. IXc, d), with a slight difference on the stem which in the Poliochni type is virtually straight.

(29)In Troy the Kampos stage seems to overlap with the Early Subperiod of Troy I (phases Ia, Ib and Ic) where the pottery is mainly dark, black to brown, tan or red, polishing with incisions often filled with white substance and the bowl, in different varieties, is the most common vase (Blegen et al. 1950, 60, 82).

(30)Frying pans of Kampos type come from Crete, Ay. Photia cemetery (Davaras MAN fig. 9; 1972, pl. 603). In Crete the fruitcup is represented from the Pyrgos cave and Ay. Photia cemetery (Xanthoudides 1918, fig. 5, 3; 10, 74.78; Zervos 1956, pl. 82) which are dated to the EM I period, although the first revealed unstratified material and the second continued to be in use in the EM II period.

A group of five incised bottles from the Pyrgos cave (Xanthoudides 1918, fig. 8, 49.50; 9, 67-69; Renfrew 1964, 115-6, pl. D. 3) and a large number of the same form from the cemetery of Ay. Photia (Davaras MAN 5, fig. 6a; 1972, 649, type 6) show such close affinities with the Kampos form that were long considered to be Cycladic exports.

(31)A Cycladic settlement at which hearths have been attested is the Cave of Zas on Naxos. The site is not included in this study because it is a cave but it certainly furnishes evidence about the existence of hearths. Coral information by Dr. Zachos 13.3.1991, London).

(32)Magasa: Dawkins 1904-1905a, 260; Knossos: Evans 1921-35, II, 1,5; 1971, 37, 95).

(33)Houses in Area Z of Town I; Houses in the same area and in Area Z of Town II.

(34)Phases A1, A2 and B have been distinguished by C. Renfrew and R. Evans, on the basis of the pi-C stratigraphy in their recent excavation at Phylakopi (Evans & Renfrew 1984, 64).

(35)Forthcoming publication: L. Marangou, C. Renfrew, C. Doumas, Markiani I.

- (36)The apsidal buildings ϕ , χ , ψ , seem to be partly built one above the other (Macgillivray 1980, 6, fig. 2).
- (37)Wall incorporated into the NE wall of the Temple (Caskey 1973, 547, pl. 510).
- (38)Debris below the later rooms (Caskey 1964b, 317).
- (39)Strata on the bedrock (Caskey 1964b, 317, pls 48 a-c).
- (40)Thick deposits inside the line of the fortification wall (Caskey 1964b, 317).
- (41)Scatter sherds on the rock (Caskey 1971, 359).
- (42)Continuous occupation with additions and alterations until the final stage of EC IIIA.
- (43)The maximum dimensions of the south room are 2.85 m N-S, 4.65 m W-E (exterior dimensions) and 1.40 m E wall, 84 cm W wall, 3.36 m W-E (interior dimensions).
- (44)Its form is not recorded by the excavator (Kontoleon 1949, 118).
- (45)The third phase of the EBA settlement on Pyrgos is represented by Rooms E and F and the passage G, on the north side of the settlement and walls C on the SW area. Wall I is of uncertain date, later in the EBA sequence.
- (46)Diam. 14 cm, depth 1.7 cm.
- (47)39 cm X 38 cm, diam. 10 cm, depth 2.1 cm.
- (48)Personal communication 11.2.1991.
- (49)From 6.938 m² to 13.876 m².
- (50)These are: 1. apsidal, 2. D-shaped, 3. horse-shoe shaped, 4. round and 5. elliptical.
- (51)Compare with the size of the EC I/II House A-B (12.60 m²) and that of the EC III A House E-F (26.60 m²).
- (52)Hearths from an earlier context come from the Cave of Zaw on Naxos, according to information by Dr. Zachos (London 13.3.1991).
- (53)Lecture held at the Society of Antiquaries, London, 14.12.1989 "Amorgos and Keros: Recent Researches in the Cycladic EBA".
- (54)it is plausible that Building XI had some function relevant to the near by spring (Caskey 1971, 369).
- (55)See above note 53.
- (56)Similar practices are known from the Homeric and

Geometric societies (Mazarakis 1990, 177, with bibliography).

(57) 84 cm W length, 1,40 m E length, 3,36 m width.

(58) Doulas 1977, 122.

(59) Kondoleon 1970, 146; 171, 172; 1972, 143; Lambrinoudakis 1976, 295.

(60) Papathanasopoulos 1961-62, 138.

(61) Tsountas 1899, 78.

(62) As in Note 53.

(63) NM 5485; Kondoleon 171, 179, pl. 210 β ; Marangou 1990b, 64 n. 40.

(64) NM 5486a; Kondoleon 1971, 179, pl. 210 β ; Marangou 1990b, 65 n. 41.

(65) NM 5837; Kondoleon 1972, 153, pls 143 β - γ ; Marangou 1990b, 164 n. 171.

(66) Marble vases, a bone tube and marble figurines were its grave goods.

(67) NM 2023; Doulas 1977, 125, pl. XLIXh; Marangou 1990b, 65 n. 42.

(68) Graves 343 and 371.

(69) It belongs to the Apeiranthos type of the Keros-Syros culture.

(70) Lead seal NM 4353 from Grave I, Kondoleon 1970, 151, pls 195 β - γ ; Marangou 1990b, 87 n. 83.

(71) Palamari is considered as a Mainland settlement, although it exhibits a more insular character in both pottery and architecture (Theochari & Parlama 1986, 51).

(72) Pres. size 20 m² of the house at Knossos and South House at Vasiliki; 22.30 m² for Casa Est at Ayia Triada; Pres. 32.30 m² for House XI at Vasiliki and 32,78 m² for Building 1 at Debla.

(73) A first undercoating layer of clay, a second thinner of more fine yellow clay, a third brown application and a final finished surface.

(74) The standards for the estimation of the average size of the houses of the NE Aegean are different than those valid for the Cyclades. This is due to the differentiation of the minimum and the maximum sizes (i.e. minimum for Cyclades is 5 m² while minimum for NE Aegean is c. 20 m²).

- (75) 33 m² - 42 m² is the average size for the houses at Thermi; 31.50 m² - 54.60 m² for the houses at Emporio; and 60 m² - 64 m² for the houses at Poliochni.
- (76) See above Settlements, Characteristic 12.
- (77) See above Settlements, Characteristics 14, 17.
- (78) See above Settlements, Characteristic 11.
- (79) Phylakopi phase B is the third phase in Trench pi-C in 1974-77 excavations (Evans & Renfrew 1984, 63). The phases in this trench are: A1 for EC I with "Pelos" group of pottery, A2 for EC II with "Keros-Syros" Pottery and B for EC IIIB with "Phylakopi I" pottery. The "Kastri" finds in pi-C were in the same levels with "Phylakopi I" pottery.
- (80) Marangou, Doumas, Renfrew, Lecture in Society of Antiquaries 1989.
- (81) A similar structure, later in date was uncovered at Thera in recent excavations (Marthari 1982, 86).
- (82) EC II Chapter.
- (83) These are remains associated with the nearby House E, above which House F was partly built in the Late Bronze Age (Wilson & Elion 1984, 85).
- (84) Beneath the Middle Bronze Age graves in the East cemetery (Wilson & Eliot ib., 85).
- (85) From an undisturbed deposit, below the Temple Lane. The "Temple Lane" group of pottery indicate that a demolished house existed in this period, no architectural features of which have been preserved (Caskey 1971, 384).
- (86) Ay. Irini II.
- (87) A wheel-made shallow bowl was found in this fill (Caskey 1972, C 36, pl. 81).
- (88) For clay figurines of contemporary date from Naxos, see Barber & Hadjianastasiou 1980, 114.
- (89) See below, discussion about the entrances.
- (90) A slab with a shallow hole was found inside Room F.
- (91) Its exact location is not recorded by the excavator (Tsountas 1898, 170).
- (92) Bossert (Bossert 1967, 57) and Doumas (Doumas 1972, 158) argue about the construction of these walls. Their argument is that they clay mortar in Room 5 must have been of modern times, since the room was used as a modern stable. But, Tsountas does not refer to clay mortar. On the contrary he reports that the walls of this room were made

- of clay ("πηλόκτιστοι") (Tsountas 1899, 120) and he continues that the walls had no plaster.
- (93) Bossert 1967, 61.
- (94) Chapter 4, 9.
- (95) See also the dug out structure at Phtellos on Thera (Marthari 1982, 86).
- (96) These are Kato Akrotiri, Christiana, Ay. Mamas, Kampos Ay. Athanasiou, Ay. Irini, Daskalio Islet, Daskalio on Keros, Nero, Panagia, Grotta, Kastraki, Moutsounas, Spedos, Vigla, Avyssos, Paroikia, Pyrgos, Akrotiri on Thera and Akrotiraki on Siphnos.
- (97) These are Mt. Kynthos (112 m), Daskalio Islet, Kapari (40 m), Korphi t' Aroniou (70 - 80 m), Panormos (70 m), Rizokastelia, Spedos (c. 50 m), Vigla (60 m), Avyssos, Pyrgos, Paroikia, Akrotiri and Akrotiraki.
- (98) Mt. Kynthos 5.41 m²; Kastraki 9.50 m²; Panormos 5.80 m²; Kastri 11 m².
- (99) The dimensions of the two examples favour this suggestion.
- (100) From the graves of this cemetery come a silver diadem, a silver pin and two silver vases, one of which fragmentarily preserved.
- (101) The apsidal buildings A and B, the rectangular building B and the structure of perishable material (Konsola 1981, 147).
- (102) House L. Some scholars believe that House I belongs to this period and not in the EH I (Konsola 1984, 64).
- (103) To this period belong: A. the lower layer of the round structures, and B. the middle layer of the bothroi.
- (104) Several walls of this phase were recognised but no clear idea of the architecture at this stage can emerge.
- (105) The building remains from the main settlement on the hill: The fortification wall, Houses A, Γ, Δ, Θ and E, structure H and pit Z.
- (106) The "Weisses Haus", the Farberhaus and the Haus der Pithoi (Felten 1986, figs 7-11).
- (107) Structures A and B/R.
- (108) Affinities with the EC IIIA period show the Fundhorizonte 5-8b and the Übergangsphase (layer 9). The most interesting architectural remains is the large round structure ("Rundbau"). Of great importance is the large round structure ("Rundbau").

(109)From Lerna IIIC come most of the building remains, which are: House BG, structures CA/CB and DM and the fortifications. From Lerna IIID, the only building that was uncovered is the House of the Tiles.

(110)Houses R and S.

(111)"Megaron A", "Megaron B" to the W of "Megaron A", and in a lower level, the South Complex, the NW structure and the East structure. The chronological distinction between these structures is not yet clear, since their pottery is unpublished. It seems, though, that "Megaron B" is older than "Megaron A" (Karagiorga 1971, 126).

(112)House A belongs to the EH IIb period.

(113)Lithares, Manika, Ay. Kosmas, Raphina, Askitaro, Aigina, Zygouries, Berbati, Tiryns, Lerna and Asine (Konsola's group 2; Konsola 1984, 108).

(114)Eutresis, Orchomenos, Aigina, Tiryns, Lerna and Akovitika (Konsola's group 1, Konsola 1984, 108).

(115)Buildings with two floors were attested in Aigina III: the "weisses Haus" and at Akovitika: the Megara.

(116)The Round Building (Rundbau) at Tiryns is reported to have three floors (Haider 1980).

(117)Konsola 1984, 113: Group; Theochari & Parlama 1986, 51; Pullen 1986, 73; Zachos 1986, 29.

(118)Konsola 1984, 165.

(119)Konsola ib., 167.

(120)Konsola ib., 168.

(121)The architectural remains of this period belong to two architectural phases: 1st: "Red House", 43; 2nd: "West House" and SW area; Houses 54, 56b, V and A can not be assigned with certainty to one of these phases and they are dated in the EM IIb period.

(122)Troy: Blegen et al. 1950, 208; Thermi: Lamb 1936, 88; Poliochni: Brea 1976, Tav. CXCIV; Skala Sotiros: Koukouli-Chrysanthaki 1988, 393; 191, 425.

(123)This applies to Period II, when metal tools seem to be in general use and a high proportion of flint cores and core fragments indicate the working of this material at the site (Hood 1981, 134).

(124)Caskey 1971, 369.

(125)House E=450 m², House D=60.50 m², AVG=255,25 m².

(126)The matt painted pottery is characteristic of the

- succeeding Phylakopi II period, of Middle Cycladic date (Doumas 1977, 24; Barber & Macgillivray 1980, 152).
- (127) Similar is the situation in other areas of the settlement (E3, F3, G2, G3, H4 and J1), where remains of the First City are hidden under the later constructions.
- (128) Compare with the earlier structure at Christiana (Tsakos 1967, 464) and the modern vaulted houses at Thera and Therasia.
- (129) This is the common practice for the rock-cut tombs of Melos (Atkinson et al. 1904, 234; Doumas 1977, 49). The same method is employed nowadays in the houses of Thera and Therasia (Koumanoudis 1971, 212).
- (130) Close to the sea: Phylakopi, Spathi, Paroikia, Kastro, Akrotiri, Ftellos.
- (131) Inland: Ay. Panteleimon, Kapari.
- (132) Phylakopi (13.29), Paroikia (15.12).
- (133) House 25a-b/Rooms 2-3:19.31 m²; House 16:1.76 m²; House 19:3.86 m²; House 11-12:3.86 m².
- (134) House I-IV:11.46 m²; House II-III:15.36 m².
- (135) Building e-h:22 m² (pres.); Building g-s:21.84 m² (pres.).
- (136) The site of Kapari was a kiln site in the MC early period (Renfrew & Wagstaff 1982, 296).
- (137) The pottery of these wares is grouped by Edgar in Sections 5, 6 and 7 in the Phylakopi publication (Atkinson et al. 1904, 93).
- (138) Compare the one in Abb. 47 from Paroikia with B11 on the Table of Signs from Phylakopi; and the one in Abb. 48 from Paroikia with C10 on the Table of Signs from Phylakopi (Atkinson et al. 1904, 179).
- (139) According to Zois classification; Zois 1965, 27, note 1, pls A,B; 1968.
- (140) House H, the small horse-shoe shaped structure and a structure of perishable material.
- (141) The Upper layer or Later layer of the Bothroi.
- (142) The architectural remains are located in a small area of the promontory, in Section III
- (143) There are no building remains from Lefkandi II. Evidence of occupation from this period comes from an open yard with a few post holes and heaps of debris.

(144)The pottery from the bothroi above House B can be assigned to this phase.

(145)Structure N/R is dated in the EH III period, in squares KL.

(146)Remains of this period were found in layers 10-13 on the Lower Akropolis.

(147)The House of Querns is assigned to this period.

(148)Evidence of occupation in this period comes from House B in Trench B. The period is called Palamari IV.

(149)Sites which yielded pottery characteristic of the EM III period in East and Central Crete are: Mochlos (settlement and cemetery); Psira (settlement); Gournia (settlement) and Malia (settlement and cemetery).

(150)Dark Burnished ware, Cycladic white of the "Curvilinear style", Grey Minyan ware imported from the Mainland and imported MMIB-II pottery from Crete.

(151)The material from the EC cemeteries has been *studied by Douras (Douras 1977)*.

(152)Oral information by the excavators; C. Douras, L. Marangou, C. Renfrew "Amorgos and Keros: Recent Researches in the Cycladic EBA.", Lecture held at the Society of Antiquaries, London 14.12.1989.

(153)These characteristics are: location, land morphology, settlement size, fortification, morphology of buildings average surface of buildings, surface homogeneity, level of construction, differentiation of buildings, sophisticated devices, buildings of special function, settlement density, town structure, organized cemeteries, craft specialization, trade, semiprecious stones and marble, precious metals and other metals, mainly bronze and lead.

(154)The best preserved House A is 24.40 m²; House B is preserved in 9.75 m², but it must had a similar plan and size to that of House A; the rectilinear House Γ is 14.85 m² preserved, but the stretch of what appears to be a partition wall indicates that the original house was larger.

(155)Grave 98: dims 100-90-68-50cm; grave 104: dims: 85-63-61-50cm (Tsountas 1898, 159).

(156)Grave 103: dims 49-34-41-29 cm (Tsountas 1898, 159).

(157)Fourteen fiddle-shaped figurines.

(158)A silver bracelet and a silver hair ornament from Aplomata cemetery of Grotta; a gold bead from Phyrroges cemetery.

(159) Rooms 11 and 20.

(160) The source of tin has not been attested and it is generally believed that tin is of North origin (Muhly 1985, 277; Doumas 1988, 113).

(161) Tsountas excavated fifty graves in the West cemetery. But this is not the number of graves that existed originally. A hundred more had been excavated before Tsountas (Papadopoulos 1862, 224). Four hundred graves were excavated by Tsountas at the East side of the same cemetery.

(162) J. Warner 1979, 138.

(163) Kastri Rooms 27, 35; House at Korphi t' Aroniou.

(164) Stratum 1: wall C in Sq. R3, circular structure in T2-T4; Stratum 2: wall F, Structure G; Stratum 3: "bastion", circular scoop in Sq. S3.

(165) Oral information by Renfrew, Cambridge 23.1.1991.

(166) Renfrew, 23.1.1991.

(167) Ag. Kosmas, Structure J; Mylonas 1959, 41, pl. 1, 12.

(168) Orchomenos, Type C; Bulle 1907, 35, Abb. 9.

(169) 32.82 m² pres.; 97,50 m² possibly traced; 450 m² suggested by Caskey.

(170) 41.60 m² pres; 60.50 m² suggested.

(171) *Chamaerops humilis* L., *Pistacia lentiscus* L., *Phoenix dactylifera* L., *Olea europae*, *Tamarix*.

(172) Stone foundations must have been necessary for a place so poor in soil as the Cyclades. They could also prevent the mudbrick from dissolving from the rain water.

(173) This seems to be the case for the black burnt earth in Structure E of the 3rd stratum; in K1 the burnt clay which has been suggested to form part of a construction, e.g. hearth, because some pieces are shaped, could be associated with a pisé wall; in K3, small areas of quite clean clay could represent pisé walls.

(174) This clay is of local origin and it has different names in the islands: patelia, aspria, melagas. The locals place this earth in small piles upon the roof, which with the first rain water dissolve and spread over. This waterproof course has to be renewed every three or four years. The renewal is essential, because the roof cracks in drought.

(175) C. Doumas, L. Marangou, C. Renfrew "Amorgos and Keros: Recent Researches in the Cycladic EB/.", Society of Antiquaries, London 14.12.1989.

(176) Layers of hardpacked melagas and aspria have been uncovered by the author, in two rooms of the EC house on the Upper Plateau at Koukounaries, in the recent excavations (1991 and 1992).

(177) The same kind of beams are used nowadays for the roofs of the Cycladic houses and they are called fides, by the locals.

(178) Such kind of timber had been used in buildings at the Cyclades, for long time. They are called vordonaria and they are imported from other areas. In many cases they come from masts of ships (Karathanasis 1960, 101, fig. 22). This practice is attested in the Cycladic settlements of the 15th cent A.D. until nowadays. Today the large beams for roofing are imported mainly from Macedonia.

(179) Kondoleon 1972, 152, pl. 145 α - γ ; Sakellariou-Papathanasopoulos 1973, 64, pl. 9 β .

(180) Rider 1965, 52, fig. 4.

(181) Rider 1965, 52, fig. 4; Zapheiroulou 1969, 406, figs 1-3.

(182) One from Grave XXI of the Aplomata cemetery and the other NM 5358 in the National Museum in Athens.

(183) French term which describes better the architecture that is not created by architects or experts. Popular is what belongs and created by the people (in contrast to the elite); Anonymous is the creation where the creator is unknown.

(184) Panormos 12: 60 cm - 1.20 m; Mt. Kynthos n: 1-4.40 m; κ - λ : 80 cm; π : 45 - 90 cm; ρ - σ : 70 cm; ψ : 1.20 m; χ : 30-50-70 cm; Phylakopi I-III: 70 cm - 1 m; 25a/b, 2-3: 40-70 cm; Ay. Irini House E: Room 7 cross-wall: 1 m; Room 2: 1 m; S wall Room 3: 90 cm; rest: 70 cm; Skarkos: 70 - 85 cm.

(185) Doumas is the main defender of the North movement. See Doumas 1976, 8; 1983, 27; 1988a, 26; 1988b, 113.

(186) Continuous occupation: Mt. Kynthos, Skarkos, Ay. Irini, Vigla, Paroikia, Pyrgos, Akrotiri; New establishments: Dokathismata, Kato Akrotiri, Christiana, Ay. Mamas, Kampos Ay. Athanasiou, Daskalio, Nero, Kapari, Korphi t' Aroniou, Moutsounas, Rizokastelia.

(187) Settlements in a coastal area on a low hill are Kato Akrotiri and Moutsounas; close to the sea and on flat land are the settlements of Ay. Mamas, Kampos, Ay. Athanasiou and Nero.

(188) The four settlements which are located on quite high hills inland but close to the sea are Dokathismata, Kapari, Korphi t' Aroniou and Rizokastelia.

(189)The settlement of Markiani on Amorgos is not included, since it was continuously inhabited from the EC I period and its wall character is provisional.

(190)Group I in Konsola's study, which includes the settlements of Aigina A, Lerna A, Tiryns A, Zygouries A, Thebes A and Eutresis A (Konsola 1984, 165).

(191)The largest settlement attested in the Cyclades, until now is Vigla, 20.900 m² in the largest island of the Cyclades, Naxos, 428 km². Compare the size of the settlements in Thebes 150.000 m², Manika 200.000 m² - 250.000 m², Tiryns 59.000 m², Lithares 40.000 m².

(192)This is especially obvious from the grave offerings. The gold and ivory finds from the tombs at Mochlos, Messara and Lebena, indicate strong social differentiation.

(193)Lemnos covers an area of 477 km², Lesbos of 1.613 km² and Chios of 829 km².

(194)In the English legislation, this is known as Average Low. According to this, the damage caused by the refusal of the cargo into the sea, because of swell, has to be proportionally payed by all who had cargo upon the ship, and not only by the owner of the refused load.

(195)Although no wood remains have been preserved in the settlements, the woodlands that exist in the region strongly suggest the use of this material for such constructions.

(196)A settlement with plenty of apsidal houses of this type is Karatas, in the SW Turkey, but this area is not included for comparison in this study.

(197)House A1 at Lerna is 12 m by 7 m, while House E-F on Pyrgos is 7 m by 3.80 m.

(198)Originally Dimini had also three successive fortification walls (Tsountas 1908, 31).

(199)Except some later finds at Kastri, which could indicate some use of the site in these periods (Tsountas 1899, 121).

(200)Evidence about the earliest habitation in the Cyclades come from Maroulas on Kynthos, dated in the Mesolithic period, with no associated building remains (Honea 1975, 277).

(201)The symbols on rocks or incised slabs, found in a lot of settlements indicate that the Cycladic islanders had astrological knowledge.

GAZETTEER OF EARLY BRONZE AGE SITES ACCORDING TO RENFREW
(1972) & SIMPSON & DICKINSON (1979) IN ALPHABETICAL ORDER

AMORGOS¹

Ayia Paraskevi < C >²
(Renfrew 1, 521; Simpson & Dickinson 339)
Ayios Georgios < C >
(Renfrew 13, 523; Simpson & Dickinson 341)
Aigiali < C >
(Renfrew 14, 523; Simpson & Dickinson 341)
Arkesini < C >
(Renfrew 2, 522; Simpson & Dickinson 339)
Dokathismata < S & C >
(Renfrew 3, 522; Simpson & Dickinson 339)
Kaprois < C >
(Renfrew 7, 522; Simpson & Dickinson 340)
Kapsala < C >
(Renfrew 12, 523; Simpson & Dickinson 341)
Kato Akrotiri < C >
(Renfrew 5, 522; Simpson & Dickinson 340)
Kokkina Chomata < C >
(Renfrew 11, 523; Simpson & Dickinson 341)
Notina < C >
(Renfrew 9, 523; Simpson & Dickinson 340)
Phoinikes < C >
(Renfrew 4, 522; Simpson & Dickinson 339)
Stavros < C >
(Renfrew 10, 523; Simpson & Dickinson 341)
Vouni < C >
(Renfrew 8, 523; Simpson & Dickinson 340)
Xilokeratidi < C >
(Renfrew 6, 522; Simpson & Dickinson 340)

ANTIPAROS

Ayios Sostis < C >
(Renfrew 13, 517; Simpson & Dickinson 324)
Apantima < C >
(Renfrew 11, 516; Simpson & Dickinson 323)
Georgoulas < C >
(Renfrew 7, 516; Simpson & Dickinson 323)
Krassades < C >
(Renfrew 8, 516; Simpson & Dickinson 323)
Petalidhi < C >
(Renfrew 14, 517; Simpson & Dickinson 324)
Phira < C >
(Renfrew 4, 516; Simpson & Dickinson 322)
Psaroga < C >

-
1. The sites of Minoa and Markiani are not included. The excavations at Minoa began in 1981 and at Markiani in 1987.
 2. C Indicates a Cemetery site, S a Settlement site and SF indicates sites with Surface Finds.

(Renfrew 6, 516; Simpson & Dickinson 322)
 Site A [between Krassades & Apantima] < C >
 (Renfrew 10, 516; Simpson & Dickinson 323)
 Soros < C >
 (Renfrew 12, 517; Simpson & Dickinson 324)
 Tsimindiri < C >
 (Renfrew 9, 516; Simpson & Dickinson 323)
 Vaivouna < C >
 (Renfrew 5, 516; Simpson & Dickinson 322)

CHRISTIANA ISLET < S >
 (Renfrew Thera 2, 525; Simpson & Dickinson 346)

DELOS
 Mt. Kynthos < S >
 (Renfrew 1, 514; Simpson & Dickinson 309)

DESPOTIKO
 Cheiromylos < S >
 (Renfrew 3, 517; Simpson & Dickinson 325)
 Leivadhi < C >
 (Renfrew 2, 517; Simpson & Dickinson 325)
 Panagia < C >
 (Renfrew 4, 517; Simpson & Dickinson 325)
 Zoumbaria < S & C >
 (Renfrew 1, 517; Simpson & Dickinson 324)

DASKALIO ISLET < S >
 (Renfrew Keros 1, 521; Simpson & Dickinson 337)

DONOUSA
 Achtia ton Agrilion < S >
 (Renfrew 1, 520; Simpson & Dickinson 334)
 Kato Mylos Platyvolias < S >
 (Renfrew 2; Simpson & Dickinson 334)

HERAKLIA
 Ayios Georgios < SF >
 (Renfrew 2, 520; Simpson & Dickinson 335)
 Ayios Mamas < S & C >
 (Renfrew 4, 520; Simpson & Dickinson 335)
 Kambos Ayiou Athanasiou < S >
 (Renfrew 3, 520; Simpson & Dickinson 335)
 Kastro < SF >
 (Renfrew 1, 520; Simpson & Dickinson 335)

IOS¹
 Chora < SF >
 (Simpson & Dickinson 342)
 Manganari < C >
 (Renfrew 1, 523; Simpson & Dickinson 342)

-
1. The site of Skarkos is not included in the Gazetteers, since the excavations at the site began in 1986. The site was already known from 1984.

KEA

Ayia Irini < S >

(Renfrew 2, 509; Simpson & Dickinson 304)

KEROS

Antikeros [Prasia] < SF >

(Renfrew 5, 521; Simpson & Dickinson 338)

Daskalio < S & C >

(Renfrew 1, 521; Simpson & Dickinson 337)

Gerani < S >

(Renfrew 3, 521; Simpson & Dickinson 338)

Konakia < SF >

(Renfrew 2, 521; Simpson & Dickinson 338)

Megalo Kastro < S >

(Renfrew 4, 521; Simpson & Dickinson 338)

KIMOLOS

Kentro < SF >

(Renfrew 1, 512; Simpson & Dickinson 313)

KOUPHONISIA

ANO

Agrilia < C >

(Renfrew 6, 521; Simpson & Dickinson 337)

Alonistria Chousouri < S & C >

(Renfrew 5, 521; Simpson & Dickinson 337)

Loutra < SF >

(Renfrew 4, 521; Simpson & Dickinson 337)

Sirma < SF >

(Renfrew 3, 521; Simpson & Dickinson 336)

KATO

Nero < S & C >

(Renfrew 2, 521; Simpson & Dickinson 336)

Panagia < C >

(Renfrew 1, 520; Simpson & Dickinson 336)

KYTHNOS

Ayia Irini < S >

(Simpson & Dickinson 306)

MELOS

Adhamas < SF >

(Renfrew 2, 511)

Ayios Panteleimon < S & C >

(Renfrew 11, 512; Simpson & Dickinson 316)

Areti < SF >

(Renfrew 9, 512)

Asprochorio < C >

(Renfrew 6, 511; Simpson & Dickinson 315)

Ayiasmata < SF >

(Renfrew 512; Simpson & Dickinson 318)

Dhemenegaki [Komia] < S ? >

(Renfrew 3, 511)

Kalogries < C >

(Renfrew 15, 512; Simpson & Dickinson 316)

Kapari < S & C >

(Renfrew 5, 511; Simpson & Dickinson 315)

Pelos < S & C >

(Renfrew 10, 512; Simpson & Dickinson 315)

Phiropotamos < SF >
 (Renfrew 7, 521; Simpson & Dickinson 315)
 Phylakopi < S & C >
 (Renfrew 4, 511; Simpson & Dickinson 314)
 Samari < S >
 (Renfrew 14, 512; Simpson & Dickinson 316)
 Spathi < C >
 (Renfrew 13, 512; Simpson & Dickinson 316)
 Stavros < S >
 (Renfrew 12, 512; Simpson & Dickinson 316)
 Trypiti < SF >
 (Renfrew 8, 512; Simpson & Dickinson 315)

MYKONOS

Anavolousa < SF >
 (Renfrew 2, 514; Simpson & Dickinson 308)
 Bouka < SF >
 (Renfrew 4, 514; Simpson & Dickinson 308)
 Diakophtis < C >
 (Renfrew 3, 514; Simpson & Dickinson 308)
 Divounia < SF >
 (Renfrew 5, 514; Simpson & Dickinson 309)
 Palaikastro < S >
 (Renfrew 6, 514; Simpson & Dickinson 309)

NAXOS

Ayioi Anargyroi < C >
 (Renfrew 8, 518; Simpson & Dickinson 327)
 Agioso < C >
 (Renfrew 18, 518; Simpson & Dickinson 329)
 Ailia < C >
 (Renfrew 25, 518; Simpson & Dickinson 331)
 Akrotiri < C >
 (Renfrew 4, 517; Simpson & Dickinson 326)
 Apendika < C >
 (Renfrew 9, 518; Simpson & Dickinson 327)
 Avdheli [Lionas] < S & C >
 (Renfrew 7, 518; Simpson & Dickinson 327)
 Bebekos < C >
 (Renfrew 29, 519; Simpson & Dickinson 332)
 Chosti < C >
 (Simpson & Dickinson 333)
 Grotta < S & C >
 (Renfrew 2, 517; Simpson & Dickinson 325)
 Kambos tis Makris < C >
 (Renfrew 33, 519; Simpson & Dickinson 333)
 Kamenos Mitato < C >
 (Renfrew 12, 518; Simpson & Dickinson 328)
 Kanaki < SF >
 (Renfrew 31, 519; Simpson & Dickinson 332)
 Karvounolakkoi < C >
 (Renfrew 20, 518; Simpson & Dickinson 330)
 Kastraki < S & C >
 (Renfrew 13, 518; Simpson & Dickinson 328)
 Keli < C >
 (Renfrew 21, 518; Simpson & Dickinson 330)
 Kleidos < C >
 (Renfrew 28, 519; Simpson & Dickinson 332)

Korphi t' Aroniou < C >
 (Renfrew 24, 519; Simpson & Dickinson 331)
 Lakkoudes < C >
 (Renfrew 17, 518; Simpson & Dickinson 329)

 Louros < C >
 (Renfrew 15, 518; Simpson & Dickinson 329)
 Lygaridia < S >
 (Renfrew 34, 519; Simpson & Dickinson 333)
 Melanes < C >
 (Renfrew 10, 518; Simpson & Dickinson 327)
 Moutsounas < S & C >
 (Renfrew 35, 519; Simpson & Dickinson 333)
 Ormos Apollonos < C >
 (Renfrew 6, 517; Simpson & Dickinson 326)
 Palati < SF >
 (Renfrew 3, 517; Simpson & Dickinson 325)
 Panormos < S >
 (Renfrew 22, 518; Simpson & Dickinson 330)
 Petasi < SF >
 (Renfrew 32, 519; Simpson & Dickinson 332)
 Pherendaki < C >
 (Renfrew 5, 517; Simpson & Dickinson 326)
 Phionda < C >
 (Renfrew 27, 519; Simpson & Dickinson 331)
 Phyrroges < S & C >
 (Renfrew 16, 518; Simpson & Dickinson 329)
 Polichni < C >
 (Renfrew 14, 518; Simpson & Dickinson 329)
 Rizokastelia < S >
 (Renfrew 11, 518; Simpson & Dickinson 328)
 Roon < C >
 (Renfrew 19, 518; Simpson & Dickinson 330)
 Spedos < S >
 (Renfrew 22, 518; Simpson & Dickinson 330)
 Trymalia < SF >
 (Simpson & Dickinson 334)
 Vardaki < C >
 (Renfrew 26, 519; Simpson & Dickinson 331)
 Vigla < S >
 (Simpson & Dickinson 328)
 Xerakrotio < C >
 (Renfrew 30, 519; Simpson & Dickinson 332)
 Zas Cave < S >
 (Renfrew 36, 519; Simpson & Dickinson 333)

PAROS

Ayios Nikolaos [Kampos] < C >
 (Renfrew 5, 515; Simpson & Dickinson 319)
 Avyssos < S & C >
 (Renfrew 6, 515; Simpson & Dickinson 319)
 Drios < C >
 (Renfrew 12, 515; Simpson & Dickinson 320)
 Episkopiana < C >
 (Renfrew 4, 515; Simpson & Dickinson 319)
 Galana Krimna < C >
 (Renfrew 16, 515; Simpson & Dickinson 321)
 Glypha < C >
 (Renfrew 17, 515; Simpson & Dickinson 321)

Kamari < C >
 (Renfrew 7, 515; Simpson & Dickinson 319)
 Kostos < C >
 (Renfrew 9, 515; Simpson & Dickinson 320)
 Koukounaries < S >¹
 (Simpson & Dickinson 321)
 Levkais < C >
 (Renfrew 8, 515; Simpson & Dickinson 320)
 Messada < C >
 (Renfrew 11, 515; Simpson & Dickinson 320)
 Mnimoria < C >
 (Renfrew 14, 515; Simpson & Dickinson 321)
 Panagia < C >
 (Renfrew 15, 515; Simpson & Dickinson 321)
 Paroikia < S >
 (Renfrew 1, 514; Simpson & Dickinson 318)
 Plastiras < C >
 (Renfrew 2, 514; Simpson & Dickinson 318)
 Pounta < SF >
 (Renfrew 3, 514; Simpson & Dickinson 319)
 Pyrgos < S & C >
 (Renfrew 13, 515; Simpson & Dickinson 320)
 Tsipidon [Marpissa] < SF >
 (Renfrew 10, 515; Simpson & Dickinson 320)

PHOLEGANDROS

Panagia < SF/S? >
 (Renfrew 1, 523; Simpson & Dickinson 343)

SCHINOUSA

Tsingouri < SF >
 (Renfrew 1, 520; Simpson & Dickinson 335)
 Kastro tou Prophiti Ilia < SF >
 (Renfrew 2, 520; Simpson & Dickinson 336)

SIFNOS

Ayios Andreas < S? >
 (Renfrew 2, 511; Simpson & Dickinson 312)
 Akrotiraki < S & C >
 (Renfrew 3, 511; Simpson & Dickinson 312)
 Kastro < S >
 (Renfrew 1, 511; Simpson & Dickinson 312)
 Vathy < C >
 (Renfrew 4, 511; Simpson & Dickinson 312)

-
1. There is an incorrect reference to Oikonomos in Simpson & Dickinson Gazetteer, 332. The rocky hill of Koukounaries is not located on the Oikonomos headland, but on the homonymous hill. Oikonomos is a small islet/headland, to the NE of the modern village of Naousa, connected with the main island by a narrow, sandy piece of land. The remains of Oikonomos are dated to the Geometric-Archaic times.

SYROS

Ayios Loukas < C >

(Renfrew 3, 514; Simpson & Dickinson 311)

Chalandriani-Kastri < S & C >

(Renfrew 1, 514; Simpson & Dickinson 311)

Krokidas < C >

(Simpson & Dickinson 311)

Pidima < C >

(Renfrew 2, 514; Simpson & Dickinson 311)

TENOS

Kambos < C >

(Simpson & Dickinson 307)

Kardhiani < SF >

(Renfrew 513)

Vryokastro < S >

(Renfrew 1, 513; Simpson & Dickinson 307)

THERA¹

Akrotiri < S >

(Renfrew 525; Simpson & Dickinson 343)

Phira < C >

(Renfrew 1, 524; Simpson & Dickinson 345)

1. The site of Ftellos is not included in Renfrew's Gazetteer. It is included in Simpson's & Dickinson's Gazetteer as a LB I site (Simpson & Dickinson 1979, 345).

ABBREVIATIONS

AAA	Archaiologika Analekta Athinon
AA	Archaiologischer Anzeiger
ADelt	Archaiologiko Deltio
AE	Archaiologiki Ephemeris
AEMT	To Archaiologiko Ergo sti Makedonia kai Thraki
AEP	Archaios Ellinikes Poleis
AJA	American Journal of Archaeology
AR	Archaeological Reports
AM	Mitteilungen des Deutschen Archaeologischen Instituts: Athenische Abteilung
ASatene di Atene	Annuario della Scuola Archeologica Italiana
BCH	Bulletin ^{de} Correspondance Hellénique
BSA	Annual of the British School at Athens
CAH	Cambridge Ancient History
EEEPA	Epetiris Epistimonikon Ereunon tou Panepistimiou Athinon
ERGON	To Ergon tis Archaiologikis Etairias
Et.Cret.	Etudes Cretoises
JHS	Journal of Hellenic Studies
KrChron	Kretika Chronika
PAE	Praktika tis en Athinais Archaiologikis Etairias
PPS	Proceedings of the Prehistoric Society
SIMA	Studies in Mediterranean Archaeology
SMEA	Studi Miceni ed Egeo-Anatolici

BIBLIOGRAPHY

- Alexiou, S. 1964 Minoikos Politismos, Herakleio.
- Atkinson, T. D., Crowfoot, J. W., Edgar, C.C., Bosanquet, R.C., Mackenzie, D. & Smith, G. 1904 Excavations at Phylakopi in Melos, JHS Suppl. Vol. 4, London.
- Aurenche, O. 1981 La maison Orientale. L' architecture du Proche Orient ancien des origines au milieu du IV^e mill., Inst. Fr. d' Arch. du Pr. Orient, Bibl. Arch. et Hist., Vol. CIX, Paris.
- Barber, R. L. N. 1974 "Phylakopi 1911 and the history of the Late Bronze Age.", BSA 69, 1.
1978 "The Cyclades in the Middle Bronze Age.", in Dumas (ed), 367.
1984 "The Pottery of Phylakopi, First City, Phase ii (I-ii).", in Barber & Macgillivray (eds), 88.
1987 The Cyclades in the Bronze Age, London.
- Barber, R. L. N. & Hadjianastasiou, O. 1989 "Mikri Vigla: a Bronze Age settlement on Naxos.", BSA 84, 63.
- Barber, R. L. N. & Macgillivray, J. A. 1980 "The Early Cycladic Period. Matters of Definition and Terminology.", AJA 84, 141.
1984a "The Prehistoric Cyclades: a summary.", in Barber & Macgillivray (eds), 296.
1984b (eds) The Prehistoric Cyclades. Contributions to a workshop on Cycladic Chronology, Edinburgh.
- Bakalakis, G. 1964 "Notes Cycladiques", BCH 88, 556.
- Belmont, J & Renfrew C. 1964 "Two Prehistoric Sites on Mykonos.", AJA 68, 395.
- Bent, J. T. 1884 "Researches among the Cyclades.", JHS 5, 53.
- Blegen C. 1928 Zygouries, Cambridge, Mass.
1966 The Palace of Nestor, Vol. I, Princeton.
- Blegen, C., Caskey, J. L., Rawson, M. & Sperling, J. 1950 Troy I. The First and the Second Settlements, Princeton.
- Blegen, E., Caskey, J. L. & Rawson, M. 1951 Troy II. The Third, Fourth and the Fifth Settlements, Princeton.
- Bossert, E. M. 1967 "Kastri auf Syros.", ADelt 22, 53.
- Braiwood, R. J. & Howe, B. 1960 "Prehistoric Investigations in Iraqi Kurdistan.", Studies in Ancient Oriental Civilization, 31, Chicago.
- Branigan, K. 1970 The Foundations of Palatial Crete. A Survey of Crete in the Early Bronze Age, London.
1974 Aegean Metalwork of the Early and Middle Bronze Age, Oxford.

- Brea, L. B. 1964 Poliochni. Citta preistorica nell' isola di Lemnos I, Roma.
 1976 Poliochni. Citta preistorica nell' isola di Lemnos II, Roma.
- Brock, J. K. & Mackworth Young, G. 1949 "Excavations in Siphnos", BSA 44, 1.
- Bulle, H. 1907 Orchomenos I. Die alteren Ansiedlungsschichten, Munchen.
- Cadogan, G. 1986 (ed) The End of the Early Bronze Age in the Aegean, Leiden.
- Caskey, J. L. 1956 "Excavations at Lerna, 1955.", Hesperia 25, 147.
 1957 "Excavations at Lerna, 1956.", Hesperia 26, 142.
 1958 "Excavations at Lerna, 1957.", Hesperia 27, 125.
 1959 "Excavations at Lerna, 1958-59.", Hesperia 28, 202.
 1960 "The Early Helladic Period in the Argolid.", Hesperia 29, 283.
 1962 "Excavations in Keos 1960-61", Hesperia 31, 263.
 1964a "Greece, Crete and the Aegean Islands in the Early Bronze Age.", CAH I, 26.
 1964b "Excavations in Keos, 1963.", Hesperia 33, 314.
 1964c "Excavations in Keos.", ADelt 19, 413.
 1964d "Chalandriani in Syros.", Essays in Memory of Karl Lehmann (Marsyas Supplement I), 63, New York.
 1966a Houses of the Fourth Settlement at Lerna.", in Charistirion is A. K. Orlandon, Vol. III, 144, (Bibliothiki tis en Athinais Archaialogikis Etairias 58), Athens.
 1966b "Excavations in Keos, 1964-65.", Hesperia 35, 363.
 1970a "The Early Bronze Age at Ayia Irini in Keos.", Archaeology 23, 339.
 1970b "Inscriptions and the Potters' Marks from Ayia Irini in Keos.", Kadmos IX, 108.
 1971 "Investigations in Keos. Part I: Excavations and Explorations, 1966-70.", Hesperia 40, 359.
 1972 "Investigations in Keos. Part II: A conspectus of the pottery.", Hesperia 41, 357.
 1973 "Ayia Irini in Keos, 1972.", ADelt 28, B, 547.
 1979 "Ayia Irini, Keos: The Successive Periods of Occupation.", AJA 83, 412.
 1986 "Did the Early Bronze Age End?", in Cadogan (ed), 9.
- Caskey, J. L. & Caskey, E. G. 1960 "The Earliest Settlements at Eutresis. Supplementary Excavations, 1958.", Hesperia 29, 126.
- Catling, H. W. 1983 "Archaeology in Greece.", AR 30, 83.
 1984-85 "Archaeology in Greece.", AR 31, 83.
 1985-86 "Archaeology in Greece.", AR 32, 74.

- Cherry, J. F. 1979 "Four problems in Cycladic Prehistory.", in Davis & Cherry (eds), 22.
- Cherry, J. F. & Torrence, R. 1982 "The earliest prehistory of Melos.", in Renfrew & Wagstaff (eds), 24.
- Childe, V. G. 1942 What happened in History, Middlesex.
- Coleman, J. E. 1974 "The Chronology and Interconnections of the Cycladic islands in the Neolithic period and the Early Bronze Age.", AJA 78, 333.
- 1977 KEOS I: Kephala, a Late Neolithic Settlement and Cemetery, Princeton.
- 1979 "Chronological and cultural divisions of the Early Cycladic period: a critical approach.", in Davis & Cherry (eds), 48.
- Crossland, R. A. & Birchall, A. 1973 (eds) Bronze Age Migrations in the Aegean, London.
- Cummer, W. W. & Schofield, E. 1984 KEOS III: Ayia Irini, House A, Mainz.
- Davaras, K. 1971 "Protominoiko nekrotapheion Ayias Photias Siteias.", AAA 4, 392.
- 1972 "Archaïotites kai mnemeia Anatolikis Kritis.", ADelt 27, B, 645.
- MAN Mouseio Ayiou Nikolaou, Athens.
- Davis, J. L. & Cherry, J. E. 1979 (eds) Papers in Cycladic Prehistory. Monograph XVI, Institute of Archaeology, University of California, Los Angeles.
- Dawkins, R. M. 1904-5a "Excavations at Palaikastro IV: Neolithic Settlement at Magasa.", BSA 11, 260.
- 1904-1905b "Excavations at Palaikastro IV: Temple Site (Bloc X).", BSA 11, 272.
- Dawkins, R. M. & Droop, J. P. 1911 "The excavations at Phylakopi in Melos.", BSA 17, 1.
- Dimakopoulou, K. 1975 "Eidisis apo ti Theba: Aneuresi Protoelladikou Apsidotou Oikodomimatos.", AAA 8, 192.
- Doumas, C. 1963 "Archaïotites kai mnemeia Kykladon.", ADelt 18, B, 279.
- 1964 "Archaïotites kai mnemeia Kykladon.", ADelt 19, B, 410.
- 1965 "Korphi t' Aroniou: Mikra anaskaphiki ereuna en Naxo.", ADelt 20, A, 41.
- 1972 "Notes on Early Cycladic Architecture.", AA 87, 151.
- 1976a "Proistorikoi Kykladites stin Krete.", AAA 9, 69.
- 1976b "Protokykladiki kerameiki apo ta Christiana Theras.", AE, 1.
- 1977 Early Bronze Age Burial Habits in the Cyclades, SIMA XLVIII, Goteborg.
- 1978a (ed) Thera and the Aegean World I, London.
- 1978b "The stratigraphy of Akrotiri.", in Thera and the Aegean World I, 777, London.
- 1979 "Proistorikoi Kykladites stin Krete.", AAA 12, 104.
- 1983 Thera: Pompeii of the Ancient Aegean, London.

- 1984 Cycladic Art, N. P. Goulandris Collection, Athens.
- 1987 "Early Cycladic Society: The evidence from the graves.", in R. Laffineur (ed), 15.
- 1988a "EBA in the Cyclades: Continuity of discontinuity?", in French & Wardle (eds), 21.
- 1988b "Ta nisia kai i proimi metallourgia sto Aigaio.", in N. P. Goulandris *Dialexeis* 1986-1989, 111, Athens.
- 1988c "Ethima kai Thesmoi tis Protokykladikis Kinonias.", *Epistimoniki Skepsi* 41, 78.
- 1990 "To Proistoriko Aegeo kai i symboli tou stin anaptyxi tis Ditikis skepsis.", *Parnassos*, Vol. 32, 1.
- 1991 "Thera and the East Mediterranean during the 1st half of the second millennium B.C.", in Karageorghis (ed), 24.
- Doxiadis, K. 1972 *I methodos gia tin ereuna ton Archaion Ellinikon oikismon*, AEP 2, Athens.
- Drerup, H. 1969 "Griechische Baukunst in Geometrischer Zeit.", *Archaeologia Homerica* II.
- Dummler, F. 1886 "Mitteilungen von den griechischen Inseln.", *AM* 2, 15.
- Edgar, C. C. 1897 "Prehistoric tombs at Pelos.", *BSA* 3, 35.
- Evans, A. 1921-36 *The Palace of Mīnos I-IV* London.
- Evans, J. D. 1971 "Neolithic Knossos. "The Growth of a Settlement.", *PPS*, 37, 2, 81.
- 1972 "The Early Minoan occupation of Knossos: A note on some new evidence.", *Anatolian Studies* 22, 113.
- Evans, J. D. & Renfrew, C. 1968 *Excavations at Saliagos near Antiparos*, *BSA Suppl.* Vol. 5, London.
- Evans, R. K. & Renfrew, C. 1984 "The Earlier Bronze Age at Phylakopi.", in Barber & Macgillivray (eds), 63.
- Felten, F. 1986 "Early Urban History and Architecture of Ancient Aigina.", in Hagg & Konsola (eds), 21.
- Fossey, J. M. 1969 "The prehistoric settlement by Lake Vouliagmeni, Perachora.", *BSA* 64, 53.
- Frankfort, H. 1927 *Studies in Early Pottery of the Near East II. Asia Europe and the Aegean and their earliest interrelations*, Royal Anthropoligical Institute, Occasional Papers, No. 8.
- French, D. H.. 1973 "Migrations and Minyan pottery in Western Anatolia and the Aegean.", in Crossland & Birchall (eds), 51.
- French, E. B. 1990 "Archaeology in Greece.", *AR* 36, 69.
- French, E. B. & Wardle, K. A. 1988 (eds) *Problems in Greek Prehistory. Centenary Conference of the British School at Athens, Manchester 1986*, Bristol.
- Frodin, O. & Person, A. 1938 *Asine. Results of the Swedish Excavations, 1922-30*, Stockholm.

- Gale, N. H. & Stos-Gale, Z. 1981 "Cycladic Lead and Silver Metallurgy.", BSA 76, 208.
1984 "Cycladic Metallurgy.", in Barber & Macgillivray (eds), 269.
- Garstang, J. 1953 Prehistoric Mersin, Oxford.
- Goldman, H. 1931 Excavations at Eutresis in Boeotia, Cambridge, Mass.
- Greece 1944 "Greece.", Naval Intelligence Division, Geographical Handbook, Vols I-III.
- Hadjianastasiou, O. "A Late Neolithic Settlement at Grotta, Naxos.", in French & Wardle (eds), 11.
- Hagg, R. & Konsola, D. 1986 (eds) Early Helladic Architecture and Urbanization, SIMA LXXVI, Goteborg.
- Haider, P. 1980 "Zum fruhhelladischer Rundbau in Tiryns.", Forschungen und Funde. Festschrift B. Neutsch:157, Innsbruck.
- Hodges, H. W. M. 1972 "Domestic building materials and ancient settlements.", in Ucko, Tringham & Dimbleby (eds), 523.
- Honea, K. 1975 "Prehistoric Remains on the island of Kynthos.", AJA 79, 277.
- Hood, S. 1961-62 "Stratigraphic Excavations at Knossos, 1957-61.", KrChron, 15-16, 92.
1981 Excavations in Chios 1938-55: Prehistoric Emporio and Ayio Gala, BSA Suppl. Vol. 15, London.
1984 "The relative chronology of the Neolithic and the Beginning of the Early Bronze Age in the Cyclades.", in Barber & Macgillivray (eds), 26.
1986 "Evidence for invasions in the Aegean Area at the End of the Early Bronze Age.", in Cadogan (ed), 31.
- Howell, R. J. 1973 "The origins of the Middle Helladic culture.", in Crossland & Birchall (eds), 73.
- Hutchinson, R. W. 1962 Prehistoric Crete, London.
- Jacobsen, T. 1969a "Excavations at Porto Cheli and Vicinity, Preliminary Report II: the Franchthi Cave, 1967-1968.", Hesperia 38, 343.
1969b "The Franchthi Cave. A Stone Age site in Southern Greece.", Archaeology 22, 4.
1976 "17.000 Years of Greek Prehistory.", Scientific American 234, 76.
- Karageorghis, V. 1991 (ed) The Civilization of the Aegean and their diffusion in Cyprus and the Eastern Mediterranean 2.000-600 B.C., Proceedings of an International Symposium, September 1989, Larnaka.
- Karagiorga, T. 1971 "Akovitika.", ADelt 26, B, 126.
- Karathanasis, G. 1960 "To Laiko Spiti tis Parou.", To Elliniko Laiko Spiti, Ethniko Metsovio Polytechnio, Athens.
- Katos, A. B. 1984 Statistiki, Thessaloniki.
- Kilian, K. 1983 "Ausgrabungen in Tiryns 1981. Fruhelladische Befunde.", AA, 277.
- Kiochos, P. 1982 Askisis Statistikis, Athens.

- Kondoleon, N. 1949 "Anaskaphai en Naxo.", PAE 112.
 1950 "Anaskaphai en Naxo.", PAE 269.
 1951 "Anaskaphai en Naxo.", PAE 214.
 1958 "Naxos.", Ergon 165.
 1959 "Naxos.", Ergon 125.
 1960 "Naxos.", Ergon 185.
 1961 "Naxos.", Ergon 197.
 1970 "Anaskaphai Naxou.", PAE, 146.
 1971 "Anaskaphai Naxou.", PAE, 172.
 1972 "Anaskaphai Naxou.", PAE, 143.
- Konsola, D. 1981 Promykinaiiki Theba. Chorotaxiki kai oikistiki diarthorisi, Athens.
 1984 I Proimi Astikopoiisi stous Protohelladikous oikismous. Systematiki analysis ton charactiristikon tis, Athens.
 1986 "States of Urban Transformation in the EH Period.", in Hagg & Konsola (eds), 9.
- Kontaratos, S. 1986 Architektoniki kai Paradosi, Athens.
- Koukouli-Chrysanthaki, Ch. 1988 "Oikismos tis Proimis Epochis Chalkou sti Skala Sotiros Thasou I.", AEMT I, 1987, 421, Thessaloniki.
 1991 "Oikismos tis Proimis Epochis Chalkou sti Skala Sotiros Thasou II.", AEMT II, 1988, 389, Thessaloniki.
- Koumanoudis, I. N. 1971 Ta Laika spitia kai i ekklesies tis Santorinis, Santorini.
- Koutrouvelis, I. A. 1987 Statistikes Methodoi, Patras.
- Laffineur, R. 1987 (ed) Thanatos. Les Coutumes Funeraires en Egee a l' Age du Bronze, Aegaeum 1, Annales d' Archeologie Egeenne de l' Universite de Liege, Liege.
- Lamb, W. 1936 Excavations at Thermi in Lesbos, Cambridge.
- Lambrinoudakis, V. 1976a "Anaskaphai Naxou.", PAE, 295.
 1976b "Naxos.", Ergon, 154.
 1979 "Anaskaphes Naxou.", PAE, 251.
- Laviosa, Cl. 1969-70 "Saggi di scavo ad Haghia Triada.", ASAtene 47-48, 407.
- Levi, D. 1976 Festos e la Civilita Minoica, Vol. I, 1-2, Roma.
 1981 Festos e la Civilita Minoica, Vol. II, 1, Roma.
- MacDonald, W. A., Coulson, W. D. E. & Rosser, J. 1983 (eds) Excavations at Nichoria in Southern Greece, Vol III, Minnesota.
- Macgillivray, J. A. 1980 "Mount Kynthos in Delos. The Early Cycladic Settlement.", BCH 104, 3.
 1984 "The Relative Chronology of the EC III.", in Barber & Macgillivray (eds), 70.
- Mackenzie, D. 1897 "Ancient Sites in Melos.", BSA 3, 71.
 1898 "Excavations in Melos, 1898: The successive settlements.", BSA 4, 17.
- Marangou, L. 1984 "Evidence from the Early Cycladic Period on Amorgos.", in Cycladica: Studies in Memory of N. P. Goulandris, London, 99.
 1990a "Kykladiko eidolio apo tin Minoa Amorgou.", AE, 159.
 1990b (ed) Cycladic Culture, Naxos in the third millen. B.C., N. P. Goulandris Foundation, Athens.

- Marinatos, S. 1968-76 Excavations at Thera I-VII, Athens.
- Marthari, M. 1982 "Anaskaphi sto Ftello Theras.", AAA 15, 86.
1990 "Skarkos: Enas Protokykladikos Oikismos stin Io.", in N. P. Goulandris Foundation, *Dialexeis* 1986-1989, 97, Athens.
- Mazarakis, A. A. 1990 "Latreutika Dipna stis katoikies ton archonton ton Protogeometrikon kai Geometrikon chronon.", in *The Homerikos Oikos*, Ithaca.
- Mellaart, J. 1960 "Excavations at Hacilar, Third Preliminary Report.", *Anatolian Studies* 10, 83.
1961 "Excavations at Hacilar, Fourth Preliminary Report.", *Anatolian Studies* 11, 39.
- Mortzos, C. 1972 "Partira. Mia proimos Minoiki Keramiki omas.", *EEEPA* 3, 386.
- Moore C. B. 1974 (ed) *Reconstructing Complex Societies*, *Bulletin of the American Schools of Oriental Reserach*, Suppl. 20.
- Muhly, J. D. 1985 "Sources of Tin and the Beginning of Bronze Metallurgy.", *AJA* 89, 283.
- Mylonas, G. 1959 *Ayios Kosmas. An Early Bronze Age Settlement and Cemetery in Attica*, Princeton.
- Orlandos, A. K. 1955-56 *Ta Ilika Domis ton Archaion Ellinon I*, Athens.
- Overbeck, J. C. 1989 *The Bronze Age Pottery from the Kastro at Paros*, SIMA pocket-book 78, Jonsered.
- Overbeck, J. C. & Overbeck, G. F. 1979 "Consistency and Diversity in the Middle Cycladic Era.", in Davis & Cherry (eds), 106.
- Papadopoulos, G. 1862 *Revue Archeologique* VI, 224.
- Papathanasopoulos, G. 1961-62 "Kykladika Naxou.", *ADelt* 17, A, 104.
1981 "Ipovrichia Ereuna sti Naxo.", *PAE*, 298.
- Parlama, L. 1984 *Skyros stin Epochi tou Chalkou*, Athens.
- Phillipa-Apostolou, M. 1982 *Paros, Antiparos. Greek Traditional Architecture*, Athens.
- Phillipson, A. 1959 *Die Griechischen Landschaften IV, Das Agaische Meer*, Frankfurt.
- Plassart, A. 1928 *Les Sanctuaire et les Cultes du Mont Cynth, Delos XI*, Paris.
- Popham, M. R. & Sackett, L. H. 1968 *Excavations at Lefkandi, Euboea, 1964-66. The British School of Archaeology at Athens*, London.
- Pullen, D. 1986 "The Early Bronze Age settlement at Tsoungiza hill, Ancient Nemea.", in Hagg & Konsola (eds), 73.
- Rapp, G. JR. & Kraft, J. C. 1978 "Aegean Sea Level Changes in the Bronze Age.", in Dumas (ed), 183.
- Rappoport, A. 1976 *Anonimi Architektoniki kai Politistikoi Paragontes*, Greek edition of the original *House Form and Culture*, Athens.

- Renfrew, C. 1964 "Crete and the Cyclades before Rhadamanthus.", *KrChron* 18, 107.
 1972 *The Emergence of Civilization: The Cyclades and the Aegean in the third millennium B.C.*, London.
 1974 "Beyond subsistence and economy: the evolution of social organization in prehistoric Europe.", In Moore (ed), 69.
- Renfrew, C. & Wagstaff, M. 1982 *An Island Polity. The Archaeology of exploitation in Melos*, Cambridge.
- Rider, B. C. 1965 *The Greek House*, Cambridge.
- Rodden, R. J. 1962 "Excavations at the Early Neolithic site at Nea Nikomedeia, Greek Macedonia (1961 season).", *PPS*, 28, 267.
- Rouse, I. 1972 "Settlement Pattern in Archaeology.", in Ucko, Tringham & Dimbleby (eds), 95.
- Rubensohn, O. 1917 "Die prahistorischen und fruhgeschichtlichen Funde auf dem Burghugel von Paros.", *AM* 42, 1.
- Rutter, J. 1984 "The EC gap: What it is and how to go about filling it without making it to go away.", in Barber & Macgillivray (eds), 95.
- Sackett, L. H. & Popham, M. R. 1965 "Excavations at Palaikastro VI: Kastri.", *BSA* 60, 269.
- Saflund, C. 1965 *Excavations at Berbati*, Stockholm.
- Sampson, A. 1979 "Anaskaphi ston Proto-elladiko II oikismo Mourtesis Kymis.", *AAA* 12, 247.
 1985 *Manika. An Early Helladic Town in Chalkis, Athens*.
- Schachermeyer, F. 1955 *Die altesten Kulturen Griechenlands*, Stuttgart.
- Schilardi, D. U. 1975 "Archaiologikai Ereunai en Paro.", *PAE*, 199.
- Scholes, K. 1956 "The Cyclades in the Late Bronze Age: A Synopsis.", *BSA* 51, 9.
- Seager, R. 1906 "Report of excavations at Vasiliki, Crete, in 1906.", in *University of Pennsylvania, Free Museum of Science and Art, Vol. II. 2*, 111.
- Service, E. R. 1962 *Primitive Social Organization*, New York.
- Shaw, J. 1973 "Minoan Architecture: Materials and Techniques.", *ASAtene*, 49.
- Simpson, H. R. & Dickinson, O. T. P. K. 1979 *A Gazetteer of Aegean Civilization in the Bronze Age, Vol. I: The Mainland and Islands*, *SIMA LII Gotebrog*.
- Sotirakopoulou, P. 1986 "Early Cycladic Pottery from Akrotiri.", *BSA* 81, 297.
- Stavropoulos, P.D. 1956 "Anaskaphi Archaia Akadimias.", *PAE*, 45.
- Stefanos, K. 1903 "Kykladika Naxou.", *PAE*, 52.
 1904 "Kykladika Naxou.", *PAE*, 57.
 1908 "Kykladika Naxou.", *PAE*, 114.
 1909 "Kykladika Naxou.", *PAE*, 209.
 1910 "Kykladika Naxou.", *PAE*, 270.
 1911 "Kykladika Naxou.", *PAE*, 357.

- Techniko Institutouto Ellados 1988 (ed) "Katoikies", in Diarkis Ermineutikos Kodikas Genikou Oikodomikou Kanonismou, Book 147, Vol. E1, Athens.
- Themelis, P. 1970 "Proto-Helladiko megaro sta Akovitika Messinias.", AAA 3, 303.
- Theocharis, D. R. 1951a "Anaskaphi en Palaia Kokkinia Pireos.", PAE, 93.
 1951b "Anaskaphi en Araphini.", PAE, 77.
 1952 "Anaskaphi en Araphini.", PAE, 129.
 1953 "Anaskaphi en Araphini.", PAE, 105.
 1955 "Askitario.", PAE, 109.
 1981 Neolithikos Politismos, Athens.
- Theochari, M. & Parlama, L. 1986 "Palamari, an Early Bronze Age Settlement on Skyros.", in Hagg & Konsola (eds), 51.
- Theophrastos Peri Phyton Historias.
- Treuil, R. 1983 Le Neolithique et le Bronze Ancien Egeens, Paris.
- Tsakos, K. 1967 "Archaiotikes kai mnemeia Samou kai Kykladon: Thera.", ADelt 22, B, 464.
- Tsountas, C. 1898 "Kykladika I.", AE, 137.
 1899 "Kykladika II.", AE, 73.
 1908 Ai Proistorikai Acropoleis Diminiou kai Sesklou, Athens.
- Tzavella-Evjen, H. 1985 Lithares. An Early Bronze Age Settlement in Boeotia, University of California, Institute of Archaeology. Occasional Paper 15, Los Angeles.
- Ucko, J., Tringham, R. & Dimbleby, G. W. 1972 (eds) Man, Settlement and Urbanism, London.
- Vagnetti, L. & Belli, P. 1978 "Characters and Problems of the Final Neolithic in Crete.", SMEA 19, 125.
- Vanderpool, E. 1957 "News Letter from Greece.", AJA 61, 282.
- Van Effenterre, H. 1969 "Malia. Centre Politique I.", Et. Cret. XVII, 7.
- Varelidou, P. 1979 Architektoniki, Athens.
- Vermeule, E. 1983 Greece in the Bronze Age, Greek Edition, Athens.
- Varna 1989 Le premier Or de l' Humanite en Bulgarie 5e Millenaire, Exhibition Catalogue, 17 Jan.-30 April, Museum Saint-Germain-en-Laye.
- Vitruvius, The Ten Books on Architecture, Translated by M. Hicky Morgan, New York 1960.
- Wace, A. J. B. & Blegen, C. W. 1916-18 "The pre-Mycenaean pottery of the Mainland.", BSA 22, 179.
- Wace, A. J. B. & Thompson, M. S. 1912 Prehistoric Thessaly, Cambridge.
- Walter, H. & Felten, F. 1981 Aigina III, 1. Die vorgeschichtliche Stadt, Mainz.
- Warner, J. 1979 "The Megaron and Apsidal House in Early Bronze Age Western Anatolia: New Evidence from Karatas.", AJA 83, 133.

- Warren, P. 1972 Myrtos. An Early Bronze Age Settlement in Crete, BSA Suppl. Vol. 7, London.
 1973 "Crete, 3.000-1.400 B.C.: Immigration and the archaeological evidence.", in Crossland & Birchall (eds), 41.
 1984 "Early Cycladic-Early Minoan Chronological correlations.", in Barber & Macgillivray (eds), 55.
- Warren, P. & Hankey, V. 1989 Aegean Bronze Age Chronology, Bristol.
- Warren, P. & Tzedakis, I. 1974 "Debla. An Early Minoan Settlement in Western Crete.", BSA 69, 299.
- Weinberg, S. S. 1962 "Excavations at Prehistoric Elateia.", Hesperia 31, 158.
- Wilson, D. E. & Eliot, M. 1984 "Ayia Irini, Period III: the last phase of occupation at the Early Bronze Age settlement.", in Barber & Macgillivray (eds), 78.
- Xanthoudides, S. 1918 "Megas Protominoikos taphos Pyrgou.", ADelt 4, B, 136.
- Zachos, K. 1986 "Ayios Dimitrios. An Early Helladic settlement in Ancient Triphylia.", in Hagg & Konsola (eds), 29.
- Zapheiiropoulos, N. 1960 "Kyklades.", ADelt 16, 244.
 1965 "Archaïotites kai mnemeia Kykladon.", ADelt 20, B, 505.
- Zapheiiropoulou, Ph. 1967 "Archaïotites kai mnemeia Samou kai Kykladon.", ADelt 22, B, 464.
 1968 "Archaïotites kai mnemeia Samou kai Kykladon.", ADelt 23, B, 381.
 1969a "Archaïotites kai mnemeia Kykladon.", ADelt 24, B, 392.
 1969b "A Prehistoric House Model from Melos.", AAA II, 406.
 1970 "Protokykladika eurimata ex Ano Kouphonisiou.", AAA III, 48.
 1988 Naxos, Monuments and Museum, Athens.
- Zervos, C. 1956 L' art de la Crete Neolithique et Minoenne, Paris.
 1957 L' arts des Cyclades du Debut a la Fin de l' age du Bronze, 2.500-1.100 avant notre ere, Paris.
- Zois, A. 1965 "Paistiaka", AE, 27.
 1967 "Iparchi PM III epochi?", in Praktika B Diethnous Kretologikou Synedriou, Vol. I, Athens.
 1968 Der Kamares-Stil, Tübingen.
 1973 "Hellas-Epochi tou Lithou.", AEP 18, 187.
 1976 Vasiliki I, Athens.
 1978 "Anaskaphi Vasilikis Ierapetras.", PAE, 306.
 1979a "Anaskaphi Vasilikis Ierapetras.", PAE, 326.
 1979b "Gibt es Vortäuer der Minoischen Paläste auf Kreta? Ergebnisse neuer Untersuchungen.", in Palast und Hütte. Beiträge zum Bauen und Wohnen im Altertum, 207, Mainz.

1980 "Anaskaphi Vasilikis Ierapetras.", PAE,
333.
1981 "Anaskaphi Vasilikis Ierapetras.", PAE,
376.