3. Landscape Research Projects in Crete: Text Analysis

3.1 Introduction
The ‘surveys’ database (description in 2.2 & 2.3) allowed the collection of a large amount of information about many different aspects of the projects, so that we have a full description of aims, methods, results and general framework of each project. In this way we can assess what has been achieved and how, and therefore what knowledge we acquire and further, we can study the history of landscape research on the island. Chapter three consists of a text discussion for each of the thirty-five projects studied, describing and discussing aims, methods, presentation / relocatability, site densities, interpretative framework and providing a summary assessment. In general, the texts follow a set structure discussing and summarising important issues regarding landscape research. A description of the sections which constitute the text discussion of each project is given in 2.4.

The projects are presented in chronological order within the tradition they belong to, and traditions also try to follow a chronological order on the basis of their beginning as disciplinary paradigms, even though most of the time they co-exist. It is hoped that the chapter will elucidate the theoretical and methodological frameworks of the relevant projects and it will provide a better understanding of their results and potential. Finally, the last section discusses the interpretative process of site data, based on the ‘interpretations’ database (a description of the database is provided in 2.5 & 2.6).

3.2 Travellers Tradition

3.2.1 Survey ID: Sieber
Problem Orientation: aims and methods
Sieber travelled around Crete in 1817 intrigued by accounts of previous researchers / Travellers from Europe. His primary objective appears to be a collection of Crete’s known endemic rare plants, which related to his interest and practice of medicine. However, his book includes very little about plants; it consists mainly of stories and descriptive accounts of his experiences on the island, so that the goal of his journey seems to have rather been the journey itself, to learn and write about life on the island. He conceived himself as an explorer, and he certainly was one since travelling in the dangerous and remote ‘east’ was not something common for Europeans at the time. Being part of his time’s intellectual elite he wanted to contribute to the collection of knowledge about Crete’s little known land and culture. He was interested in ethnography, archaeology and socio-political and economic life, as well as botany and medicine. His chronological focus was his contemporary Crete, thus previous times receive little attention and the limited discussion of ancient ruins seems to be rather the result of ‘scientific correctness’ than his real interest. His study was based on personal experience and thus he travelled around Crete (mule was the transport of the time) accompanied by a local guide, collecting plants and observing life. He used Homann’s map as his reference, but mentions that he also drew maps of some of the areas where he travelled and tried to estimate the height of the mountains using a barometer and octanta (Johann Baptist Homann 1663-1724: German chartographer. In 1716, 126 maps of his are published as a World Atlas).

Presentation / Relocatability
Sieber’s literary text is accompanied by sketches and art drawings that aim to make his descriptions more vivid. Themes include the landscape, Cretans with their different clothing, or everyday life. Even though his
main interests are not in geography and sites, presentation includes a map of ‘ancient Crete’. Almost all of the places he talks about, can, of course, be relocated, since they are villages still inhabited now, monasteries or well-known sites.

Density per area / period
Not applicable. He travels most of Crete referring mainly to his contemporary sites.

Interpretive Framework
Sieber was not primarily interested in the archaeological landscape of Crete; therefore, he mentions very few archaeological sites. Most of the sites he refers to are not described in detail, but are just the scene where his narratives take place. Others are only mentioned by name as places where he passed through. The ones he considers significant, however, and places that attracted his interest, are described in greater detail. The major towns of Chania, Rethimno and Herakleion (Chandax) are the most important among these. The past is little explored, but as it is part of his contemporary landscape, it survives in material remains and the non-material record of stories, beliefs and customs, giving historical depth in his descriptions.

As his aim was to give a picture of Crete, the content of his book reveals what he considered as important themes to discuss, representative of life on the island. Thus, he describes both cultural and environmental landscapes, focusing on people’s relationships, their social and economic life. He uses all his senses in his descriptions, colouring his narratives with a very personal and vivid character. His point of view, representative of his upbringing and classical education, is strong and sheds light to the value system of his society as much as Crete’s. He describes facts and situations, he is quite judgmental and always gives his personal evaluation of the situation or characters under discussion. He often mentions his impression of landscapes, behaviours and people.

At the same time he also tries to give some ‘objective’ descriptions, whether this concerns plants, geography, architecture or social behaviour. There is an evident attempt to give a character of scientism in his writing when he describes what he sees without expressing his personal views, or when he explains in detail everything (facts, behaviours, discussions) that led him to a specific conclusion. His text is a mixture of ‘subjective’ and ‘objective’, ‘scientific’ and ‘literary’. He describes what he sees, hears, smells, feels and thinks. The romanticism and at the same time the belief in objective knowledge and science, spread throughout his work and correspond to the Enlightenment’s intellectual stimulation of his time.

Influential references: Tournefort seems to have had the greatest impact on his work, but he also mentions almost all Travellers / explorers that had visited Crete before him and left accounts of their travels. He visits places they visited and tries to confirm the information they left, e.g. things observed, or plants Tournefort collected. Homann and German cartography appear to have been the major influence on his mapping and understanding of spatial relationships.

Summary Assessment
Strengths: vivid way of writing, important details.
Weaknesses: no specific questions and methodology, poor archaeological landscape.
Evaluation of data and interpretations: he gathered important information in Crete during his travel, although his interpretations are sometimes totally subjective opinions.
Integrability: high; known sites.
Publication: completed
This travelling account is an example of the major differences in aims and research interests between Travellers’ texts and archaeological reports that followed. An account of the physical environment and the social life of the island are the goals set in order to portray Crete. Moreover, a psychological outline of the people, both Turks and Greeks, receives great attention. He grasps and observes interesting social themes such as relations of control and dependence. It is interesting that apart from the repeated mentions in the obvious control of Turks upon Greeks whose violence he strongly disapproved of, he notices such relations also in the clergy, and among common people, who tried to profit from, or control others.

His work is a rich source of information especially of socio-political and economic associations at the time of his travel. Descriptions of the landscape he visited, both cultural and environmental, are particularly important for the history and archaeology of his time. We should remember, however, that his accounts of what he saw and perceived, are not necessarily objective assessments of the situation he describes, but usually his personal interpretation. Narrative is based on a time sequence as he travelled through Crete, often repeating places he revisited. The sequence breaks only when he narrates a story that takes place in different spatial contexts, which may not coincide with the places he visited in succession. When he finishes the story, he goes back to the narrative of what happened and where, in time order. The manner of his writing has the potential to reveal lively pictures of the places he visited, being indicative of his own personality and cultural background.

His classical education is noticeable through his mentions and quotes of ancient cities (Gortyn, Knosos, Kydonia etc), however, we do not learn anything new, as neither is he interested in discovering unknown remains of the past, nor in giving detailed records of known monuments. However, as archaeology is part of his living landscape, he considers it an integral part of the island’s character, thus, occasionally he refers to ancient monuments he sees or knows of.

Landscape approach: he approaches the landscape as the living world around him. That is the environment where people live, loci of human activity and their interactions. He uses all his senses and he describes what he experiences, presenting quite a variable account of the landscape he interacts with. He describes amazing views and beautiful places, but also gives ‘objective’ accounts of geographical characteristics, or economic potential and restrictions (fertile plains).

3.2.2 Survey ID: Pashley

Problem Orientation: aims and methods

Pashley travelled in Crete in 1834, in order to relocate ancient sites and provide a description of the island. He declares that he wants to ‘increase our knowledge’ about Crete, thus, he tries to select a variety of information about as much of the island as possible, touching upon all periods. His discussions, subject to his interests, focus on ancient remains, ancient history and mythology, monasteries and caves, ethnography and the socio-political history of his contemporary Crete, which notably also forms the subject of his introduction. This is studied through the systematic recording of villages and the population of the island, production and taxation, export and import, but he also uses his personal experiences and thoughts. His descriptions include customs, beliefs, stories, historical events and the relationship between Greeks and Turks, whereas sometimes he gives good descriptions of the physical landscape.

His starting point regarding the exploration of the past is the ancient writers. According to their information he tries to identify the geographical characteristics and spatial relationships that reveal the location of ancient towns. His descriptions contain records of exact measurements of distances and sizes, e.g. of buildings and caves. He also studies the history and myths known about sites and he uses etymology as evidence for their understanding, but also for the discovery of ancient ruins (e.g. ‘the name Kamares often indicates area or location of an ancient town’). The accounts of previous Travellers, cartographers and antiquaries are carefully studied as well, and comparing his own observations with those of others, he uses both philological and archaeological evidence for his conclusions. Cyclopean architecture and sherds are the strongest evidence for the discovery of an ancient Greek settlement and in one case he characteristically states ‘I found the most secure evidence of an ancient site: many pottery sherds’.
Presentation / Relocatability
Pashley’s description of the island is accompanied by a variety of art drawings, which attempt to enhance understanding, by allowing the visualisation of themes discussed. These include landscapes and monuments, other objects (usually ancient), but also people. A map is also published at a scale of 1:1,535,763, which shows topography and ancient cities at their precise or approximate location. A very interesting component of his presentation is statistical tables, which record the Muslim and Christian families per village all around the island, income and expenses of the government, taxation, income from specific professions, imports and exports. Relocatability is in most cases feasible and many of his ancient Greek cities have been correctly identified.

Density per area / period

<table>
<thead>
<tr>
<th>area surveyed (km²)</th>
<th>Total site no</th>
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<th>GR</th>
<th>BVT</th>
<th>Modern</th>
<th>Unknown</th>
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Site definition: Although Pashley discusses all kinds of loci that attract his attention, his particular interest lies in loci with ancient ruins, which may be identified as ancient settlements. The term ‘ancient’ seems to refer to Greco-Roman times and ‘site’ is the equivalent for settlement, in particular a town mentioned in ancient sources. The sites included in the database, are those treated as ‘sites’ by Pashley and for which he is certain.

Interpretative Framework
Pashley is a broadly-read scholar of his time, and a connoisseur of the ancient Greek philology. His education covers mythology, history and archaeology and in order to identify ancient remains and interpret what he observes, he uses evidence from all of them. He endeavours into long discussions regarding a site’s history, comparing views from various ancient writers and previous researchers. Considering all possible opinions, he usually clarifies why he agrees or disagrees with proposed explanations. Herodotus, Pleinius and Strabo are among his chief but not the only ancient sources, almost all previous Travellers and cartographers have been consulted, whereas Hoeck’s and others’ philological studies as well as Leake’s topographical orientation have much influenced his methodological and interpretative background.

As already mentioned, his interest in pre-contemporary Crete lies on its ancient past, which of course is not well-defined chronologically, but it seems that Roman times separate it from recent history. From the extensive references to ancient sources it is clear that when he talks about ‘ancient’ he implies Greco-Roman (mainly Classical), and the vast majority of his sites are cities. Except for philological sources, which are used to discover and study ancient sites, material remains are considered the ‘hard’ evidence. He tries to date based mainly on architecture and indeed, the concept of archaeological material at his time is notable. Leake’s topographical explorations have certainly influenced the way he observes and interprets material culture, e.g. the type of stones and the way they have been put together reveal their ancient Greek origin or not – and he often identifies cyclopean walls. Moreover, he records other types of material culture such as sarcophagi, inscriptions and coins, whereas the quantity of pottery sherd is an indisputable piece of evidence for the presence of a site. The themes he discusses when he talks about a site of his interest, include history, etymology, material culture, mythology and even territory and site interrelationships.
His interest in his contemporary Crete embraces a variety of themes, which are discussed recurrently as he travels through the island. His descriptions of the places he stays include standing monuments, physical appearance and character of people, their customs and beliefs, stories about their history / sufferings in Modern times. He is particularly interested in monasteries, where he often finds lodging. Facts of the socio-political life of the island, which express the tension between Turks and Cretans, receive great attention. His narrative is often interrupted by songs and ‘mandinades’, or descriptions of climate, plants and animals, landuse, costumes.

Moreover, he is very interested in the diachronic character of beliefs and customs, but also in their spatial spread. Therefore, he identifies systems of behaviour that have lasted over time and he likes comparing ancient times with modern, for example he notes the ritual and refuge use of caves over time, the continuation of beliefs in elves and pagan deities, or the isolation of both Muslim and Christian women in the house, a custom noted also in ancient times. On another instance he compares the theme of human sacrifices in myths of Crete with those of other places and times in the world such as the Roman Empire, India, Syria and Medieval Europe. Similarities and differences between the Greek Orthodox and Muslims, but also other Christians is also a theme that intrigues him.

A large part of his work is of course not subject to an interpretative analysis, as his aim is the presentation of his observations and experiences where either ‘common sense’ cancels any need for further explanation, or there is not an inquiry on ‘what’ such observations represent. However, his method in identifying and interpreting ancient remains can be seen in most later archaeological landscape explorations as some of his characteristic phrases show, e.g. ‘the high hill in the middle of the plain (Mesara) seems perfect for the location of an ancient site’.

Influential sources: Leake, Hoeck, Spanakis, previous Travellers, writers of chronicles, topographers, philologists.

Summary Assessment

Strengths: rich sources and evidence used; clarity between evidence he uses and suggestions he makes. A great variety of themes explored.
Weaknesses: chronologically biased. Not always consistent in being methodical and all-inclusive.
Evaluation of data and Interpretation: the combination of philological and archaeological evidence allows the collection of large amount of information and a high degree of confidence in most of his interpretations.

Knowledge acquired: a great amount of information and bibliography on the history of the island, but also primary evidence from his own observations and description of experiences and thoughts.

Integrability: medium high
Publication: completed.

Pashley's work has a twofold character; on one hand we have a serious researcher who presents all his evidence and sources in detail, discusses the different opinions proposed and explains his line of thought in an effort to supply his readers with an as complete as possible picture of Crete. On the other hand we have a traveller who describes his thoughts and experiences, often with humour and spontaneity. He does not hesitate to declare his preferences and beliefs. The great importance given in the classical Greek past, in which the European identity had found its routes, reflects a long-established tradition of acquaintance with ancient Greek philology. Influenced by topographers and antiquaries, he tries to give objective records of his observations and he is methodical in presenting all the evidence, philological, mythological, historical or archaeological that guides his thought. Even though occasionally his opinion is not clear, he usually explains why he supports or disagrees with a specific view (mainly regarding the location of a site, but also about other themes he discusses). His writing is both descriptive and narrative and offers an easy and pleasant read, giving us at the same time a great amount of interesting information including thoughts even on topics of population and territory over time. The fact that he speaks Modern Greek helps him interact with Cretans and record their
culture to a good degree of detail and indeed, he manages to bring into light the history and life of the little known island of Crete, in such troubled times, exhibiting a remarkable perseverance and explorative nature. However, expressing his historical circumstances he is heavily biased towards GR cities, whereas burials and post-Roman times receive only an occasional mention. He usually declares his disappointment when he discovers medieval or any other ruins which do not reveal a certain ancient Greek city. His observing eye is that of an elite European, who tries to be objective and hide emotions even if he expresses thoughts from time to time. Cretans form an object of research to him as much in fact as ancient walls. It is of course very difficult for him to understand the relevant society, as is to obtain a picture of previous societies. Ultimately, we acquire a rich and interesting selection of information about the island, its history and location of antiquities, even if, naturally, biased and fragmentary. What he writes is what interests him and what he thinks is interesting and expected by the spiritual elite of his country.

Landscape approach: the physicality of both natural and human environments. He is usually not as interested in landscapes as wide spatial contexts, but in what (material remains and people) these contain, even though occasionally he describes views he sees. His landscapes move as he moves and we acquire a picture of them through his notes and descriptions.

3.3 Culture History Tradition

3.3.1 Survey ID: Pendlebury 1934

Problem Orientation: aims and methods
This report describes a set of journeys in Central and Eastern Crete, which took place in 1934 over a period of a month and involved 3-4 people who were based at Knossos. The aims of their landscape exploration were to revisit known sites reported by previous researchers and in particular A. Evans, record their situation and location and attempt to date them better. They visited sites excavated and while walking extensively through areas with important archaeological remains, they also looked for new sites. The ultimate purpose was to work towards the production of a `complete register of all ancient sites on the island’, which almost saw its fulfilment with Pendlebury’s “The Archaeology of Crete” in 1939.

Investigations involved extensive judgmental walking, using older reports, maps and information from local people in order to find previously reported sites, but also new ones. Going to the kafeneion of a village and discussing with the locals about antiquities in the surroundings was a common tactic at the time; people were particularly helpful and gave them all information they could or even guided them to areas with archaeological remains. It is also stated that the foreman of Knossos, Emmanuel Akoumianos was a very successful guide as he was a native Cretan and also trained in antiquities. Transport was often based on mules, which carried the team’s luggage through difficult mountain trails.

Presentation / Relocatability
The maps published are in fact sketch maps of 1:135,135 and 1:280,000. The information presented consists of routes, the sites reported, some towns and rivers. The location of the sites is described by giving orientation and walking time or distances from known spots. Many of the sites are well-known and even excavated, thus their relocation does not pose problems. However, this is not the case for many loci vaguely defined as fields some distance from a village, with no distinctive material culture in them. There are also many cases where previously reported sites could hardly be relocated in 1934, and vague text descriptions do not allow much hope in finding them again.
Density per area / period

<table>
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<th>area surveyed (km²)</th>
<th>Total site no</th>
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<th>BVT</th>
<th>Modern</th>
<th>Unknown</th>
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<td>(map area)</td>
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Site definition: A site can be anything from GR cities mentioned in ancient sources and identified by previous researchers to small concentrations of sherds discovered by Pendlebury and his team. The term site is often used without defining a specific function and it seems that it implies a settlement, an interpretative suggestion used in even debatable cases: ‘There is also an Early Greek settlement here, for archaic bronzes are reported to have been found by the peasants’ (Archanes: Troullos). Sites classified of ‘unknown activity’ in the database might have been considered as settlements, but since this is not clear, the characterisation ‘settlement’ is avoided. Remains of walls and sherds as well as phrases like ‘abundant’ or ‘extensive site’ are, however, regarded as settlements (e.g. Vathypetro: Stes Hagias Annas to Phanari).

A site description in Pendlebury’s catalogue may consist of many sites located in the vicinity, which is rather common in the Culture-History tradition. Sometimes these can be treated as separate sites, in particular when toponyms are given. Loci of recent activity - and in fact ‘recent’ was considered almost everything after LR times - such as villages and monasteries, are mentioned only so as to help the description of the locality of an ancient site.

Interpretative Framework
Interpretation is limited to the characterization of function and chronology of ancient remains. Topography and communication routes between sites are the main themes observed apart from material culture. The location of sites is treated as ‘common sense’ e.g. Argeion: ‘There, as was to be expected in a flat low-lying area, few traces of walls were to be found, but the surface was covered with Roman sherds and a small admixture of Hellenic’.

What is sought is a picture of ancient sites in the landscape, describing location, archaeological remains and their date and giving a brief account of the history of research. Sometimes Pendlebury takes part in the discussions of identifying loci with ancient remains as sites mentioned in ancient texts and quotes various different opinions of previous researchers. In such cases he usually presents his own opinion based on the remains he saw. There are several occasions, however, where a site’s description consists of a record of what has been done or said about the site as well as fieldwork observations, but personal opinions are avoided. Some famous sites may be quoted only by name and a reference, with no further comments.

The interpretative framework adopted lies within the lines set by the pioneers of Minoan archaeology, with settlements forming a hierarchy distinctive of the supremacy of the palaces and in particular Knossos. Favourable themes consist of cultural descriptions and include trade and communication with the East and in particular Egypt. In relation to this, guard-houses are seen as serving a role of protecting such routes. Location is sometimes seen in relation to social issues e.g. the location of Geometric settlements at rocky places led to the following remark: ‘life indeed must have been hard in Eastern Crete after the fall of the Minoan civilization’.

Influential References and Sources: Evans was the leading influential figure together with Xanthoudides, who as an ephor in Crete conducted numerous excavations; all previous archaeologists who
in every case operated within the same tradition are taken into account. Travellers are also used, mainly as sources of information.

Summary Assessment

*Strengths:* history of research of ancient sites; a catalogue of places of archaeological interest.

*Weaknesses:* poor interpretation; weak presentation and definition problems.

*Evaluation of data and Interpretation:* catalogues of sites were indeed important in handling the large amount of information already gathered by Pendlebury’s time. However, lack of consistency in what is recorded and how it is defined cause many problems in how this report’s data can be used.

*Knowledge acquired:* history of research, and source of information as regards places of archaeological interest.

*Integrability:* medium-low

*Publication:* completed

This typical and well-known expedition aimed at nothing more and nothing less than providing an index of ancient sites and their situation at the time of fieldwork. This is why many settlements with no surface remains at the time, but previously recorded, are mentioned. Sometimes it is attempted to assess the validity of previous accounts. Interest lies not in providing a history of ancient activity, but in observing and recording loci with archaeological remains. Thus, we have the description of what was seen and done, in a report that has almost acquired a diary form. Pendlebury was well familiar with the history of research as he was the curator of Knossos at the time and a leading Minoan archaeologist, whose interests extended also to historical periods.

Focusing on providing a good description of his itinerary with all sites on the way, he refers to sites known from excavators’ reports even if he does not visit them personally. Sites taken as known do not receive more than a quote and a reference to their publications. It is evident that this report was addressed to Minoan archaeologists well familiar with the history of research on the island.

Although the value of this expedition can not be diminished for its time, we have to note that few of these sites can be used in any meaningful way. Records are incomplete, and lack of consistency in site definition and interpretations make the use of this data problematic. Often the only information we have is the existence of some pottery and stones at a vague location; poor description and landscape changes over time makes relocation very doubtful and a big obstacle to proper study that would allow reassessment of the data. This is of course an on-going problem, in fact Pendlebury himself failed to find many sites mentioned by previous researchers. By today’s standards a lot of what is written can only be used as a source of information regarding places of archaeological interest and the history of research.

Overall, Pendlebury has certainly been an inspiring figure in Cretan archaeology, and many followed his example walking extensively around the island, looking for new sites and recording places of archaeological interest along the same lines. The information we receive about landscape and the situation of archaeological sites at the time is without doubt interesting and important and although his accounts were incomplete and inconsistent, the effort for objective observations can not be doubted.

*Landscape Approach:* Landscape is considered as the geographical space containing loci of archaeological remains. His personal love for the Cretan landscape in terms of physical surroundings, which much inspired his archaeological work, is obvious in the following statement: ‘Goulapharango Gorge and Trypeti: ‘In many ways it is strongly reminiscent of the Hagia Roumeli gorge, which it rivals in wildness and beauty’.
3.3.2 Survey ID: Travels in Crete

Problem Orientation: aims and methods

The travels described in this report were undertaken by S. Hood, P. Warren and G. Cadogan in 1962 during a period of four weeks. This is one of the first reports from Hood’s extensive research in Crete, the original aim of which was the identification of sites previously described by Pendlebury, so as to provide a revision and update of his lists. Involved in doing so, Hood developed a strong interest in the Minoan civilization, and being part of the British Landscape Tradition of ‘let’s walk around and look for sites’ he also discovered many new sites. It is noteworthy, that Hood’s archaeological experience in Roman Britain, and the fact that he had studied ‘recent’ Greek history, namely early Byzantine after the foundation of Constantinople in 324 A.D., encouraged him to have a diachronic approach, even if the post-Minoan times received, in general, little attention.

The method of landscape exploration was ‘empirical’, which means walking around following Pendlebury’s indications, the locals’ advice and trying to identify locations most appropriate for ancient habitation. These were established to be mainly low, flat-topped hills with arable land and water in the vicinity. In the process of looking for known sites they found many new ones accidentally, often in the environs of a known site, and explored them consistently and rather carefully. It should be stressed that talking to local people in the ‘kafeneion’ and asking for ‘visala’, was the most effective approach in discovering ancient sites.

Presentation / Relocatability

Most of the sites should be relocatable due to the very detailed description of their location, using modern landscape features, as well as distances and orientation from known villages, locations with toponyms or other sites already described in the report. Bearings are often stated, when thought to help relocation, giving a more systematic character to their descriptions. A lot of effort is indeed given to mark the location of a site with sketch-maps of less than 1:30,000 down to 1:5,000. In cases with substantial material culture, relocation should not be a problem; however, there are occasions where the location of a findspot would be practically impossible to find. In most such cases a site name may refer to a wider area with several loci of material culture, whose distinctive location is not well understood. Site maps give an impression of the location of sites and broad distances between them and in one case function classification differentiates between ancient cities, ancient sites, modern towns and villages, monasteries and churches. The aim of the presentation is to show whereabouts the described archaeology is.

Density per area / period

<table>
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<th>area surveyed (km²)</th>
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</table>

Site definition: a site is the locality of archaeological material usually easily distinguishable or even excavated, but in some occasions it could be just the place where something was said to have been found. Often under a site name several findspots and definite sites are described. Thus, a site name is often used as the name of a wider area where archaeological activity of variable nature and time frame was noted.
Interpretative Framework

The focus of this research was chronological observations and locational descriptions, meeting the principal goal of archaeological quest (in particular within the Culture-History tradition) of recording locations with archaeological remains. Relevant interpretation, not always clear, was the result of a combination between personal observations and the interpretations of previous researchers. Sometimes, relationships between sites are explored in terms of occupational sequence, based on the chronology of material. E.g. the early Minoan site above the cave of Melidhoni is interpreted as the choice of the people occupying Neolithic / Early Bronze Age ‘Ta Grivila’ for a more defensible location. During Protopalatial times that are seen as more stable and with no dangers, ‘Ta Grivila’ is reoccupied. Similarly, some Roman settlements are thought to have been the descendants of earlier ones on the hills following the same pattern of occupying plains during peaceful times. Such examples exhibit some first attempts to approach also ‘why’, even though this is not the principal goal of archaeological research at the time.

Interpretations of material concentrations as settlements or farms are based on the size of pottery spreads: e.g. Platanes: Gouledhianos ‘There may have been a farm or villa here rather than a larger settlement since traces of occupation cover a comparatively small area (about 60m north to south by 50m west to east), and sherds appear to be rare (though lack of cultivation might account for this), while stones from walls are abundant.’ In this case we also note that influential factors on the quantity of sherds have been considered. The term ‘site’ seems to be equivalent to ‘settlement’ or ‘habitation’, fact that reveals the importance given to occupation sites with an implied permanent character, however the catalogue contains also ‘sites’ that are places of not even certain archaeological presence.

The settlement character of Minoan Crete is sought in general patterns such as preferences for settlement location in different periods and what these might mean, and the extents of material recovery in terms of sites. Thus, refuge sites found inland and in rather inaccessible locations at the turn of Neolithic to Bronze Age are taken as evidence for social troubles; similarly, the vast amounts of Bronze Age material scattered all over Crete is interpreted as the result of a very dense population, perhaps the greatest till now with the possible exception of Roman times. Even though not explicitly defined, the idea of a settlement hierarchy is put forward, result of the variety of their findings in terms of settlements and occupation sites. The Minoan landscape is described as consisting of greater towns, lesser towns and dotted with numerous small hamlets or farms.

Discussion of such interpretative models are by no means extensive, on the contrary the majority of interest and attention is given to the observation and presentation of archaeological data, which are considered to lead to self-explanatory suggestions. This is not only evident by the character of research, but also stated in the text ‘…but from our survey some tentative general conclusions suggest themselves’. The very interesting thing is that some patterns tentatively identified by extensive research of the Culture-History tradition are sustained till now and often supported by further evidence of later intensive surveys, even if the latter have developed more elaborate theoretical frameworks (for example ideas regarding a settlement hierarchy, or the occupation of defensible sites at times of social troubles).

Influential References and Sources: Pendlebury, Evans, Kirsten, Faure, Guarducci, Alexiou; previous Minoan archaeologists of the Culture-History tradition in general.
Summary Assessment

**Strengths:** Detailed description of site location and archaeological data observed.

**Weaknesses:** no consistent relationship between data and interpretations.

**Evaluation of data and Interpretation:** interpretations are not always clear mainly due to lack of consistency in the criteria used and their incomplete presentation.

**Knowledge acquired:** The catalogue of sites presented is a very rich source of information.

**Integrability:** medium; appropriate classifications of certain and uncertain interpretations should be used, even though sites consisting of numerous findspots pose many difficulties.

**Publication:** completed

This is a typical example of extensive exploration within the Culture-History tradition where the catalogue constructed consists of known and new sites, accompanied with a history of research, as well as a description of the archaeology observed. In some cases the chronology and function of a site are presented as certain, in other occasions doubt is expressed, whereas sometimes data presentation is not accompanied by a clear interpretation, in particular when the interpretation of a previous researcher is presented and we are not given a position of agreement or disagreement. Lack of consistency in the criteria used for specific interpretations sometimes pose a problem in understanding what exactly researchers believe especially since interpretations or doubts are often treated as self-explanatory.

In site definition, archaeological data quality and quantity are of course the primary factor leading to a characterisation of a site, but sometimes hypotheses are based purely on opinion, which is not further discussed, e.g. Rethimnon ‘the promontory with the Venetian fortress, about fifteen minutes north-west of this cemetery, may have been the site of the Minoan settlement, although no traces of Minoan occupation have yet been noted there’. Quite often, we have serious difficulties classifying sites which consist of a wider area that includes many loci of archaeological interest. These are not clear whether they belong to the same site or not, and in intensive survey terms most would be identified as individual sites. The researchers seem to describe the material culture found around a site often without trying to explore interconnections of loci discussed. The fact that archaeologists focus on the description of material culture providing evidence for ancient activity classified by wider area, even if the location and nature of activity are vague, are quite characteristic of this tradition. To identify the function of a site is of course still extremely difficult and often impossible, especially if based on surface survey data alone and the location of activity spots is often very vague in the Landscape Tradition also; however, research should classify sites upon the identification of loci that demonstrate separable activity and chronology, seeking a finer resolution that might allow better insights into past societies.

Interest in sites of provincial character is a typical characteristic of the New Wave surveys starting in the 70’s, nevertheless its roots start in the extensive explorations of the Culture-History tradition, when archaeologists interested mainly in the Minoan period discover an extremely rich archaeological surface throughout the island. Thus, Hood et al. note that ‘outside the towns the countryside was dotted with farms and villas, isolated or in small groups or hamlets of two or three houses’. This and other similar studies have been a great stimulus for further research and have planted the seed of some interesting interpretative approaches.

Effort for some methodological explicitness is attested in the somewhat systematic approach chosen to describe the location of a site (heights, bearings, topographical descriptions and catalogue), to date sites (chronology of Minoan tripod feet presented), to name them and also to present the history of research regarding the sites discussed. Having a historical background of research for a site is very important as a record of material that might have been present on site, but also when comparing interpretations. The presentation of archaeological data and in particular pottery, are often presented with ‘photographic’ descriptions. Chronological precision is, however, quite coarse especially for historic times, but it is hard to imagine it could have been much better considering the small amount of fieldwork and the identification on the field by only 3 researchers, and without special pottery studies. Thus, chronological attributions especially for historic times are often rather vague e.g. ‘Classical or Hellenistic’. At the same time, Hood et al. are very careful in giving
certain interpretations, therefore conditionals are used most of the time (there may have been a Minoan villa; it might be a Roman farmstead).

Based on the above, data and interpretations suggested may be used for further research with the appropriate caution and, after assessing possibilities and restrictions.

Landscape approach: As with other extensive explorations of Hood, landscape is not discussed, but it implicitly treated as the geographical entity containing material culture of the past.

3.3.3 Survey id: Hood65

Problem Orientation: aims and methods

This project was undertaken in 1965 and is the outcome not only of landscape research, but of bibliographical as well. Hood’s aim was to provide a ‘gazetteer’ of Minoan sites for the ‘remote’ and little explored area of western Crete. The reason was the acknowledged need for some balance in archaeological knowledge among the different areas of the island, since archaeological explorations had traditionally focused on central and eastern Crete, producing a somewhat biased picture of human activity in the past. Sinclair Hood wanted to draw attention to the westerly parts of the island and prove that this was also occupied throughout the Minoan times and through history starting in the Late Neolithic.

The work of previous researchers in the area is his main source of information, but also a motive to perform his own landscape research. In cases where he visited sites already known, he compares his finds with what was quoted by previous researchers, and when he refers to sites he apparently did not visit, he only quotes what others said. Thus, he presents a collection of information about sites in this area using published papers and visiting sites himself. Local informants played, as usual, a key role in finding new sites on an extensive, judgmental basis.

Presentation / Relocatability

The sites described vary from settlements to caves, burials and possible roads. Many of them can be relocated quite easily as they happen to be caves or known settlements and close to a village, assuming that toponyms, textual description and guidance by local people would be sufficient. Although Hood usually used the British Army maps of 1:50,000 or 1:66,000, the area covered is presented in a map of 1:600,000 and only in the case of 5 sites in the Chrysoskalitissa area do we have a more detailed map of 1:77,000. In many cases locational information is rather vague usually because the exact find spot was not known. Some pottery drawings are of course also included, a usual ‘must’ for the presentation of the archaeology discussed.

Density per area / period

<table>
<thead>
<tr>
<th>area surveyed (km²)</th>
<th>Total site no</th>
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<td></td>
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</tbody>
</table>

For more details on S.F.Hood’s working methods see the ‘Travels in Crete’ survey
Site definition: Sites vary from known settlements to reports of a findspot. The site index includes places where even 1 pot was found, therefore there is not a consistent set of criteria used to define a site, and the term is simply used for any location that might have produced evidence for Minoan activity. Moreover, some sites lack adequate chronological or locational information (e.g. C15.2, Koumares: ‘Sherds noted by Faure in the sand at ‘Koumares’ west of the monastery’). It should also be noted that in the case of Chania (ancient Kydonia), many find spots (Neolithic and Minoan) are grouped under the same site-name.

Interpretative Framework
Interpretation of the data is kept to a minimum and is basically limited to pottery dating. Focus is on identifying people’s existence in a specific area, but what variability in activity might mean in terms of societal structure is not discussed. Locations of ancient remains, even down to the level of 1 sherd, are considered important enough to be noted as sites. The fact that the term ‘site’ is often used instead of the terms ‘settlement’ or ‘habitation’ shows the implicit supposition that places of archaeological remains are regarded as indicating habitation either at the findspot itself or at least in the vicinity. In many cases we may even have only a quote of what has been mentioned by other researchers – mainly by Paul Faure. Sites are usually not described, neither is their content discussed, although disagreement in dating is stated.

This is a typical work of the Culture-History tradition aiming at the enrichment of the archaeological record of the island. This record is actually used for basic interpretative comments about the Minoan culture: the fact that Minoan sites do exist in the western part of the island and finds are comparable with those of the east, leads Hood to the conclusion of cultural unity even if he (like others) interprets the small amount of archaeological data to the less developed character of the area. Moreover, he comments on the fact that LM III sites occur on hills and mountains, a pattern that is also evident in central and eastern Crete and which implies troubled social times that caused populations to flee inland. Interpretative trends of this tradition are also evident in the work of the researchers he quotes.

Influential References and Sources: J. Pendlebury, A. Evans, Spratt, Kirsten, Xanthoudides, I. Tzedakis, P. Faure, S. Marinatos.

Summary Assessment
Strengths: site and finds inventory of the little known Minoan era in western Crete.
Weaknesses: Poor interpretation and presentation, problems with site definition and relocatability.
Evaluation of data and Interpretation: important selection of material known from the large area of western Crete. Interpretation limited to the assumption that any quantity of material culture hints to a site.
Knowledge acquired: we obtain an overall picture of the archaeology of the area as well as previous researches. Material culture reported from various findspots, may not be sites, but contribute to the knowledge of the area.
Integrability: medium-low
Publication: completed

The main strength of this work is that it gathers available information up to then about the area of Crete that had received the least attention. Thus, this gazetteer of sites and places of potential archaeological interest, not only accumulates knowledge of the Minoan period in the area, but also provides the motivation for further exploration. Hood’s work has played an important role in guiding archaeological interest toward the question of cultural unity in Minoan Crete and the character of Minoan sites, themes much favoured in Culture-History tradition.

On the other hand, places cited in this work can not be all interpreted as sites; densities as well as dating should often be reconsidered. 1 sherd does not necessarily mean a site and there are also cases where
1 pot was found in a village, but we don’t know from where. In the case of Chania (ancient Kydonia) many find-spots are grouped together under the same site, while they clearly form separate loci of activity. Other problems in using site numbers include sites like Hagios Yioryios in the Gouverneto monastery of which the description is: ‘Worn undatable sherds, and a story of ancient vases found here, reported by Faure’. Function is usually not discussed as this was in fact beyond the scope of the study.

As a result, this work is valuable as a source of information and data could be used in terms of knowledge acquired for an area, but careful filtering and site classification is needed if sites are to be used in order to understand human behaviour in such a distant past.

Landscape Approach: Landscape is treated as a 2-dimensional surface with ‘find-spots’ scattered around, and archaeological questions formulate around ‘what’ and ‘where about’.

3.3.4 Survey ID: Hagios Vasilios 66

Problem Orientation: aims and methods
Hood and Warren explored the province of Hagios Vasilios in 1965 with the aim to produce a report of the archaeology encountered, so as to increase our knowledge of ancient activity in an area that had received very little attention. The project involved 3 people who walked the area of interest in a period of 10 days. The report, which consists basically of the site catalogue, includes sites found by previous researchers and which they tried to discover and identify in the landscape through extensive walking in specific areas. At the same time, however, they also looked for new sites. Landscape exploration involved judgmental driving and walking on the basis of information by locals, reports of previous researchers and locations that seemed promising for habitation.

Presentation / Relocatability
According to Hood’s common tactic we have detailed descriptions of the topography of the places visited. Site location is typically described in terms of distances and direction from villages and previously described sites. Toponyms are also mentioned. The overall map scale is very large (1:400,000), but more detailed sketch maps present sites in relation to contours (of unknown height), basic roads and rivers at a variety of scales from 1:50,000 to 1:80,000. Relocatability would, thus, probably be of a medium level. Sketch maps function as ‘zoom-ins’ in the more general site map which presents sites at a chronological classification of Minoan, Post-Minoan, both the above and modern, while functional classification consists of 1) city, town, hamlet or settlement, 2) isolated house, 3) cemetery, 4) isolated grave, and 5) miscellaneous finds. Presentation is completed with a few pottery drawings, which is a ‘must’ in archaeological reports.

<table>
<thead>
<tr>
<th>Density per area / period</th>
<th>area surveyed (km²)</th>
<th>Total site no</th>
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<th>BVT</th>
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<td>Or:</td>
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</tr>
<tr>
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</tbody>
</table>

2 For more details on S.F. Hood’s working methods see the ‘Travels in Crete’ survey
Site definition: ancient structures and pottery concentrations. Many are known sites, usually settlements or cemeteries. Some of the ‘sites’ are places of interest with more than one findspots. The total site number includes five more sites numbered under the name of the same find-spot, although they were not given a separate site number in the publication.

Interpretative Framework

Very often in archaeological research there is not a clear distinction between observations and interpretations and observations are treated as self-explanatory. In this project traces of past activity are interpreted as a definite or probable site, the term ‘site’ usually implying a settlement, and thus constituting evidence of occupation for the relevant period. Investigations focus primarily on the locational and chronological specification of archaeological data, and if possible, on their functional. Hood and Warren look for archaeological remains of the Minoan period and at the same time they record all other sites they encounter, even though with crude chronological definitions such as ‘Medieval or later’. In general, the difficulty in dating surface data, which is somewhat discussed with the example of the diachronic occurrence of cooking-pot feet with circular section, results in quite a lot of fuzziness in data and their characterisation. In any case, the main interpretative aims of the project are to identify and describe typological characteristics of the data found for both known and newly discovered sites. Interpretative suggestions beyond recognition of chronology and function include comments on the geographical potential that may justify settlement location (they were looking for harbours and landing places), and which include phenomenological mentions of the view which Minoan country houses would have enjoyed. Moreover, there are comments on refuge settlements of the LM III period and immigrations during the Slav inroads (6th and 7th ct AD), based on fragments of imported fine ware of the Late Roman – Early Byzantine periods.

Influential References and Sources: Faure, Pendlebury, Guarducci, Kirsten, Halbherr, other Travellers and Greek excavators. They all operate within the Culture-History tradition trying to identify location, chronology and function of distinct concentrations of material culture.

Summary Assessment

Strengths: Site index and description of an area poorly researched; discussion of the identification of ancient sites mentioned in written sources.

Weaknesses: Not a strong interpretative framework, site definition problems; too narrative.

Evaluation of data and Interpretation: although many classificatory and interpretative problems would have to be resolved, this work remains a valuable source of information about material culture in the area, with chronological and function interpretations still standing (although they might have to be reassessed).

Knowledge acquired: location of visible remains, landscape descriptions.

Integrability: medium

Publication: completed

This is a typical landscape project of the Culture-History tradition, especially Hood’s characteristic travels, which focused on locating ancient sites and discovering new ones, offering descriptions of topography and finds (structures and pottery). It is a multi-period project but chronology is quite broad and in particular later periods are missing. Although pottery recognition problems for some periods is certainly a fact even now, at the time archaeological interest focused almost exclusively on ancient times. Turkish sites for example are mentioned in landscape descriptions, but are not regarded archaeologically important to be recorded and discussed. Site definitions are in general problematic as there is no consistency in what is recorded as a site. More than one find-spots are often grouped under the same place / village and therefore the number of sites reported should be bigger including both certain and possible sites.
However, although presentation is poor and we lack the methodological and interpretative merits that modern landscape approaches offer, this is another important work of its kind, offering information on which further work can be based. The aim, which was to provide a picture of the archaeology in the area, is in fact achieved. Integration of the sites mentioned would of course require careful filtering so that we know exactly what we have in relation to types of human activity per period. Interpretative suggestions regarding locational preferences and settlement pattern changes should also be assessed, as in many cases we should accept the inadequacy of the data provided and use it only as a source of information and motivation for further research.

Landscape Approach: landscape is seen as a physical entity containing ancient sites. Descriptions have the purpose of providing a picture of site-environs and helping relocation.

3.3.5 Survey ID: Hood 67

Problem Orientation: aims and methods

The aim of this study, undertaken in 1967 by S. Hood and his wife over 4 days, was to prove that Minoan occupation was not confined to the eastern parts of the island, but expanded throughout Crete ‘including the most westerly parts’.

Making use of the information given by locals as well as historical sources, S. Hood and his wife drove and walked around cape Krios and Frangokastello in SW Crete for 3 days, looking for places that were likely to reveal Minoan sites. This project is within the same problem orientation as Hood 65.

Presentation / Relocatability

The maps used in the publication are at scales of 1:100,000 and 1:45,454 and present sites in relation to contours of unknown height, basic roads and features (sketch of a telephone line), giving a general impression of whereabouts sites are. In some occasions, topography and geographic surroundings of the sites are described in detail and distances from known or previously discussed ‘sites’ are stated, in order to offer a better description of where a site is. Thus, some of the sites could be relocated, but there are cases of doubtful sites because of the very small numbers of pottery, which are assigned quite a large and vague area. Besides that, some of the landscape features described are likely to have changed in present time, fact that would also hinder relocatability. Presentation includes of course pottery drawings.

Density per area / period

<table>
<thead>
<tr>
<th>area surveyed (km²)</th>
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Densities per km² (map area)

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<th></th>
<th></th>
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<th>BVT</th>
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<td>0,118</td>
<td>0,091</td>
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<td></td>
</tr>
</tbody>
</table>

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3 For more details on S.F. Hood’s working methods see the ‘Travels in Crete’ survey
Site definition: Based on walls and sherds. Descriptions include historical evidence and data observed, while doubts are expressed. A site might be a spatial entity which incorporates more than one localities of past human activity. Chronological categories are rather broad.

Interpretative Framework
This site exploration project belongs to the Culture History tradition with research interest focusing on the discovery of new PH sites and the enrichment of the archaeological map of Crete. Interpretation, therefore, concerned issues of pottery typology and dating. Data was taken for what it appeared with problem orientation focusing on ‘what’ and ‘where’ following Hood’s earlier work (Hood 1965; Hood et al. 1964; Hood and Warren 1966). The scarcity of Minoan sherds is interpreted as representative of a dispersed settlement pattern with ‘isolated huts or farms rather than villages or hamlets’ implying a hierarchy in site size and character. However, there is no consistency in the criteria used for functional variation and all sites seem to imply some sort of habitation. A settlement may be anything from about 50m sq. to 200m sq. and as in other works of this tradition, the relationship between data and interpretations is not well understood.

Influential References and Sources: J. Pendlebury, ancient writers, travellers, Guarducci. Interest lies in the identification of ancient sites mentioned in literary sources, in their historical context and in a ‘proper’ description of material culture.

Summary Assessment
Strengths: new sites of the little known Minoan period in western Crete.
Weaknesses: poor interpretation and presentation; problems with site definition and relocatability.
Evaluation of data and Interpretation: sites should be used with caution in reconstruction models. Interpretation is limited to the assumption that any quantity of material culture hints to a site.
Knowledge acquired: a picture of the archaeology of the area.
Integrability: medium
Publication: completed

This is a typical example of the Culture-History tradition, and even though it lacks a complex theoretical framework, it has been of great importance as it draws attention to neglected areas and contributes to surface pottery typology. Overall, there has been a conscious effort to give us a full account of what was seen and of the sherds that were collected. In terms of pottery survival and recoverability it is interesting to see which kinds of pottery and of which period are easier recognized, even when no sampling or intensive walking is involved, and reflect on why this is the case and how this may have influenced site maps of different periods.

However, judging by today’s standards we need to take into account methodological and theoretical problems influencing the usability and interpretative strength of the data. Recording is not consistent and there is often confusion between data and interpretations. We lack a problem orientation of the relationships between methods, results and interpretations and as interpretation is limited to the assignment of chronology and function in quite broad terms, it is not easy to assess what activity in a specific locus meant. Many of the sites provide us only with a medium or low confidence level regarding function and chronology, and some reflect either some kind of activity or just the presence of a few sherds respectively. S. Hood himself is very cautious in assigning a chronology using phrases like ‘appear to be… may be…’ etc. Problems of relocatability and site definition ask for great attention when we need to use these data in reconstructions of past landscapes. A site described as ‘A few Roman sherds were recovered from the saddle which the car road crosses in descending to the plain of Frangokastelli’ would probably not stand a strong case of being called a site today especially if a settlement’s function is implied.

On the other hand, such pioneer work promoted the development of landscape archaeology and forms a most important record of information regarding locations of archaeological interest.
Landscape Approach: Geographical and environmental data were recorded in a random manner so as to help relocatability. Landscape is a two-dimensional spatial framework of ‘where’ archaeology is.

3.3.6 Survey ID: Ayiofarango 754

Problem Orientation: aims and methods
This project was part of the Ayiofarango regional survey (Ayiofarango 77) undertaken in 1971 by D. Blackman and K. Branigan, but had the distinctive aim to survey further important sites with substantial material remains including architecture. These were located along the coastal strip ‘from the mouth of the Ayiofarango valley to the ruined church at Chrisostomos’ and the most important ones were the settlements of Hellenistic Lasaia and Roman Kaloi Limenes. Exploration in the area was motivated by sites already known from looting activities and some work by the archaeological service. The area had been walked quite intensively, but not systematically (no sampling) during the Ayiofarango 77 survey, but sites were now visited by a number of 6 (archaeologists and students) for 3 days in order to produce better records. These included descriptions of location, architecture and pottery. Sherds were collected on the basis of their suitability for dating and depending on what could be carried.

Presentation / Relocatability
The sites discussed in the text are presented in a contour map (but contours are of unknown value) at a scale of 1:35,700, giving a general impression of their distribution in space. Their location is described in the text with orientation bearings and distances from other sites, landscape features and villages. Although precision is certainly not a strong point of the project, sites include architecture and the remote and underdeveloped character of the area has prevented major landscape changes, therefore most of them could be relocated. Architectural plans are included for most sites, while landscape photos offer a pragmatic visualisation of the area studied.

Density per area / period

<table>
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<tr>
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</table>

Site definition: based on ancient structures and pottery presence.

Interpretative Framework
This project falls within the Culture-History tradition although it was part of the multi-disciplinary landscape project of the lower catchment of the Ayiofarango valley. It focuses on site description, which consists of locational information, architectural recording and pottery typology. Only in two occasions do researchers hint on the suitability of the environment for site location. Identification and interpretation of sites is based on discrete material culture, namely architecture, but pottery is also used for chronology. Their main interest is the sequence of the occupational history of the area, which is limited to two main periods, the Early Bronze Age

4 The archaeological surveys of the Ayiofarango valley and the area to the east of the valley were undertaken in 1971, as two parts of the same project; the first involved the regional survey of the lower catchment of the valley and was published in 1977 (survey id: Ayiofarango 77) and the second was the 3-day survey of specific sites to the east of valley, which produced the 1975 report (survey id: Ayiofarango 75).
and the Hellenistic and Roman times. The same ‘abandonment’ periods as in the survey of the lower catchment of Ayiofarango are identified, which are explained as a result of nucleation around urban centres. More specifically abandonment in MM (2000BC) was explained as the result of urbanisation around Phaistos (but abandonment lasted until the 5th century B.C.), while in mid 7th AD - second Byzantine / Venetian the area is believed to have been abandoned due to Arab presence and pirate activity.

As in the lower catchment of the Ayiofarango valley project, they occasionally try to translate quantity and size of data (sites and tombs) into population estimates. Within the same problem orientation they explore a very popular theme in social reconstruction attempts of Minoan archaeology, namely the relationship between tholoi and occupation areas including time of establishment and use. The aim is to assess how many people lived in the area and therefore what subsistence was like. In this framework, they note the problematic lack of EM settlements relevant to some of the tholoi found, and indeed this is a problem that has preoccupied researchers in the area till now (Vasilakis 1989, Branigan and Vasilakis pers.comm – Moni Odigitrias survey), but discussion on the matter is kept to a minimum. Overall, the interpretative framework adopted could be summarized as focusing on the identification, typological description, dating and functional interpretation of the sites found so as to have a picture of the history of human activity in the area.

Influential References and sources: The work of Alexiou, Sakellarakis and Davaras in the 60’s (working at the archaeological service of Herakleion), served as a major source of information regarding the type and location of archaeological sites and was often a motive of further exploration. The Travellers have also been used as a source of information regarding site location and toponyms, but also offering descriptions of the sites from an earlier date. Faure and Hood have also played a key influential role, regarding landscape exploration that aims to identify the chronology and function of sites.

Summary Assessment

- **Strengths:** integrability, quite good records of the sites discussed.
- **Weaknesses:** poor theoretical and interpretative frameworks.
- **Evaluation of data and Interpretation:** new and old sites with descriptions and plans. Interpretation limited to chronological and functional definitions, where possible.
- **Knowledge acquired:** Some of the archaeology of the area with plans and descriptions.
- **Integrability:** quite high
- **Publication:** completed

This research project records some very important sites and sheds light on the occupational history of a hitherto poorly investigated area. Most of the sites exhibit substantial material remains (EM tholoi, GR harbour town) and would allow little doubt on their chronology and function. Most of them could also be relocated due to discrete architecture and size, and used pretty safely in historical settlement reconstructions. However, cases where doubts are expressed by the researchers themselves should be treated accordingly and the probability of a higher density of sites especially in relation to EM tholoi, which was admitted in the report, should be taken into account. The statement ‘No trace of a related settlement was found by the SC8 tholoi, but there were suggestions of one, in the form of a sherd spread, in the area between the tholoi at SC11’ justifies the possibility of sherd concentrations that may have skipped the attention of the researchers, most probably because they could only be revealed through intensive sampling.

Interpretation wise, we lack an analytical interpretative framework within which to view site function per period in relation to location and environment and thus explore social and economic factors at work. For example the importance of little known Roman farms and harbour towns although stated, no interpretative suggestion is offered regarding their location or their socio-political and economic background. It is quite interesting that although this was part of the first landscape project in Crete, it is presented as a typical product of the Culture History tradition, where research aims rather at data presentation, than interpretation. The merit of this report is that we have a good set of data and descriptions that can be quite informative.
Landscape Approach: Landscape is seen as the background against which we visualize archaeological sites. In two cases, however, reference to the landscape is used within an explanatory framework of site location; in the description of Kaloi Limenes we have the phrase ‘the bay is well protected from the sudden northerly winds and offers good anchorage except in the south-easterly winds of the winter’ and in the case of the Medieval (?) apsidal buildings it is stated that they were built on a locus that ‘seems deliberately chosen to catch as much wind as possible’.

3.3.7 Survey id: Ayiofarango 89

Problem Orientation: aims and methods
This survey was undertaken as part of the A. Vasilakis’s general interest in the island’s occupational history during the pre-palatial period. His report discusses his study in the area of Ayiofarango between 1980 and 1984, which included both survey and excavation data, acquired as much by previous work (Blackman and Branigan 1975; Blackman and Branigan 1977) as by himself. The area is said to have been chosen due to the evidence for dense pre-palatial occupation, although practical issues such as the researcher’s working in the local Ephoria and being from Herakleion had, as always, a determining role.
The aims of his landscape exploration were the relocation of known and the discovery of new prehistoric sites in an attempt to understand the character of pre-palatial economic and social life in the area, through the study of architecture, crafts and the relationships between religious sites and settlements. He walked the area of interest in an extensive judgmental manner but quite intensively over many years (and in fact still now), relocating previously discovered sites and finding new ones. As he works for the Archaeological Service of Herakleion, walking the area has been partly within his job description, and partly performed during his free time as his main archaeological interests concern this area during the prehistoric period. His site records mention the topography and focus on the description and detailed recording of architecture and pottery. Geographical location is also considered in terms of subsistence potential. On-site, it looks like he collected all sherds believed to help define the chronology of the site.

Presentation / Relocatability
The site map presented in the publication has no map scale and looks like the sites have been added by hand approximately. Variability of site-types is, however, presented through a relevant legend. It should be noted that there are many differences from the relevant map published by Blackman and Branigan in 1977 (Ayiofarango 77), which raises some questions about accuracy in both projects, and in spite of the fact that the sites have standing architecture, site relocation may be difficult. Presentation includes architectural plans, pottery drawings and photos. Priority is, however, given to the textual description of the sites, which includes basic topography, approximate distance from known places or other sites, orientation, and toponyms.

Density per area / period

<table>
<thead>
<tr>
<th>area surveyed</th>
<th>Total site no</th>
<th>PH</th>
<th>GR</th>
<th>BVT</th>
<th>Modern</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>(km²)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>66,05</td>
<td>33</td>
<td>33</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Or:</td>
<td></td>
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<tr>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Densities per</td>
<td>0,499</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>km² (map area)</td>
<td></td>
<td></td>
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</tbody>
</table>

0,499
**Site definition:** Based on architecture and pottery concentrations. His sites, often known from previous research, are relocated based on local information, ancient structures and pottery concentrations. He identifies 3 types of site function, settlements, tholoi and isolated houses, which are interpreted, often with some doubt, as farmsteads.

**Interpretative Framework**
It is stated that this study should not be described simply as a ‘survey’, presumably implying that survey projects focus on the discovery of sites within a specific area, while the researcher of Ayiofarango 89 uses all kinds of data for a historical reconstruction of the Prepalatial period. He commends on questions that had been a subject of speculation among archaeologists prior to his own research, such as the origins of Minoan people and the possibility of occupants coming from N. Africa and spreading further north, in relation to which he promotes the idea of a slow indigenous development. His interest in the area focuses on the cultural character of the communities, discussing occupation, architecture, crafts and economic life.

His approach is to describe and give a detailed record of the Minoan antiquities in the area, considering architecture (size and type), pottery and finds, as well as location. The identification of a culture via typological and chronological studies has been the main characteristic of Culture History archaeology, however spatial studies, economic and social life are among the leading theoretical considerations in the 80’s and thus, site location is considered in relation to his division of the area upon subsistence potential. Land potential had also formed the explanatory framework of site location in the Ayiofarango77 project. It is concluded that people lived in all geographical areas of the region and exploited the subsistence potential around them accordingly, a view that is actually in compliance with how people live in the Cretan landscape still now. Social issues such as the relationship between settlements and tholoi, but also the time-span of settlements also receive attention; however, we lack an explanatory approach of correlative observations, even though data are presented.

**Influential References and Sources:** The work of Alexiou, Davaras and Sakellarakis who worked at the archaeological service and excavated many of the tombs that had been looted, was certainly a motivation for Vasilakis’s research, and was used mainly as a source of information, but also in interpretation regarding the characterization of chronology and function. The Ayiogarango 77 survey was used as reference to his own data, but he is not always in agreement with Branigan’s interpretations, in particular regarding possible ‘peak-sanctuaries’, which are re-interpreted as occupation areas. Vasilakis favours a more ‘pragmatic’ approach and as an excavator he is very concerned with data recording and comparisons in the wider area. J. Bintliff’s soil potential studies in relation to economic and demographic issues (Bintliff 1977) played the leading influential role in Vasilakis’s study of subsistence potential and economic life.

**Summary Assessment**

**Strengths:** Good records of sites discussed; data synthesis give a comprehensible picture of pre-palatial culture in the area.

**Weaknesses:** No usable site maps, low presentation and relocatability.

**Evaluation of data and Interpretation:** Detailed records of architecture and pottery allow direct comparisons with other areas of Crete. Description of material culture, however, is stronger than analysis and interpretation.

**Knowledge acquired:** A clear picture of pre-palatial cultural expression in the area and data on economic life and subsistence strategies.

**Integrability:** Quite high, but relocation is problematic.

**Publication:** completed
The main value of this project is that it gives us an account of all archaeological work undertaken in the area regarding pre-palatial remains and good records of the sites, regarding the surviving architecture and the sherds used for dating. The questions asked are indeed very interesting as they concern the history of the area in terms of time relationships between sites, cultural expression, and subsistence strategies and data is reliable to be used in inter-regional comparisons. It should also be noted that previous data has not been used uncritically.

However, spatial organisation could be studied in greater detail; location is considered only in terms of soil potential and settlements in relation to burial sites, but no apparent pattern is discerned. Hierarchy is not studied and subsistence strategies are studied in a general manner, confirming that Minoans used the potential of their environment, which should not be a surprise. The relationship between sites (settlements, farms and burials) and environment is the basic theme explored, but not a complete study is performed. Further quantitative and spatial analysis of the data would have led to stronger interpretative models and as it is the case with every project, there should be a clearer relationship between data and suggested explanations. It should also be stated that although the researcher regards his landscape exploration as an intensive survey, this is certainly not the case in terms of systematic intensive walking of a sample area; his work is based rather on much extensive walking.

*Landscape Approach:* landscape is seen as the geographical background of sites and the relationship between ancient people and the landscape is explored through an economic approach of environmental potential.

### 3.4 Human Geography Tradition

#### 3.4.1 Survey ID: Lehmann

Problem Orientation: aims and methods

This study was published in 1939 and it is the most characteristic example of the Human Geography tradition in Crete. The aim is described as the diachronic analysis of settlement geography in eastern Crete. Lehmann seeks the reasons of why settlements occur in specific locations, which he believes are to be revealed via an understanding of the role that the environment, culture and politics play in man’s locational choice for settlement. To demonstrate the fact that man’s locational priorities change over time and to study the reasons for such a change, he identifies geographical ‘chambers’ suitable for settlement and performs a detailed diachronic analysis of settlements within these chambers. The way people have used their environment is seen as a response to socio-political circumstances, and within a Human Geography theoretical and methodological background he aims at providing a complete interpretative framework that will shed light to past and even present societies.

Environmental studies are his main method to understand why people settle at specific areas in specific times. Thus, he refers to the topography, geology, water sources, and land potential of the areas under study. On top of studying chronological variability, he also refers – even if briefly – to variability of settlement across space and to support his observations he uses studies and interpretations of ethnographic parallels.

Presentation / Relocatability

Presentation consists of a geological map and topographical maps at scales of 1:333,333 and 1:214,285. The most important map however, representative of the conceptual framework of the study, presents settlements of all periods, in relation to environmental features that are considered as having played a key role in the choice of settlement location. The most important are valleys, harbours, agricultural land and 400m contours. Relocatability is not a problem since he studies known settlements.
Density per area / period
Not Applicable. His work did not focus on describing or discovering a number of sites so as to increase quantity of information, but on providing an interpretative framework in the analysis of known settlements.

Interpretative Framework
Discussion is based on the view that the study of settlement geography can help understand socio-political change over time since human communities depend on, but also use to the best of their interest the space around them. Man’s relationship with the environment and his choice to settle in locations with specific geography and therefore potential and constraints, is considered indicative of one’s society’s characteristics.

In this line of thought, Lehmann observes that although Crete has always supported farming societies, places suitable for farming have not been used and preferred in the same way over time. The importance given to the best arable land has varied, but a general pattern of two opposite responses is detected; in times of peace the majority of settlement is on the coast, while in times of trouble populations have moved away from fertile lands towards the mountains looking for new areas to use. This binary form of locational preference between coastal and remote mountainous areas, even though the subsistence areas remain the same is also supported by several other examples all over the Mediterranean. In the case of Crete he identifies times of social stability during Minoan, Late Greek and Roman periods when the coastal zone is settled, whereas sub-Minoan, Geometric, Byzantine and Turkish times show evidence of social tension with settlements built in more inaccessible areas.

Variability in locational preferences is of course detected not only over time but also across space. The large amount of EM sites in eastern Crete, which does not offer large fertile areas is strong enough evidence for a society that does not give priority to farming economy, which on the contrary seems to have been very important in MM times with the shift of the large number of settlements in the fertile area of Mesara plain in central Crete. Having considered the geology of eastern Crete, which he states does not justify the density of EM sites attested, he concludes that the reason of settlement richness is the overseas contacts. To support the idea of cultural and linguistic influences spreading dissimilarly across the island with a tendency of moving to the centre, he uses ethnographic parallels from other areas, more specifically the island of Malou.

Moreover, when a nucleated pattern is noted there are specific settlement cores that are preferred over others whenever the socio-political situation allows it and there are locations that have always been preferred. A good example is Praisos which was inhabited continuously since Minoan times till it was destroyed by Hierapytna in 200 B.C. Another example is that since Hellenistic times, open coasts and valleys have been the preferred location of major settlements, namely Ierapetra and Siteia, which are still the biggest towns in the area.

Continuity of use in space in its variable forms over time is studied by dividing the landscape in discrete geographical units or ‘chambers’ with distinct environmental characteristics, where differences in human behaviour are expressed via the variety of type and location of settlements. Within these chambers Lehmann studies the history of settlement geography exploring the role of the environment and the relationships among major settlements, sites identified as harbours and sites interpreted as farms. He attributes patterns to socio-political circumstances and follows them with many examples across landscape and over time. Moreover, apart from characteristics of settlement location, he notes that settlement size and number also change according to economy, defence needs and cultural traditions.

Influential References and Sources: Pendlebury (links with the Culture History tradition, use of site indexes), Gerola. Creutzburg (1933), Kirsten and Khalikiopoulos, who worked within the German tradition of Human Geography (siedlungsarchäologie). Khalikiopoulos used geological and topographic maps for the study of Siteia.
Summary Assessment

**Strengths:** concrete interpretative framework.

**Weaknesses:** only settlements considered, descriptive writing with coarse chronology.

**Evaluation of data and Interpretation:** valuable interpretative suggestions.

**Knowledge acquired:** diachronic value of patterns regarding man-environment relationships.

**Integrability:** high.

**Publication:** completed.

This is the most representative study of the Human Geography tradition in archaeological research undertaken on the island of Crete. Lehmann marks an interpretative framework promoted by early 20th century German scholarship focusing on the importance of studying geography and environment in relation to human societies. He considers the role that the environment may have played in human subsistence not from a deterministic stand, but in a dialectic relationship with man, who adapts to, but also chooses and uses his surroundings according to his social needs.

In this line of thought, he tries to reveal the social circumstances that might have guided human choice for settling. Every location has a specific geography, with advantages and drawbacks, potential and restrictions, which according to Lehmann, whether chosen consciously or not, are representative of societies and their needs. Thus, he discerns periods when specific areas were preferred to others and tries to explain the reasons for such choices looking at both environmental potential and socio-political conditions.

Descriptions of the topography and environment of the areas under consideration are vivid and to the point, exhibiting competently the characteristics which are used in interpretations. All ‘chambers’ or landscape units within the study area are described on the basis of their discrete geography, environmental potential and settlement history providing thus not only a picture of the natural and cultural landscape over time, but a concrete body of support to the relevant interpretative framework. Observations are not dogmatic and exceptions are also presented, for example it is noted that even at times of trouble when people flee inland, coastal areas are still in use even if seasonally. Indeed, studying settlement shifts within the same geographic area over time elucidate the underlying social and political features of the societies considered.

Patterns identified are supported with several examples, which even though may appear repetitive we are given a discussion of the settlement history in relation to geography and environment for all distinct landscape units in eastern Crete. Dissemination would of course be more successful if there was a plan in presentation where data are presented clearly (geographical areas with the environmental data considered and the sites with their chronology and location) and interpretation followed.

An inherent bias is that this study focuses on habitation sites, which can not provide a complete understanding of a society if considered in a vacuum. Social existence is expressed through a variety of activities taking place at a variety of locations and these are acknowledged to provide an invaluable body of information towards the appreciation of past societies (such information is acquired mainly through intensive surveys). Inter-site relationships can be very complex and their study needs a theoretical framework that takes into consideration a multiplicity of factors, from issues of recovery and interpretation to material quantity and character, environment, economy and ideology. On the other hand, settlements are a major characteristic of human existence leaving the most distinctive traces in the physical landscape. Lehmann treats this theme with respect and tries to exploit the potential that its study offers from a very valuable theoretical framework. This is certainly not acknowledged as much as it deserves however there are examples of present landscape researchers who make use of the indispensable strengths of the ‘Siedlungsräume’ theory in combination with more modern techniques and theory (Bintliff 2000a).

**Landscape Approach:** The physical landscape has specific characteristics that when related to settlement history can elucidate human societies.
3.4.2 **Survey ID: Wroncka**

**Problem Orientation: aims and methods**

Wroncka’s aim was to produce a map of archaeological sites in the area of Siteia for two reasons: The first had to do with the necessity of being able to relocate sites, the second with their study in relation to topography and their geographical settings, so that spatial relationships and environmental impact to settlement choice in Minoan times can be understood. Such an approach of studying interrelationships between geography, historical topography and human culture is proposed as a direction for future archaeological research. Her efforts focused on adding information to the already existing Greek topographical maps, but also on correcting them, producing as precise a map as possible. Her 1959 report includes sites discovered and discussed by previous researchers, mainly excavation sites, plus villages, metochia and place-names she encountered on her way during (extensive) exploration of the eparchy. The main reason why she chose eastern Crete for her study was the richness of archaeological exploration and discoveries that characterise this part of the island. Her landscape exploration could be visualised as visiting known sites and walking in areas of geographical interest, in terms of subsistence potential and site presence.

**Presentation / Relocatability**

The importance given to mapping was stated from the beginning of the paper and therefore the map produced was the outcome of a conscious effort for detail and accuracy. Sites are presented with their function classification in a contour map of 100m intervals and scale is 1:62,500 in a Grid of latitude / longitude. Commune borders, primary, secondary roads, trackways and rivers are also mapped. Even though visualisation of topographical features is always rather weak in black and white, most sites are known places and villages and therefore easily relocatable. Place names in relation to sites help a lot with relocation and are definitely a good example to follow even in our days, that attention to relocatability is somewhat neglected. Overall, we are presented with the location of Bronze Age sites in the area in relation to basic topographical features and to one another, and the map also seeks to present the relationship between geography and settlement discussed in the text, even though within the limitations and imprecision of the time.

<table>
<thead>
<tr>
<th>Density per area / period</th>
<th>area surveyed (km²)</th>
<th>Total site no</th>
<th>PH</th>
<th>GR</th>
<th>BVT</th>
<th>Modern</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>900</td>
<td>94</td>
<td>93</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Or:</td>
<td>592 (map)</td>
<td>72</td>
<td>72</td>
<td>1</td>
<td>0</td>
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<td>1</td>
</tr>
<tr>
<td>Densities per km² (target population)</td>
<td>0,104</td>
<td>0,104</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

*Site definition:* excavations and archaeological discoveries although already known, vary from undoubted settlements and burials to the presence of one find, sometimes not even datable. Interest lies in the density of Minoan activity and therefore locations with any kind of material culture are included. Most of the sites are places that are now known to include many findspots.

**Interpretative Framework**

The noted variation of settlement intensity throughout the area under consideration, namely the municipality of Siteia, formed the main theme of study. Thus, research questions explored and interpretations sought concerned the reasons behind such variation and the choice of site-location. Wroncka takes into account the
possible effects of research bias as the likely explanation for the variability in the picture of site densities throughout the eparchy, since historically some areas had been favoured in terms of study and excavation. She argues, though, that the picture is quite representative of the Minoan reality and therefore answers had to be searched in the realm of human response to environmental circumstances.

In this framework she investigates the relationships between geography, environmental potential and presence of settlements of the higher scale of hierarchy, providing a guide of ‘where’ to look if we want to find habitations of a ‘higher cultural level’ and which areas are expected to represent sites of a poorer, rural background. Thus, coastal, alluvial plains, which are open to the interior of the island, demonstrate habitation of high density and important level, because they allow cultivation and exportation of wine and olive oil. The wealth and development of Minoan towns is seen as the outcome of exportations of the aforementioned crops. Along the same lines, coastal Minoan routes are explained as allowing people from important centres (Zakros) to exploit coastal plains (Xerokampos) so as to increase their exportation surplus, while routes linking the coast with the uplands could serve the need for cereal cultivation, which can not be achieved on the coast. Trying to interpret all kinds of activity she suggests that ‘guard posts’ could be simply rest locations along these routes. The small size of coastal alluvial plains in the east is taken as the justification for the lack of palaces in the east (the ‘palace’ at Zakros had not been discovered yet), and comparisons with palatial centres in support of the argument examine production capacity.

To sum up, environmental factors such as location for habitation, landuse and communication routes form the main explanatory framework in the exploration of the development of the Minoan culture.

Influential References and Sources: Lehmann is the main interpretative influence and in the same tradition belongs also Khalikiopoulos. Bosanquet, Dawkins, Hogarth, Myres, Platon and in general researchers and excavators of the sites she studies form her information sources.

Summary Assessment

Strengths: site inventory and map visualisation; consideration of the environment’s role in the choice of site location.

Weaknesses: problems with site definition as some are of low confidence (1 vase and the name of a nearby village), not full scale study of relationships between man-environment.

Evaluation of data and Interpretation: not all data-sites have the same strength; however, the environmental – interpretative approach followed is very interesting, even if we need to take into account socio-ideological relationships between sites as well.

Knowledge acquired: suggestions on site interrelationships and development, spatial and man-environment relationships.

Integrability: medium-high

Publication: completed

This study was certainly an innovative contribution to archaeological theory and the study of Minoan Crete. It provided raw data of good enough quality within its spatial context, to be used even in later research in the form of maps of the archaeology of the area. Wroncka tried to establish a picture of the relationships between sites and environment in Minoan times and understand the reasons behind the difference in archaeological wealth among different areas. She also looks into the spatial relationships between some sites in relation to environmental potential and exploitation. The importance of geography and topography for archaeology and their link to cultural expression including economic and political situations were acknowledged early in the Human Geography tradition and characterises the work of modern landscape archaeology. Current studies, seeking to understand past human cultures via exploration of spatial, and man-environment relationships, prove that Wroncka’s approach was indeed advanced. Environment plays, without a doubt, an important role for human culture, not least as it pretty much defines potential and variability of economic development, but it also affects political and social interactions.
However, interpretative issues are only touched upon, spatial relationships are not fully explored and neither are man-environment interrelationships for the full spectrum of Minoan activity in the landscape. Even though she admits that continuation of habitation in some settlements may be explained more in terms of cultural reasons rather than environmental, it’s only through geography that she explains the establishment of Minoan ‘palaces’. Regarding the integration of sites discussed we should be cautious, because the site inventory includes sites of very low confidence (areas where single finds were discovered).

Still, the desire to know ‘where’ an archaeological site is has led Wroncka to enrich maps with archaeological dots that can at least be relocated, and she has also gone further than that, in trying to understand and explain human behaviour. Her approach and suggestions, even if not undoubted results, have made the study an important contribution to Minoan archaeology.

Landscape approach: Visualisation of a variety of past human activity (settlements, burial sites, routes etc) within its main geographical and topographical settings. Environment is seen as playing the leading role in the formation and character of past settlements and cultural activity.

3.4.3 Survey id: Paul Faure

Problem Orientation: aims and methods

Paul Faure was an admirer of the Minoan civilisation, but in fact his passion was Crete itself. He walked extensively throughout the island in the 50’s and 60’s and explored all kinds of sites in all periods; however, his main interest was in caves and ritual sites of the PH and GR periods. He was extensively read in ancient Greek and Latin literature and used ancient sources as information and inspiration in his search to locate ancient cities and reconstruct the function of new ones. His aims thus, are of a wide range: to locate sites mentioned in ancient sources, to explore caves and ritual sites and to find new ones, to reconstruct a picture of the ancient past at a variety of scales (site and island level). The reports published from his explorations focus on topics such as ‘caves and sites’, ‘speleology and topography ‘the population of the mountains: sites, caves and rituals’, ‘sanctuary types’, ‘popular rituals in ancient Crete’.

Methodology is based on the use of philological but also archaeological sources and previous researches, on extensive walking and intensive exploration of sites and on the communication with the local population. Thus, trying to locate a site (e.g. the cave where Zeus was born), he uses geographical and topographical information from ancient sources as well as myths and stories from the local people. His research method is often deductive; for example in his search for ancient Pergamon, he explains his thought on what he looks for and why certain possibilities are eliminated. Data (archaeological, historical, landscape and toponyms) are presented for all sites visited, as both possible and negative evidence is used to make his argument for the suggestion of a site location stronger. In some cases, he tries to exemplify his line of thought by presenting the sources used (whether written, toponyms or local information), while in other occasions he just takes us through his travels reporting on what he sees, knows and has read. His involvement and co-operation with other disciplines is exemplary, so in addition to the study of archaeological, philological and historical evidence, he often describes geology and has even cooperated with astronomers regarding cult observations.

Overall, in his attempt to understand and reconstruct the function of a site, he presents all kinds of data he has used, experiences he has had and thoughts he has made, which presented in detailed text form, argue for the ideas and conclusions suggested.

Presentation / Relocatability

Presentation consists principally of landscape photos, representative of Faure’s interest in visualising the areas discussed. In fact, even though on-site archaeological observations are an important part of his explorations, he is more interested in site history and landscape settings rather than their material culture. However, there are also photos of finds, architecture and inscriptions, which form an important tool in site interpretation.
Drawings include cave topography and engravings, but not really pottery and archaeological objects, fact that corresponds to the different focus of his reports in comparison to his contemporary works of the Culture-History tradition. Still, archaeological objects are usually described in detail and occasionally presented in photos. Relocatability is not a problem for sites that are known or easily discernible (e.g. caves), but it is a big problem for most small sites and places of interest. Descriptions are narrative and locations not clear, while the main site map included in his 1965 article is a site-dot map of 1:500.000.

Density per area / period

*Site definition:* the writings of Paul Faure do not include a catalogue of sites, but consist rather of a narrative of areas visited in which site descriptions are included. All places considered interesting are described, discussed or at least mentioned. However, places of interest often consist of many findspots and loci, creating confusion over what is considered to be a site. Some may be empty of archaeological information or exhibiting negative evidence in relation to a research question asked, however, they play a role in Crete’s ‘story’.

**Interpretative Framework**

Paul Faure is a very well read philologist specialised in the ancient Greek world, but also sculptured with the ideas of French Human Geography, which he uses widely in his attempt to reconstruct the history of Crete. The sources used include ancient historical texts and myths, writings of Travellers and previous researchers, inscriptions and archaeological finds, ethnographic data and information from the locals, but also landscape observations. The sites he is mostly interested in are caves and it seems that the social behaviour that strikes him most is encapsulated in refuge and ritual sites. These, he tries to understand them by combining a variety of information and observations, paying particular attention to topography and the landscape. His background in Human Geography is evident in discussions of the history of use of a site or region over time and the consideration of human activities in relation to environment. For example cave function is studied diachronically and changes are explained in terms of socio-political circumstances, and living in the mountains is discussed again over time, in relation to subsistence and the social characteristics of different periods.

Faure’s research is characterised by a multitude of influences from archaeological and philological traditions: We can discern a traveller’s exploratory interest, where ancient sources, myths and concurrent Cretan life figure widely in the texts; the narrative form of his descriptions and the inductive – common sense – line of thought is typical of the Travellers’ tradition and culture-history’s theoretical framework, observed also in his descriptions of material culture; on the other hand, his interest in topography, geology and the history of the landscape reveal strong influences from the historical and Human Geography traditions. In some cases narrative and site descriptions are related to a research question and a hypothesis, where he travels us through the landscape and his thought in quite a detailed manner, whereas in other cases descriptions of what is observed may not be linked to interpretative suggestions, but be just presented as information and ‘proper’ archaeological records. Indeed, this is a brilliant example to attest the interplay between various traditions of thought.

Interpretations are primarily on the site level, and more specifically on function and chronology, but he proceeds further to combining site information for regional and inter-regional explanations. Thus, settlement hierarchy in the GR period is explored and settlement spread in the mountains of Crete is studied, but he is also interested in modes of living, trading routes and subsistence. He identifies periods of trouble, when refuge settlements in inaccessible peaks and caves are encouraged, and periods of peace, and compares numbers and types of settlement between different parts of the island. Observations on population trends are related to topographical and social considerations e.g. abandonment of the coast in certain periods is thought to be due to submergence of the coast or in other cases / periods due to piracy. He is fascinated by rural life in all periods, including modern, which he tries to share with Cretan people. Being particularly interested in rituals and cult practices, he studies them over time and is fascinated by the continuity of beliefs and practices.
Influential References: Wroncka, Kirsten, Khalikiopoulos (German Human Geography tradition). Greek researchers: data and interpretation source. Travellers and ancient sources.

Summary Assessment
Strengths: extraordinary variety of information and a holistic approach regarding people’s life in the past. Interest lies mainly in ordinary people and many aspects of social life as opposed to artefacts and sites of the highest level of hierarchy exhibiting rich material culture. Records offer rich information on the history of sites.
Weaknesses: no structure in the presentation of data, information may recur and site interpretations are not always clear. Archaeological data are at times poor and in general rather difficult to classify and use. Site status is often problematic.

Evaluation of data and Interpretation: Data discussed in relation to places of interest are variable and useful, in particular regarding landscape descriptions and historical information. Interpretations cover quite a wide range of themes and offer an informative picture of the Minoan culture and the history of Crete. Archaeological data are however not explored to their potential, and chronological/functional attributions may be too vague and difficult to use.

Knowledge acquired: the most important information we get relate to the location and description of caves and cult sites.

Integrability: medium
Publication: completed

Faure’s aim to understand and reconstruct the past of Crete was driven from his passion for the ancient Greek civilization and the island’s unique landscape and culture. He studied archaeological research on the island in detail and critically, historical sources and mythology, topography and environment, he participated in the Cretan way of life and used all possible information in order to approach the island’s past. His focus on interdisciplinarity and the synthesis of a variety of different data is exemplary, in fact he explicitly states the need to combine speleology, history, geography and philology and he seeks interpretations based on a synthesis of data acquired from all different disciplines. His attention to topography and speleography enhance understanding of the sites in question, in particular little explored sites such as caves and cult places. An important merit of his work is that he was not captured only by the beautiful objects of art trying to recover palace and elite relationships, but he tried to portray the Minoan spirit and Cretan society over time in its entirety focusing more on the rural countryside. His book on the everyday life of the Minoans is characteristic of such a holistic approach, where he discusses geography, subsistence, professions, ideology, crafts etc, and even touches upon the psychology and gender issues of the Minoan society. Moreover, he does not hesitate to put his interpretative suggestions forward, e.g. the origins of the population are sought in relation to the rest of Greece (the islands having served as stepping stones), and are discussed in connection to geographical and language data, which is a more pragmatic view to ideas involving immigrants from Africa and the Near East. His interest in the diachronic use of caves and cult sites offer us interesting insights into Cretan society and overall, research is promoted for little explored areas and themes. However, occasionally views might appear too strong e.g. the difference in advances (especially during Minoan times) between central-eastern Crete and the more mountainous areas west of Rethimno, view that even though may hold some true, is based mainly on research biases.

The principle problem encountered in Faure’s work is the difficulty the reader has to understand, classify and assess his site interpretations. In his attempt to present all his observations regarding a site he also refers to random observations of many other sites, as he usually describes everything in his way. Site information may recur as he revisits areas adding new information, or because he refers to sites in support of various arguments. Site size and archaeological data are not explicitly recorded and it is through a narrative text that we learn of finds and findspots. Even though he offers more than a sterile accumulation of empirical
observations, it is a fact that the lack of structure in his publications causes problems regarding the usability of the data he presents.

**Landscape Approach:** landscape is approached as a fascinating set of topographical and environmental settings that function as a wide context and enabling / restricting force for cultural and social expression.

3.4.4 **Survey ID: Nowicki**

Problem Orientation: aims and methods

Nowicki’s work on refuge settlements focuses on recovering and explaining the settlement pattern of the period during the transition from the Bronze to Iron Age. The main characteristic of the period is the abandonment of coastal settlements and the emergence of new ones in defensible hills inland, a phenomenon that had first been observed by Evans, Boyd, Hall and Pendlebury. Such sites in the mountains of Crete were identified in other periods also, in particular during MM and FN / EM I, but in later historical periods as well. The systematic study of this recurrent pattern, characterized by the idiosyncrasy of settlement topography, aimed to elucidate societal structure over periods that seemed to exhibit evidence of socio-political instability. At the same time Peak Sanctuaries were studied as an expression of territorial power of different groups and attention was given to their relationship with nearby settlement sites. Problem orientation is based on the belief that topographical / geographical study and spatial relationships of refuge settlements reveal a pattern of social behaviour respective of the socio-economic circumstances of the time. As a result, the researcher explores the way people used a specific environment to survive and cope with the social troubles of their time. Settlements are classified according to their size and location in terms of distance from the sea, inaccessibility of summit and relationship with other similar settlements. In order to understand site history, intra-site structure is also studied in specific settlements.

His approach consists of two components: a) fieldwork that aims to discover new sites, but also revisit known ones and study their topography and geographical settings and b) pottery studies that aim to ameliorate dating in particular of LM IIIC / PG, since survey sites are represented mainly by coarse wares and little comparative excavated material is available. Fieldwork is based on the author’s extensive walking on the Cretan mountains over the 80’s and 90’s, and in fact continuing to this day, the inspection of rocky hills and places that seem to fit the topographical criteria for having hosted defensible settlements and PK’s and the collection of information and interaction with locals, most often shepherds who live in the mountains and are part of the specific landscape. As chorographic studies form the basis of the research approach, sketch maps of sites and their location on the map are considered as important as dating and interpretation.

Presentation / Relocatability

The maps used in the presentation of this study over a series of publications consist of topographical-site maps at a variety of scales and levels of accuracy. General site maps of the island showing spatial spread of defensible sites can be from 1:333,333 to 1:217,391, while region and site-specific sketch maps may be at 1:33.333, 1:3.571, 1:10.000, 1:1.666, 1:416, and 1:1351 showing both inter and intra-site relationships. The purpose is to illuminate the topographical and spatial attributes of the refuge settlements discussed in support of the arguments presented. Contours are of unknown height, but drawings can indeed be very good, allowing a very good impression of the topography of the relevant areas. In several cases architecture is also mapped in relation to the site’s topography.

However, there is not always a clear correlation between all sites discussed in the text and those presented on the map, and we lack map legends that clarify chronology and function interpretations. Maps should in fact portray the chronological relationship of the settlement movements that are discussed in the text. Regarding relocatability, sketch maps are an important tool to facilitate it, especially in the cases where a wider area is presented, with a number of sites in their topographical background. In such cases (e.g. Karfi)
difficulties regarding site location relate mainly to their remote and inaccessible character. Time and space distances in combination with orientation from known places and toponyms are additional tools used to describe the location of a site and indeed, very good directions are given on how sites can be approached.

Density per area / period

<table>
<thead>
<tr>
<th>area surveyed (km²)</th>
<th>Total site no</th>
<th>PH</th>
<th>GR</th>
<th>BVT</th>
<th>Modern</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>8297</td>
<td>171</td>
<td>160</td>
<td>58</td>
<td>7</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Or:</td>
<td></td>
<td>145</td>
<td>53</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Densities per km² (target population)</td>
<td>0.02</td>
<td>0.019</td>
<td>0.006</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Site definition:* it is based upon architecture and sherd concentrations. The term ‘site’ seems to be equivalent to the notion of settlement, although site nomenclature includes terms such as ‘watch points’ or isolated houses e.g. Orino Petroskopia. Categorization of refuge settlements consists of: 1) small hamlets 5-10 families, 2) settlements of medium size 10-20 families, 3) extensive settlements of 20-40 families and 4) extremely extensive towns like Karfi and Erganos. Most of the sites discussed are interpreted as defensible refuge settlements even though it is not always clear whether they are considered to be permanent settlements and of which size, hamlets or periodically occupied watch towers. Scarce material may be interpreted as temporary use or restricted habitation. Lastly, many known sites are mentioned in the discussion as part of the interpretation but not included in map representation.

**Interpretative Framework**

The general interpretative framework about refuge settlements operates along the same lines as the ones set by the first archaeologists, namely that the changes of settlement patterns in LM IIIC / PG reflect disturbances caused by piratical raids connected with the ‘sea peoples’. The phenomenon, however, is studied in a structured manner and in a wide spatial scale, seeking to recognize micro-scale differences and elucidate their socio-economic character. Settlement location is considered within a general geographical background which includes discussions about the sea, the mountains, communication routes, water and vegetation. The importance given to the relationship between settlement and topography / geography reveals a very close association to the Human-Geography tradition. A combination of fieldwork, pottery studies and excavation results is used, but topography is the leading evidence upon which the whole interpretative scheme is based. Thus, defensibility, inter-visibility, control of routes, distance and at the same time view control of the sea and proximity to water sources are the main characteristics of the defensible systems identified, which consist of a number of sites that seem to serve the same purpose, namely the protection of the inhabitants or Minoan descendants from attacks coming from the sea. Three defence systems are identified in Hagios Vasilios, Lasithi and Siteia mountains, consisting of two types of refuge settlements: a) those near the coast situated on the summits of very inaccessible cliffs with very good view control of the sea and b) inland sites situated quite a long time from the sea and being part of a wider defence system consisting of smaller inaccessible sites on the periphery and larger settlements in the middle of the defence settlement system or refuge site network. The close distance and apparent continuity between coastal and refuge sites is taken as indicative of the flight of Minoans to higher defensible settlements above their homes. At the same time an interesting idea is developed regarding dual settlements as in the case of Monastiraki Chalasmenos and Monastiraki Katalymata where
the inhabitants of the first permanent settlement seem to have been using the second more inaccessible one at times of danger.

Except for the identification and description of the defence systems that exemplify settlement patterns in LBA / EIA, discussion develops also around issues of mode of living, intra-settlement arrangement and the permanent or temporary character of some mountainous settlements, e.g. Karfi. Regarding this last issue, architectural, archaeological and ethnographic evidence is used to support the author’s view on the permanent character of the settlement even though at a very high altitude. In addition to that, explanations seek the origins of the phenomenon, which are related to the socio-political situation of the preceding periods, in particular after the Minoan destructions of the LM IB, and at the same time its consequences into later periods and the development of the pattern into the Geometric and Archaic polis. Thus, the period is seen in a historical perspective. Moreover, many defensible sites are recognized to have been occupied throughout time and the phenomenon is seen as a recurrent response to social troubles from LN to Byzantine and Turkish times.

Site histories revealed through dating are used so as to trace differences in regional developments, thus the trend of moving away from the coast, which is attested earlier on the south (LM IIIA Kefali Chondrou Viannou was destroyed in LM IIB), in combination with the fact that coastal sites were not reoccupied after the LM IB destructions is taken as an indication of raids having started earlier in that area and it is also proposed that the south coast may not only have been a victim but also a starting point of raiders. Some settlements are interpreted as possibly piratical, based on their isolation from the hinterland and their close relationship to the sea, but also the fortification of MM settlements e.g. Mythoi Ellinika and Myrtos Pyrgos is interpreted as possible evidence for intra-island conflicts. Along the same lines, MM II-III defensible sites in Lasithi are seen as the result of struggles over territorial control between inhabitants of the plateau and those beyond. In general inter-site relationships, continuity and movements (settlements, burial and religious sites) are a central research theme.

Overall, the researcher tries to present clear interpretations of the patterns he identifies, even though the tentative character of some of his suggestions is noted and the necessity for further research including excavation is stressed. His approach is critical especially towards former interpretations, for example he disagrees with Evans and Pendlebury about Lasithi sites which were treated as part of a group of guard houses, showing an organized palatial defence system as in the East Siteia Plateau. He states that ‘their function and dating must be analyzed individually and then seen against the general background of the period in question’. Looking into power relationships and regional variation, defensible sites in Lasithi previously interpreted as guard houses are now taken as an expression of a general need for defensibility, with MM fortified buildings being interpreted as part of fortified settlements and not as evidence of palatial control in the area. Instead, Lasithi is proposed to have formed a separate state or loose confederation of several Lasitian groups. The political boundaries between Lasithi and central Crete during PG-G times are seen to have had their origins on previous different developments between the two regions. Within the same framework of regional variation PK territories are believed to relate to pastoral expansion, while inter-site relationships between PK’s and settlements are followed over time.

Influential Sources: the work of Culture-History archaeologists since the beginnings of Minoan archaeology was used as inspiration and sources of information, but also the same approach of extensive judgmental walking was followed. Rutkowski initiated formal study of the topography of PK’s.
Summary Assessment

**Strengths:** systematic work, valuable sketch maps, clear presentation of interpretative suggestions.

**Weaknesses:** the known problems derived from lack of site survey (definition of site extents and function differentiation over time). Not clear chronology and function in a comprehensive site catalogue.

**Evaluation of data and Interpretation:** data is clear and interpretation is presented as a natural consequence of the evidence available. However, data is incomplete.

**Knowledge acquired:** site histories and their topography; interesting interpretative suggestions regarding social complexity.

**Integrability:** high

**Publication:** on-going

The great asset of this work is the detailed description and discussion of the topographical and geographical features that characterize locational choice, whose study and understanding may illuminate human behaviour as expression of specific social structures. Trying to reconstruct past social phenomena he studies settlement patterns not in isolated chronological windows but in historical continuums. The very good quality of sketch maps – mainly of the topography of the landscape but occasionally of the internal arrangement of sites - enhance understanding of the social reconstructions presented, namely of the need for defensibility that characterizes LBA / EIA, and which seems to recur at times of social troubles. Even though within a Human Geography tradition, there are very strong links with the Culture-History tradition as fieldwork is extensive judgmental and descriptions of sites, their environs and location, are given in long narratives often including catalogues of finds. However, there is a much greater emphasis on the interpretative potential of topography as opposed to the creation of descriptive site indexes.

The author’s approach is in general critical and as a consequence he re-investigates sites visited by earlier researchers (e.g. Evans and Pendlebury), re-interprets them and at the same time he makes explicit the tentative character of his interpretations when based on incomplete data, reminding us persistently of the need for further researches in fieldwork, excavation of relevant sites and pottery studies. The publication is quite methodical as the author identifies a phenomenon, defines it and studies it according to a specific methodology. Opinions, questions and reconstructions of past historical circumstances are presented clearly. The line of thought and field methodology is most relevant to the questions asked. The identified topographical characteristics of a respectable number of refuge settlements in Crete (which in fact is continuously rising through the author’s and others’ fieldwork) and their spatial spread, hint to island-wide historical circumstances, even though regional and chronological variations are respected and avert rigid interpretative schemes of catholic value across the island. Variability is explored both in terms of space and time: in particular, the situation described is presented as indicative of the more isolated mountainous areas of Crete as opposed to the areas around Knossos and Mesara, while the possible variability among mountainous areas is also acknowledged. Besides that, patterns of settlement continuation, movement and topography are used as evidence of historical differences, e.g. the movement inland of late LM IIIB-LM IIIC was due to external attacks, whereas settlement movement to more inaccessible areas in PG (e.g. from Vrondas to Kastro) show internal, intra-regional troubles for territorial control and mark the beginnings of G-A town territories. However, we should note that the work of other researchers is not in total agreement with Nowicki’s proposals. In particular Xifaras (2004), studies social transformation at the turn of the Bronze to Iron ages based on settlement, burial and ritual data mainly from excavations, also focusing on a geographical approach, and proposes a society structured on internal conflicts and not being a victim of external raids. The main arguments are based on the community’s need to control subsistence-rich areas, but social memory and ideology are also explored, describing social reconstructions in a historical framework.

A weakness of the project is the lack of sampled site surveys and further detailed field and pottery studies, which would help have a more precise picture of the life span of these sites as well as their exact
character and relationship. What for example do site size differences mean and why in some cases settlements expand beyond their natural defence borders while in other cases they remain smaller than the defended space available? Which sites and why are further defended by fortification walls? The author puts forward suggestions as to the existence of fortified watch towers and the expansion of settlements leading to the Geometric polis, but further research and explanations are needed and indeed acknowledged by the author himself. Besides that, even though site definition and interpretation is indeed the greatest challenge for the archaeologist, opinions should be made clear in the publication. The author’s studies are presented in a series of publications where sites are mentioned several times, not always though with the same clear characterization of function and date. Collective maps of refuge sites presented exclude some of the sites discussed in the text and not all of them are discussed with a clear definition of whether they are considered as settlements and of which size, as temporary habitations, watch towers or of uncertain function. To understand, however, settlement defence systems, regional patterns and differences, it is necessary to understand the role that each site played and the need it expressed during the historical period of its existence. In short, we are in desperate need of a total clear site catalogue with functions per period as well as a map representation of the interpretations suggested.

Landscape Approach: the landscape is perceived as the geographical entity within which human activity can be understood as a response to social and economic situations. The intricate relationship between man and environment is explored through detailed studies of the topography of settlements, which is used to elucidate past settlement choices and social organization.

3.5 TOPOGRAPHIC TRADITION

3.5.1 SURVEY ID: HOOD KNOSSOS

Problem Orientation: aims and methods
A first map of Knossos was created by Fyfe in 1900, then copied, partly updated and used until 1952, when David Smollett drew a new map with much and important new information, which was published in 1958 at a scale of 1:5000. This served as the basis map for the topographical map drafted by David Smyth to accompany the catalogue compiled by S. Hood regarding the antiquities around the site of Knossos. An additional study on the physical environment was undertaken by Neil Roberts, included in the 1981 report of the Knossos survey as a separate section. The aim of this project, which took place in 1977, was to produce an up to date catalogue and map of the area of Knossos with the location of the excavations and soundings undertaken by the British School since the beginning of the 20th century and within about 10km² around the Bronze Age palace.

The main questions asked and for which the map and catalogue were used concerned the extents of occupation per period, the identification of activity loci and the estimation of population size for the major period of the Bronze Age. The goal was a history of the occupation of the area from Prehistory until the Arab conquest, although the weight of study and analysis is given to the PH. Methods are not explicitly stated, but treated rather as ‘self-explanatory’; basically, they walked the area of interest rather intensively, mainly under the direction of Spyros Vasilakis the ‘doyen’ of Cretan excavators. This involved visiting known spots, walking around sites and places of interest depending on time and importance or likelihood to exhibit antiquities, mapping their location and producing a topographical description to accompany the catalogue of the material finds. Environmental studies seem to be a result of the major trend at the time to provide an environmental background for the archaeological sites considered, even though geomorphology is stated to have been used in order assess land availability and landscape change.

Presentation / Relocatability
The presentation of the archaeology of the area on a detailed topographical map of a good scale was a primary objective of the project, thus the scales used were 1:5000 and 1:21,739 and legends describe topographical
features and site-functions for the basic chronological periods. Landscape photos as well as an aerial photo enhance a visual picture of the area studied. Site-location is described in detail therefore many sites should be relocatable. However, sites may be isolated tombs, displaced (and removable) architectural material, old soundings and test pits; in combination with continuous landscape changes in an area that is heavily inhabited in modern times, it is expected that the relocation of many sites would be particularly difficult and a number of them will have disappeared.

### Density per area / period

<table>
<thead>
<tr>
<th>area surveyed (km²)</th>
<th>Total site no</th>
<th>PH</th>
<th>GR</th>
<th>BVT</th>
<th>Modern</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>372</td>
<td>189</td>
<td>218</td>
<td>6</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Or:</td>
<td>170</td>
<td>193</td>
<td>5</td>
<td>18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Densities per km² (target population)</td>
<td>37,2</td>
<td>18,9</td>
<td>21,8</td>
<td>0,6</td>
<td>1,8</td>
<td></td>
</tr>
</tbody>
</table>

**Site definition:** a large proportion of the sites described are burial sites from single tombs to cemeteries and areas with more than one locus of archaeological interest. In some cases it is not certain whether an interpretation is presented with certainty or not, because although question marks may be used in the title of a site’s presentation, in the text the characterisation may be treated as certain. In such cases his interpretations are treated as uncertain. The variability of site-type is indeed vast including walls, paved areas and mosaics, wells, inscriptions, displaced architectural blocks, sherd densities, roads etc. Chronological definitions, however, are not of the same precision in particular for post-Minoan times when dating becomes cruder and occasionally the better chronological term that can be used for the date of a site seems to be ‘ancient’.

Most sites, sometimes defined as of ‘unknown activity’ in the database e.g. roman mosaics, are certainly parts of the same settlement. Some may be areas with many activity loci while others describe parts of the same feature (e.g. a road is traced in many loci, each being a separate site). When sites consist of various findspots the site’s function in the database classification is determined by the main characterisation of the site, as stated in capital letters by the researcher.

**Interpretative Framework**

Hood presents a brief history of the researches in Knossos from Travellers and early archaeologists to work undertaken till the time of his writing. Kalokairinos, Halbherr, Hogarth and Evans are leading figures among those who excavated and studied Knossos, but the site descriptions of his catalogue include references to every archaeologist related to the site described. The history of Knossos is portrayed in chronological periods with descriptions of material culture and its location per period. Continuation or gaps in use of space and changes in site size, pottery spread and population from period to period are the main themes explored. Within an inductive line of thought the spatial spread of material evidence is used in order to identify the extent of settlements and activity foci for all periods, but in particular for the Bronze Age and Roman times that exhibit a wealth of findings. Continuous habitation in the area and the dramatic modern landscape changes (mainly construction) as well as the lack of defence walls has naturally prohibited the identification of clear boundaries; however every location with antiquities is used as evidence of settlement and landscape use for the relevant periods.

S. F. Hood is particularly interested in the size of the Bronze Age settlement and in estimating its population, comparing it with Early Dynastic Ur and Medieval Candia. Describing the evidence, he suggests
that the Protopalatial and Neopalatial Bronze Age town had suburbs with terrace houses and gardens while the countryside was dotted with farms and villas, which hints to a high number of people spread over a wide area. Similarly, the decreased quantity and extent of material culture from LM II was interpreted as smaller population numbers. Dispersal versus nucleation and population estimates in comparative terms between periods, are in general popular themes and therefore also discussed for the Iron Age. The leading theories in Minoan archaeology regarding population changes and the fate of Minoan civilization, supporting Mycenaean influence or even invasion according to changes in pottery styles and burial customs, seem to be favoured. The theme of cultural continuity has been one of the most favourite in archaeology and in this report it is briefly discussed regarding the origins of palatial Knossos, by exhibiting similarities in architecture between earlier buildings and the palace e.g. the fact that they share the same alignment. In the same way, the distribution of Early Iron Age tombs is thought to have been conditioned by the distribution of the Bronze Age ones; reused tombs are always noted.

In short, S. F. Hood tries to provide a picture of the chronological and spatial spread of human presence in the area of Knossos diachronically. The Bronze Age receives a somewhat greater attention with an attempt to provide a more complete story of the centre of Minoan civilisation referring, even if briefly, to its beginning and end. The amazing variety of sites with certain, possible or no function from settlements to burials, wells, road construction and material presence summarise the effort to understand and reconstruct human activity in the area. Problem orientation reminds us of cultural heritage management projects. However, apart from the construction of a site index, Hood focuses on topographical mapping and tries to interpret spatial relationships between loci of archaeological interest so as to arrive at settlement size and population conclusions. When he discusses a suggestion or a hypothesis he presents his line of reasoning taking into account data and suggestions proposed by earlier researchers, with whom he occasionally disagrees. Historical sources are typically used in relation to GR finds and patterns.

**Influential References and Sources:** all previous researchers in the area, basically of the CH tradition (Evans, Hutchinson, Hogarth, Mackenzie, Jill Carington Smith, Coldstream, Popham, Howell, Warren etc).

**Summary Assessment**

- **Strengths:** documentation of research undertaken in the area with a very good scale map.
- **Weaknesses:** occasionally not clear definitions (e.g. ancient), and no consistency in site definition. This varies from a certain settlement with architecture and pottery spread to the locus of removable items and a wider area with several loci of antiquities.
- **Evaluation of data and Interpretation:** Interpretation develops around the diachronic spread of human activity, site size fluctuations and population estimates. Excavation but also survey data are used. Often data say nothing more than the presence of material culture, which is expected in a heavily occupied and much researched area.
- **Knowledge acquired:** environmental background and human activity locations through time.
- **Integrability:** medium
- **Publication:** completed

The sought-after and result of most archaeological work has been the location of antiquities covering a definable space and their chronological and functional character. In the case of Knossos, this is a task of great importance, given the situation of continuous landscape change and the plethora of findings. However, sites in the context of this work are basically loci of archaeological material, and can be principally used as information rather than as data for regional analysis and inter-regional comparisons. The need for visualisation in order to manage a plethora of archaeological findings is expressed via the labour-intensive construction of a map at a scale of 1:5000, which still remains the best archaeological map available for the area. Every site in the catalogue includes the history of research and the interpretations of previous researchers even if evidence has disappeared, sometimes with comments that support or create doubts over specific interpretations. Hood
tries to provide an as clear and objective picture of the archaeology as possible, paying attention rather to detailed historical recording, than the construction of a regional history, although his synthesis of data attempts to provide a general picture of the settlement history with size differences and loci of distinctive functional character over time.

Environmental work undertaken falls within a general trend of the time that serious archaeological research should encompass a study of the environment. The acknowledgement of the relationship between man and environment and the influential role of the latter was stressed by New Archaeology and even though the views of the new theoretical framework were certainly not adopted by everyone, they indisputably left strong influential traces in the work of even typically traditional archaeologists such as Sinclair Hood. As in much survey work even in our days, environmental studies in this project aimed at providing a background or environmental framework within which archaeological evidence should be seen. Relationships between man and environment were not discussed or included in the interpretative process. This project is not in fact a surface survey as most of its catalogued sites refer to excavations undertaken within almost a century in the area of Knossos, the largest and most intensively researched site on the island. Many of the ‘sites’ are parts of the same settlement e.g. the same structure traced at different locations, or loci of finds. However, the amazing variety of functions, which although allows comparison only with other extensively surveyed and excavated settlements gives us a rich picture of the settlement and its activities.

Landscape approach: geographical area containing locations of human activity.

3.5.2 Survey id: Schiering

Problem Orientation: aims and methods
The aim of Schiering’s fieldwork in 1977 over 18 days (with the collaboration of Walter Müller and Wolf-Dietrich Niemeier) was to investigate areas of known archaeological interest around the town of Rethimnon in ‘a more intensive manner than before’. Their main interest was in Minoan architecture and pottery spreads, but they recorded archaeological activity also down to the Roman period. More specifically, they walked intensively (but not systematically) the area from Stavromenos to Hamalevri and around the Fortezza (Venetian castle) of Rethimno and visited two known sites (houses) in the area of Koumoi near Armenoi. Fieldwork included the recording of material culture, but also the topographical mapping of fields researched. The general approach was to identify locations of archaeological interest and try to interpret their character and relationships so as to give an outline of the history of ancient human activity in the area. Schiering had explored the area of Rethimno also two years before, in 1975 (Schiering 1981).

Presentation / Relocatability
Given the fact that sites discussed are either known, or pottery concentrations over a very confined area of mapped field systems, they should be relocatable fairly easily. The topographical / sketch map provided is at a scale of 1: 12500. On the other hand, they also talk about very small quantities of finds, which would be a problem to relocate, especially due to possible landuse changes. Landscape photos allow a better understanding of the area discussed and object photos and drawings give an accurate picture of the archaeological material culture. The emphasis is on describing the archaeology of the area of interest.

37
Density per area / period

<table>
<thead>
<tr>
<th>area surveyed (km²)</th>
<th>Total site no</th>
<th>PH</th>
<th>GR</th>
<th>BVT</th>
<th>Modern</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>~ 2.25</td>
<td>19</td>
<td>18</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Or:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Densities per km² (target population)</td>
<td>8.4</td>
<td>8</td>
<td>2.66</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Site definition: they describe places of interest, namely locations of material culture, but there is no certainty in spatial definitions. They state that concentrations may be many sites or areas of the same site, most likely a settlement. Thus, although it is implied that sites are places of definable activity such as a settlement, a burial or a cult site, the surface record is treated in a way that reminds us of the Landscape Tradition, recording all surface activity that was considered ‘interesting’ during fieldwork, even if not interpreted as a ‘site’. Sites are not defined in an explicit manner, thus in some cases they discuss definite sites, but in other occasions they describe an area where they noted early material, which may include more than one findspots. Sites Tzampakas, Melissa 1, Melissa 3, Kakavella and Mandrakia could be parts of the same settlement. Also Sohora, Bolani and Chatzametis are considered as locations of probable settlement, perhaps as parts of the same one. Densities, therefore, concern mainly areas of interest defined mostly by toponyms.

Interpretative Framework
This work belongs to the Topographic Tradition, with attention focusing on the identification and dating of material culture, even though the border lines with the CH and HG are not very sharp. They do not only look for the location of ‘sites’, but observe in detail the topography and consider how it might have influenced site location within a framework of environmental / geographical potential (e.g. rivers → good ground water in ancient times). At the same time, much effort is given to the description of finds with the purpose of supporting a specific chronological interpretation. Data and interpretations are compared with those of previous researchers (Hood et al. 1964) and agreement supports their findings, namely the continuity of use from Minoan to Hellenistic times.

Presence of material is considered important and representative of activity even if the kind of activity can not be assessed. As has always been the case, PH material is regarded as more difficult to survive and thus its presence in smaller numbers as more important than later material (representative of significant past activity). For example, 5 Neolithic sherds in the area of the Fortezza in Rethimnon are thought as possible to testify the presence of a Neolithic settlement. In this instance, we also attest a self-critical approach, since their opinion of the peninsula being a good location for settling is put forward as only a hypothesis within a western European eye, supported in the case of Chania, but not in the case of Herakleion.

Pottery spreads are interpreted with caution, and in order to understand what they might mean researchers map field boundaries as well as possible, with the thought that they might represent ancient fields, considering also the number of toponyms that occur. The area considered in this manner is about 900m N / E of Chamalevri, where the whole hill range with terraced slopes and plateau on top is characterised by a spread of Minoan pottery, which however can not be interpreted with certainty as settling activity all-over; the possibility of farmers being responsible for such a spread is also suggested. They admit the difficulty of interpreting sherd concentrations as many, a few or one settlement, but finally they prefer the idea of a few smaller settlements as opposed to one, whether all in one period, or changing locations over time. In relation to this interpretative suggestion they refer to A. Kanta (1980), who supports the idea that settlements in LBA Crete are established one after the other and that the criteria for location change towards more defensible areas.
in LM IIIC are natural and of course cultural (transition from Bronze Age to Iron Age is characterised by social instability and hostility - pattern of refuge settlements linked to the Sea Peoples, attested throughout the Aegean). They are also interested in settlement size which they try to assess through material spread, paying attention to the direction in which the settlement grows, namely west, as opposed to burials which are attested to the east of the settled fields and south-east of Palaiokastro – also an LM III settlement and candidate of using the above area as burial ground.

Settlement location over time has been a theme of great archaeological interest, even more so in the German tradition, which received greater influences from Human Geography. Thus, although they noted Neolithic material on the hills, the earliest settlement is believed to be on the coast and the pattern of Late palatial material (LM III) being attested higher and inland, is once again confirmed. At the same time, as well as describing locations / fields in detail, they consider the area as a whole, attesting activity from Minoan to Roman times both on the coast and along the field systems to the south. In the same context Palaiokastro is suggested to have been the harbour of Eleftherna.

In short, they describe the presence of archaeology, focusing on earlier material, and seek interrelationships and associations with the topography of the area under consideration. In this way they try to reconstruct ancient activity and landuse and thus make a contribution to our knowledge about Minoan Crete and the history of this specific area in particular.

Influential sources: The work of Hood, Warren and Cadogan is used as both a source of information and a guide for interpretation, in terms of chronology of finds; in the same way they refer to Greek excavators (Tzedakis, Davaras) and others’ pottery studies. Kanta’s work regarding LM III Crete has also formed part of their interpretative framework.

Summary Assessment

Strengths: data potential is considered and there is an effort for objective accounts of data observed.
Weaknesses: no methodology in publication; the text is too literary – no systematic presentation of data and interpretations.
Evaluation of data and Interpretation: objective data (within the limitations of non-systematic survey) and careful interpretation. However, human activity is approached only via the location of settlements, burial and cult places.
Knowledge acquired: nature and spread of archaeological material within the area in relation to topography and major sites.
Integrability: medium (site definition problems)
Publication: completed

This report is almost like a diary of both fieldwork and thought. In particular regarding interpretation, data supporting specific explanations are presented in a descriptive manner, giving the impression that sometimes they lead to interpretations and in other cases they follow them. The same data and interpretations may appear various times in the text with the result of some repetition and confusion. Interpretations are occasionally contradictory, in an attempt to honestly present the difficulty of supporting a specific hypothesis. However, their line of thought is not always easy to follow as data are not presented in a specific sequence leading to the relevant interpretations. Areas (fields) are sometimes defined by toponyms or as areas between toponyms in a way that resembles a literary description of a digital map of pottery spreads, which is of course very difficult to visualise if not visually represented.

In general, the nature and location of finds is described so as to arrive at explanations when possible; e.g. many findspots were thought as possible to imply a number of settlements or parts of the same one, Geometric finds hint for a settlement that was not found etc. Detailed descriptions of the topography and the material found throughout the study area aims to present their reasoning on the extents of early settlement and present their doubts in interpreting data. Recording includes pottery spreads, topography, landuse and
features, e.g. it is observed that fields incorporated building stones and schists that seemed to have originated from Minoan buildings. Geography and topography are considered in relation to the location of settlements not only from an environmental perspective, but issues of social memory are also touched upon. The approach is closely linked to a geographical / environmental background focusing on correlations rather than explanations and has in fact strong links with Landskunde Archäologie. Overall, this interesting and quite characteristic work of the German tradition suffers mainly from a lack of a strong and clear structure of the text.

Landscape approach: Landscape is the geographical and environmental context of human activity expressed via material culture. It is considered as playing an influential role on human choice.

3.5.3 Survey id: Minoan Roads

Problem Orientation: aims and methods

The principal investigators of this project were Tzedakis, Chrysoulaki and Vokotopoulos, but Voutsaki, Venieri and Avgouli were also involved. As revealed by the name of the project carried out between 1984 and 1996, the researchers declare their aims as the detection, study and interpretation of the land communication system of proto-historic Crete as a means of deciphering the social, economic and cultural relationships of the Minoan world. Infrastructure concerning roads, harbour and irrigation works is regarded as the main evidence of the developmental level of a culture and as Minoan roads are the best surviving evidence, their study is thought to offer great potential in understanding Minoan society. To achieve this aim, they built a typology of road construction so as to understand it and therefore understand the development of infrastructure. Roads connect a variety of sites and serve variable purposes, thus, on a parallel level the project tried to reconstruct spatial organisation and settlement over time in order to achieve understanding of people – environment interrelationships. Questions concern the choice of settlement location, the use of natural resources, defence, contacts etc.

The pilot area chosen is in SE Crete around the centres of Kato Zakros and Palaikastro. Archaeological work in the area had revealed many important sites such as burials, peak-sanctuaries, villas and farmsteads, while excavation of the palace and Minoan town in Zakros discussed themes concerning its function and relationship to the town, its strong farming economy and trade with other centres inside and outside Crete. Within this framework, the underlying theme seems to have been the exploration of site interrelationships within the specific landscape.

The methodology followed is presented schematically as the organisation of bibliographic sources, the mapping of known Minoan sites, the hypothetical tracing of roads depending on site interrelationships and geomorphology and lastly the practice of surface survey in order to discover, map and describe existing remains. Field work has been on a judgmental basis, where they walked the area of interest as carefully as possible, looking for architectural traces, pottery / finds and in general man-made landmarks. At the same time the geomorphological, geographical and topographical studies play a major role in their work.

Presentation / Relocatability

Most publications present a contour map of the pilot-area at different scales with the major disadvantage that none of them agrees, and the same sites are represented with different numbers. The article which includes a map with the greatest number of sites does not include a respective site classification, while the text describes areas and systems of sites, making it impossible to know how many sites of a specific function there are. Besides that, not all maps have a scale, but in general they vary from 1:66.666 (the one that covers the larger area) to 1:25.000 (the one with the greatest amount of sites). Photographs and plans, however, are very informative of roads and guard posts discussed. Most sites should be relocatable as they preserve important architectural remains, or they may already be known and excavated.
Density per area / period

<table>
<thead>
<tr>
<th>area surveyed (km²)</th>
<th>Total site no</th>
<th>PH</th>
<th>GR</th>
<th>BVT</th>
<th>Modern</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>318.3 (map area)</td>
<td>89</td>
<td>82</td>
<td>10</td>
<td>0</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Or:</td>
<td></td>
<td>82</td>
<td>10</td>
<td>0</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Densities per km²</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(map area)</td>
<td>0.279</td>
<td>0.257</td>
<td>0.031</td>
<td>0.009</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Site definition:* sites are usually places interpreted as settlements, burial caves, peak sanctuaries, viglas, guard posts and quarries. Enclosures and roads of course, are recorded, but not given a site number. Sites are not locations with small quantities of material culture and of unidentifiable function. As the unit of description is the area and not the site, every area description consists of the type of sites found and their map-identification number (varying between publications), but we do not have exact correspondence between site name and its function. For this reason sites in the database are entered with the name of the area followed by a consecutive number (the 1993 article was used as it provides the greatest number of sites). Densities are only indicative of the site-number used for the interpretations and discussion.

**Interpretative Framework**

The project focuses on 2 sets of data: on one hand the roads and on the other guard houses, described in terms of construction techniques, materials, function and location. Segments of Minoan roads were found in various areas and were classified according to the quality of their construction and function: 1) at Zakros roads connect the palace and the town with important sites in the hinterland, e.g. a villa (interpreted as controlling the agricultural production of a strategic small plain) and guard posts, 2) the road at Yiouchta leads to the important Peak Sanctuary and is thus connected to ritual, 3) the road found at the major LM III cemetery of Armenoi served burial practices and could be linked to the as yet undiscovered settlement and 4) at Samonas a road was found within the LM IA settlement and another one connecting LM III settlements.

Regarding guard houses the main characteristics observed and used for their interpretation were topography / inaccessibility, construction, inter-visibility, location / route control and connection with other sites. Study observes homogeneity in interior design and megalithic exterior construction; their location did not spare labour and seemed to have been based on priorities of visibility, inaccessibility and control of the surrounding area and roads. Relating structures such as enclosures seem to supplement the role played by guard-houses, connecting them with viglas and thus building a wider defensive system. They are seen in relation to the wider landscape and their distribution is preliminarily explained on the basis of the main routes. They date from the first palace period and have been used in later periods widely even though often they have served different purposes. All these features have traditionally supported their interpretation as of defensive nature, and because the phenomenon is observed widely across the island, the project’s researchers propose a picture of social developments that contradict the model of pax-Minoica forwarded by the island’s first explorers. Instead, they see complex and troubled social relationships, a view that is reinforced by a brief mention of other evidence of defensive character such as the possible fortification walls in several important settlements.

Other types of sites that received special attention within the project were villas, megalithic structures and quarries, but in general all sites, including settlements, burials, peak sanctuaries and workshops were integrated in a cohesive reconstruction of human activity during the Bronze Age. Sites are not treated as spatial contexts of material culture, but as components of complex social systems, which can be approached through the study of site spatial interrelationships in connection with their function and geographical location. Spatial analysis and comparative pottery studies are stated to be the means in understanding organisation and use of space as well as type and degree of dependence relationships with the centre. A core-periphery model
with underlying hierarchical relationships between sites seems to be implicit in the theoretical framework guiding research. It is stated that there are two levels of site interrelationships, one between sites and centre within Crete, and another between centres in Crete and in the wider SE Mediterranean world, even though the latter theme is not actually explored. The proposed interpretative framework sees the attempt of the centres ‘to consolidate fully their authority in the fluid situation in the hinterland’ via the network of guard houses, as much as via the symbolic power of the peak sanctuaries. Chrysoulaki (1999) imagines the complex process of state emergence as one that sees the co-existence of fortified settlements in the mountains or remote areas and the unfortified towns in the plains. However, landscape shaping and social structure can not be easily explained as the conscious decision of a group of people over the rest of the population.

The project uses geomorphological studies as a principle tool for the study and explanation of human activity, expressing the belief that people use their environment and landscape according to their social needs and cultural development. Accessibility and contact potential between coast and hinterland, or between sites have been principle themes of enquiry. It seems that the current project has been particularly influenced by geographical considerations, and indeed, geography and geomorphology in Crete play a leading role in landscape structure and human activity even today. As declared, material remains of Minoan roads had actually been observed by various previous researchers, but this project uses a theoretical model starting from a hypothesis based on the connection between roads and geomorphology, which is then tested on the landscape. It is important to note that the starting point of their working hypothesis is declared to be that administrative planning is required for the construction and preservation of a road system, which serves the needs of local authorities and can thus be seen as a crucial evidence for the organisation of Minoan society at the time of the first state formations. The problem is that the term ‘state’ is a controversial one still, and it is not self-explanatory that a central authority invented and used a communication system in order to exploit the periphery. The project could be best described within an on-going topographical and Culture-History tradition, influenced by historical geography and developments of the Landscape Tradition. Minoan archaeology is characteristic for encompassing influences from all practised traditions.

Influential sources: Travellers and first archaeologists who discovered the majority of important sites in eastern Crete (Spratt, Evans, Hogarth), were used mainly as sources, even though their interpretations usually hold even today. The attention given to environment and a diachronic look express influences from Human Geography, an approach practised principally on the eastern part of the island. The Landscape Tradition surveys seem to have influenced methodological approaches regarding questions explored, and a wide interpretative framework regarding regional settlement development.

Summary Assessment

Strengths: focus on the interpretation of sites and not the discovery of new ones, based on a very interesting theme of exploration. Clear interpretative propositions.

Weaknesses: Problematic presentation of sites.

Evaluation of data and Interpretation: interpretation is based on well presented arguments and good quality data derived from many years’ survey and excavation. Well-established theories (pax minoica) are challenged, and opinions are presented quite clearly. We are offered a coherent interpretative scheme, presented however on fragmentary data. We do not have a complete catalogue of sites-data used so that we are allowed a personal evaluation.

Knowledge acquired: good records of roads and guard houses (location, construction), interesting approaches to their interpretation.

Integrability: high

Publication: not completed (?).

The Minoan roads project allows an informative picture of how roads were constructed, what techniques and materials were used and what needs they might have served. Focusing on the topography and mapping
of Minoan communication systems and defence sites it is classified in the Topographical tradition. It is very helpful that we get a cohesive presentation of some of the sites studied, in particular guard houses and roads. The emphasis given on the description of the geography and geomorphology of the area, allows a better understanding of site interrelationships, for example, the important role that gorges and natural passes played as communication routes in a broken landscape. The discussion of sites within their geographical context highlights their character, promotes understanding of their interrelationships and allows a more informative picture of the relative landscape as opposed to a simple catalogue of sites. Besides that, excavations of many sites and in particular sites related to the project like guard houses elucidate their function and facilitate interpretation.

An important asset is that a critical approach towards the panacea of a peaceful picture of Minoan society is adopted, allowing different possible explanations and views to be taken into account. Attention to the tendency to exclude internal conflicts as an explanation to destruction horizons had already been drawn by Hood (1983) and discussed in bibliography from the mid 80’s. Chrysoulaki (1999) presents a study of guard houses from a variety of points to conclude on their defensive character. However, there are some interpretative problems concerning a rather simplified model of state formation and we are not given a full picture of diachronic landscape changes, in other words we have interpretations, but not always adequate data. The most important predicament of this project is its fragmentary publication and the lack of an ultimate site catalogue with respective interpretations, so that readers can analyse data both qualitatively and quantitatively. Regarding functional classification, it is stated that in a multi-period site, its use during its foundation was taken as the primary role of the building and its relationship to the landscape, and therefore its interpretation during the first detectable chronological phase is used as its functional class. This is a common attitude, as many researchers present their sites with the most distinct functional characterisation and all the chronological periods identified, not clarifying whether the same function is presumed for all periods, or not. However, this is an important weakness, not so much because it represents our inability to identify function, but because misinterpretations are encouraged, when a variety of possibilities should be encouraged.

Overall, we have a wide theoretical framework within which data are used, and Minoan society is approached from a variety of angles. The character of sites, their history, location and relationship to the environment, but also the type and character of their interrelationships form a flexible and coherent analytical framework that can help us approach social, political and economic questions of past societies. It is also worth mentioning that researchers put a great emphasis on the preservation of sites and the natural environment in eastern Crete, adopting a responsible stance towards political practice and the current society.

**Landscape Approach:** landscape is seen as offering specific opportunities for the expression of cultural and social structures. Its study as of both natural and man-made features allows understanding of operating societies over time.

3.5.4 **Survey ID: Itanos**

Problem Orientation: aims and methods
This project aims to recover the historical development of the site and its relationship to its territory, focusing on historical topography and trying to reveal the spatial organisation of the studied area. The ultimate purpose is to construct an archaeological map, which will highlight the organisation of space that defines the site’s position in relation to its hinterland.

The project is a French-Hellenic collaboration with Kalpaxis, Greco, Schnapp, and Viviers and in fact work is on-going with the co-operation of several researchers from universities, research institutes and the Ephoria of Hagios Nikolaos. It started in 1994 with a preliminary study of the city where focus was given on the construction of a topographical map using aerial photos of 1:8000. Architectural plans were considered essential in an effort to define and interpret construction phases so as to understand the history of
the monuments. Remains were systematically studied recording size, dimensions, plan etc and were plotted on the topographical map. Research strategy combined architectural study, topographical mapping involving also GPS measurements, excavation, geophysics and surface survey. Survey was undertaken in different seasons employing variable methods, but in principal it consisted of walking around the area of interest looking for architecture and pottery concentrations. In some cases terraces were investigated through sherd counts per terrace in 1.50m wide strips and diagnostics’ collection. New sites and sites identified at first on the aerial photos were put on the map and some structures were topographically studied whereas arbitrary samples of pottery were taken from each site in order to help define chronology.

**Presentation / Relocatability**
Maps seem to have been produced at variable scales using digitised topographical maps of 1:5000 and aerial photos, whereas sites were plotted with the help of a theodolite and GPS. Reports describe briefly a number of sites presented at the background of an aerial photo of 1:83,333 and a topographical map of 1:47,619. The urban centre is shown on a topographical plan of 1:4000 showing contours at 5m intervals, as said created from aerial photos with photogrammetric methods and on which architecture and features were mapped with the aid of a theodolite. Relocatability of most sites is not possible with the present publications, but ultimately they claim to have a DEM based on maps of 1:5000 and contours of 4m, on top of which they want to overlay aerial and satellite photos. Taking into account the importance given on detailed topographical recording and the use of GPS, in the end sites should be easily relocatable.

**Density per area / period**
*Site definition:* no explicit site definition is given, but sites seem to be locations with material culture, whether a wall, or a combination of architectural and pottery evidence.

**Interpretative Framework**
Interpretation benefits from a multi-disciplinary framework and uses a variety of tools: topographical plans and mapping of material culture at a very good resolution both intra-site and on a regional level, excavation, geophysics, inscriptions, and surface survey. Excavation and topography reveal intra-site spatial organisation and chronology; aerial photographs allow hypotheses on the location of ancient remains and the organisation of space; geophysics test hypotheses regarding use of space; surface investigations aim to recover human activity in the wider landscape over time and date various structures, while a site database is used to organise the study of all sites, and guide interpretation.

More specifically, excavation data are used to define the chronology of different construction phases within complexes and study changes in spatial organisation over time, which may be linked to ideology, e.g. building activity in the necropolis reflects a respectful or not behaviour to earlier use. Anthropological and zooarchaeological studies make their own contribution to understanding how people lived, while pottery studies highlight aspects of trade, growth etc. The site’s history over time is reconstructed by integrating the various monuments in the site’s topography and thus creating surface levels of use of space per period. In this line of thought, the topographical survey of the urban centre is claimed to reveal the urban evolution and the general topography of the site, within a problem orientation of spatial changes in habitation and burial use of space between the Geometric and Roman periods. On the other hand, the discovery of new sites and their mapping is used in order to study regional data in relation to the developmental phases of the city and enhance understanding of the nature of the city of Itanos over the different periods. The approach is based on establishing chronological and site type correlations between the city centre and sites of the surrounding territory.

Typical results of a regional survey concern the variable intensity of human habitation and activity over time. Thus, the surface record does not show new communities at the end of the Prepalatial period and the
countryside is almost empty in Protopalatial times, a picture also evidenced from the neighbouring survey of Palaikastro. The greatest density is evidenced in the Neopalatial period, when the countryside exhibits a variety of sites, from Minoan roads, to guard-posts and villas. Later on, during Geometric, Archaic and Classical times, the countryside does not show traces of permanent habitation. Finally, the area seems to have been abandoned after the Roman period. Overall, surface survey found and recorded a variety of sites from different periods, claimed to supersede the number of 120. Results over the various reports include tombs, habitations, settlements, towers, farms, defensive sites, Minoan villas, terraces, walls, cisterns, quarries and buildings. Dating is based on arbitrary surface collections although in 1996 terraces were sampled and produced evidence on agricultural landuse from the BA to Roman times.

Considerations of site recoverability and the problematic nature of the surface record make their presence throughout the reports. For example it is mentioned that what we find in the surface record may not give us a real picture of human activity, as it is possible that lighter structures which have not survived may have been part of the landscape in little evidenced periods. The greatest importance is given to architecture, and the difficulty to date the great number of walls spread throughout the countryside without excavation is stressed. It is also acknowledged that periods may be underrepresented due to pottery recognition problems, as in the case of the post-palatial period, a problem well attested throughout the area. Following the example of other regional survey projects a coarse ware chronology is established. Overall, researchers try to illuminate the site’s historical development by reconstructing the spatial relationships of ancient monuments and integrating the results of other projects in the area.


Summary Assessment

Strengths: a multi-disciplinary framework and a variety of methodological tools in landscape analysis.

Weaknesses: site-oriented survey, with no sampling and off-site collections.

Evaluation of data and Interpretation: survey data is incomplete and fragmentary. Interpretation is also preliminary, and is based on almost self-evident relationships between evidence and explanation. No exploration of complex social issues and whys.

Knowledge acquired: a picture of site types on the landscape and the intensity of human activity in the landscape. Better understanding of the site of Itanos.

Integrability: medium

Publication: not completed.
defined in advance as the locations of architecture, usually in combination with pottery concentrations. The latest surface exploration involved a team which walked in space intervals holding a GPS, with the aim to find ‘sites’ and plot them on the map. Sites, in turn, are topographically studied, which means that all their architecture is planned and mapped, but no systematic collections took place. Such investigations may be successful in discovering sites with substantial remains and creating maps useful for the visualisation of the horizontal spatial relationships between material remains; on the other hand, the fact that the off-site record is not studied deprives us of information on landscape evolution that can only be studied if landscape is treated as a continuous surface. Lack of site sampling also restricts our understanding of site extents and chronology. Moreover, environmental studies and geography have not been integrated in the spatial context of human activity. It is very important to view the landscape in its totality, as the interaction between physical environment and human action and not as the surface of locations of human activity.

Landscape Approach: the landscape is approached as the spatial context of locations of material culture. Weight is given on the geometry of monuments and the landscape, and by mapping their location, the principal aim lies in establishing the spatial extents of human activity over time.

3.6 Landscape Tradition

3.6.1 Survey ID: Ayiofarango 77

Problem Orientation: aims and methods
This was the first regional, multi-disciplinary survey in Crete with a diachronic scope and aimed to reconstruct the settlement history of Ayiofarango valley over time, even though the prehistoric period receives the greatest attention and periods after the Late Roman, the least. It took place in 1971 and the diachronic study of human presence in the area was aided by the fact that no major human activity had altered the landscape and indeed even these days the area is one of the least changed in Crete. The choice of the survey area was based on the presence of known archaeological sites and in particular EM tombs, which after being looted, were studied or partly excavated by members of the Ephoreia (Davaras, Alexiou). As archaeological work had not been successful in relating tombs with settlements, the discovery of Early Minoan and Minoan occupation sites was one of the most important aims of the Ayiofarango survey. However, historic periods up to modern times were also recorded and studied. A secondary, but not less important component of the project was its rescue character due to road construction activities planned in the area.

The area was covered in a semi-intensive manner, as although walking was not extensive judgmental, no systematic sampling was performed either, and the 15-20 km² survey area was covered by 4 students and 2 professional archaeologists (D. Blackman and K. Branigan) over a period of 1 month. Each day they decided on the area they wanted to explore, based mainly on judgmental, topographic and accessibility criteria and they tried to walk it as intensively as possible, looking for architectural remains, but also noticing distinctive sherd concentrations. Areas that seemed likely to host archaeological material, e.g. prominent hills, on which EM activity had often been recorded, were of priority, as has always been the case in most research projects. On-site, it looks like they collected sherds that could later help for the chronology of the site. The project gives a strong emphasis on the environment and its suitability for human activity and uses cultural-ecology methods to study man-environment relationships, marking the beginning of a new tradition in Landscape Archaeology.

Presentation / Relocatability
The presentation of this survey focuses mainly on two themes: the first concerns environmental characteristics relevant to subsistence; geological, soil and land-capability maps, together with a stratigraphical section and a 3-dimensional plan of the geomorphology of the lower valley, reflect the importance given at the time to soil sciences. The second is the presentation of site location and function per period, but maps have no topographic or indeed, locational information, so the outcome is a general picture of a two-dimensional spread
of sites in the area. The landscape maps presented are at a scale of 1:35.700, while site maps are at 1:37.000 and 1: 45.454. A rather detailed description of site location is given in the text, quoting topographic features, orientation and distances from already described sites and landmarks. Taking into account that Ayiofarango is an area that not major changes in the landscape have occurred due to agriculture or tourism, there is a chance that some sites can be relocated, but since site maps are published separately from topographic maps, visual correlation between sites and topography is not possible. Sites without distinctive architecture do, as always, pose the greatest problems. Presentation is completed through graphs and tables presenting various data and analyses, architectural plans and pottery drawings, while sketch maps of individual sites also appear occasionally.

Density per area / period

<table>
<thead>
<tr>
<th>area surveyed (km²)</th>
<th>Total site no</th>
<th>PH</th>
<th>GR</th>
<th>BVT</th>
<th>Modern</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>51</td>
<td>28</td>
<td>25</td>
<td>14</td>
<td>16</td>
<td>2</td>
</tr>
<tr>
<td>Or:</td>
<td>21 (map area)</td>
<td>25</td>
<td>24</td>
<td>12</td>
<td>15</td>
<td>2</td>
</tr>
<tr>
<td>Densities per km² (target population)</td>
<td>3,4</td>
<td>1,866</td>
<td>1,666</td>
<td>0,933</td>
<td>1,066</td>
<td></td>
</tr>
</tbody>
</table>

Site definition: based on architectural evidence and sherds. Variability of site recovery is down to pottery concentrations. Densities are only approximate because the target population was never calculated accurately. Besides that, sometimes areas with multiple loci are described under the same site.

Regarding site-dating, it should be noted that apart from the cases where researchers express doubts, there are additional questions as to how they date sites, since there doesn’t seem to be any consistency on the number of sherds considered adequate to assign a date. There are cases where 4 or ‘a few’ GR or Venetian sherds are not enough to give a relevant date to a site (e.g. E11), while in other cases (e.g. E14) 3 Roman sherds assign a GR date.

Interpretative Framework

The main interpretative themes discussed concern the identification of settlement patterns and their changes over time in terms of locational preferences, as well as the intensity of landscape use and human activity in the area. Results focus on population expansion and ‘abandonment’ periods (MM I-II, Late Roman and 20th century), and interpretative suggestions use themes such as nucleation / dispersal, urbanization and population fluctuations explained through environmental and socio-political factors. As an example, the drop of population (sites) in MM I-II and the 20th century was interpreted as the result of movement to urban centres. Prehistoric settlement reconstructions are influenced by concurrent popular theoretical models, which supported the idea of Minoan palaces performing a wealth redistribution role, promoting urbanization around them and other major centres (Ucko et al. 1972; Renfrew 1972). However, we lack an explanatory agenda as to why some sites are abandoned and others are not.

Theoretical developments of the 70’s operated within an environmental and spatial analysis conceptual framework. Among the leading methods at the time, also applied in this project, are Site Catchment Analysis, including carrying capacity and proximity to fertile land. For this reason environmental studies focused on the production of soil and land capability maps, in relation to which archaeological sites could be studied. Economic models based on environmental potential are quite representative of the theoretical considerations of New Archaeology and become very much in fashion in the 70’s. The results of such spatial analysis form the core of the explanatory framework used to describe the distribution and nature of the settlement patterns in the valley. Thus, Bronze Age sites are linked to fertile land and population estimates are based on correlations...
between EBA settlements and tholoi, which are seen as representing a socio-political system of clans (Branigan 1970).

A strongpoint of the project is that time is not viewed as a static entity divided in slices/periods, but as a continuum of interactions between ‘before’ and ‘after’. Thus, change is studied, for example in trying to explain the beginning of settlement history in the area, considering processes in a wide chronological framework. Data from other researchers in the wider area are also used to suggest that the earlier period of Final Neolithic should be seen as a period of either permanent or at least seasonal occupation in the area, resulting to the population expansion attested in the beginning of the Bronze Age. Slow, internal processes are favoured over sudden and external factors causing change. Modifications of the settlement patterns in the Roman period are explained by the shifts in sites of religious importance and, as said above, by urbanization. At the same time, diachronic patterns are explored through culture, religion and economics (Appendix by J. Bintliff).

A conscious effort for some explicitness and a critical approach, typical of the rising theoretical complexity at the time, is evident in considerations of the interpretative problems caused by the problematic nature of the surface record. For example, dating is noted to be problematic when dependent on small amounts of pottery and unknown coarse wares (Venetian, Turkish), but the duration of a period is also admitted to hinder interpretation, for example EM II provides more material, but it’s more identifiable comparing to EM III and it’s a longer period than EM I.

Influential References and Sources: The work of Travellers, as well as of other previous and current researchers (P. Warren, P. Faure) is used as data and information sources. C. Renfrew and the trend of studying urbanization have influenced interpretation and so has the work of Higgs who promoted a methodological framework based on environmental studies.

Summary Assessment
Strengths: quite good records of sites discussed presenting data separate from interpretations; environmental study.
Weaknesses: unsatisfactory site definition, no consistency in recording and sampling, not good relocatability. Problems with definitions, e.g. ‘Modern’ is not defined; the resolution of the 2nd millennium A.D. is too low.
Evaluation of data and Interpretation: even though data observed are described, methodological and presentation problems make the assessment of interpretations rather difficult. However, results are viewed within quite a complex interpretative framework taking into account environmental, socio-political and economic issues.
Knowledge acquired: archaeological and environmental data of the area, interpretative suggestions.
Integrability: medium
Publication: completed

The Ayiofarango survey is one of the first inter-disciplinary projects and marks the beginning of a landscape approach to be followed by many intensive survey projects in Crete. The detailed environmental study provides a useful insight into the relationships between human activity and environment, while the intensity of the project resulted in quite a high number of sites in the area in comparison with extensive approaches; An effort for a ‘scientific’ scope of study is evident in both the incorporation of detailed environmental studies and the fabrics analysis, which again is one of the first examples in survey projects. The complex theoretical framework used, evident in both methodology and interpretation, marks this project as a definite innovation and landmark in Cretan landscape research. Researchers try to be explicit in their interpretations by providing detailed descriptions of the data observed and they often express their doubts as to assigning specific chronological and function interpretations to sites.
On the other hand, site definition is quite problematic as there is no consistency between data and interpretations. The fact that no sampling took place and the obscurity of what criteria were used in recording and collecting material causes problems in assessing methods and results and deprives us of potential quantitative comparisons, for example we do not know the size of the area surveyed or variations in site size over time and space. Admittedly, these problems persist even in current survey projects and are either due to recording failing or lack of standards in publication. The lack of knowledge of coarse wares, the debatable use of too small numbers of pottery in site definitions, but also other problematic issues in survey (visibility, survival of material etc) in combination with the long periods of ‘abandonment’ and too broad chronological periods, also add a feeling of ambiguity. Consequently, results can not be easily and explicitly incorporated with those of other intensive survey projects, and although this doesn’t diminish the value of the project we should be particularly careful on what basis we may integrate sites and interpretations.

Overall, this project brings us closer to an understanding of the history in a very poorly known area and the explanatory framework regarding settlement patterns exploits to its best the study of the relationships between environment and sites. At the same time a socio-political approach as well as the use of ethnographic parallels (territories of modern monasteries comparable to peak sanctuaries, transhumance in the valley, rise of urbanism etc) contribute towards an all-embracing framework in explaining settlement changes. However, problems regarding refined chronology and site type as well as site definition, suggest that we should pay attention on how we use the data when trying to reconstruct settlement patterns.

Note: their interpretation of some sites as peak-sanctuaries, doubts later A. Vasilakis (Vasilakis 1989) on his further research in the area.

Landscape Approach: landscape is perceived as the geography of an area with environmental possibilities and constraints for human habitation. Environment is studied independently from archaeological recording, but considered in relation to site location. Topographic descriptions aim at facilitating relocatability.

3.6.2 Survey ID: Lasithi

Problem Orientation: aims and methods
Lasithi survey was undertaken by L.V.Watrous in 1973 and was the subject of his PhD research. His aims were the documentation and discussion of the history of ancient settlement in the highland plain of Lasithi, an area claimed to have been chosen for being geographically well-defined and archaeologically well known. Focus lies on economic life and the questions asked are defined clearly: ‘how did the ancient inhabitants in Lasithi live’ and ‘what is the historical meaning in the successive transformations of the settlement patterns on the plain’.

This is one of the earliest ‘intensive’ surveys in Crete; it was conceived and carried out within the theoretical and methodological developments of landscape archaeology in the early 70’s. Environmental considerations play an important role in the project, and multi-disciplinarity involved also historical and ethnographical research, which seem to be the basic (if not the only) sources for the post-Roman periods.

Fieldwork lasted for 4 months. The foothills up to 200m were walked at 10-30m intervals by 3-4 people, who looked around carefully for sites. The plain was only traversed at various points, as it was estimated to not have hosted major sites due to flooding. When a site was found a visual estimate of its size was attempted. It is mentioned that on multi-period sites the area was walked and sampled at intervals in order to find relative localized areas in different periods. At that early stage intensive surveys involved inspection of the surface with attention and dedication of time, but neither the off-site record nor the sites were systematically sampled. People walked around the landscape in a rather intensive manner looking for concentrations of material that could be identified as sites. Sites were identified on the field based on artefact concentrations, while architecture and pottery study undertaken on the field aimed at defining site-chronology.
Presentation / Relocatability
Presentation consists of contour maps with relevant sites per period at a scale of 1: 77,000 and a contour map of 1:50,000 with present day villages. The contours have no altitude information, but altitude is often given in the text. Site records give us information that would help relocatability such as orientation, distance or time from known villages, toponyms, and topographical descriptions. Presentation also includes object drawings and architectural maps, while some sketch maps show architecture in relation to a road.

Density per area / period

<table>
<thead>
<tr>
<th>area surveyed (km²)</th>
<th>Total site no</th>
<th>PH</th>
<th>GR</th>
<th>BVT</th>
<th>Modern</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>48</td>
<td>77</td>
<td>61</td>
<td>40</td>
<td>16</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Or:

<table>
<thead>
<tr>
<th>Densities per km² (target population)</th>
<th>1,604</th>
<th>1,270</th>
<th>0,833</th>
<th>0,333</th>
</tr>
</thead>
</table>

Site definition: sites are not explicitly defined. It is only said that sites produced potsherds, stone artefacts, traces of walls or a combination of them all. Concentrations noted were down to a size of 10x10m. Site description includes topography, visible material culture, catalogued pottery and sometimes interpretation. Interpretations, however, have been extremely difficult to classify; the term ‘site’ is used broadly, leaving the impression that the term is considered equivalent to a settlement. When interpretation is not clear, however, the site takes an ‘unknown activity’ characterisation in the database.

Interpretative Framework
The influences of New Archaeology’s theoretical developments are apparent throughout the study. A systemic approach that uses analogy and identifies recurrent and hierarchical economic patterns draws on historical and ethnographical studies of subsistence and economic relations of the population in the plain, as an indication to probably similar circumstances in the PH period not only in Lasithi, but also in the rest of the island. The geographical and environmental background of the area is presented in a text description prior to the settlement history narrative so as to provide a general context within which to view human activity throughout history. A mental picture of the physical landscape is regarded as a prerequisite to an understanding of the subsistence potential and possible mode of living, and prepares the ground for conclusions regarding locational choice, subsistence, transhumance and communication. At the same time, the importance given to ‘scientific correctness’ is noticeable in attempts such as the assessment of the recoverability of sites on the surface, which is based on the study of 2 profiles. This revealed PH sherds about 0.50m below the surface, but since sherds of the same period were also present on the surface it is assumed that not many PH sites should have been missed.

Interpretation is based on the identification and characterization of sites in relation to archaeological evidence, their geographical characteristics and environmental surroundings. Artefact study and quantity, the location of the sites, environmental data, the known archaeological record, the ethnographical work undertaken and historical sources guided the reconstruction of settlement patterns over time. Thus, FN / EMI sites with a small amount of material and a preference for some distance from the plain were interpreted as possible seasonal pastoral sites according to ethnographic examples. EM II – LM I is seen as a period of growth and continuity of settlement towards a more sedentary form of life. Small MM III sites were interpreted as metochia, or seasonal farmsteads used by people from a main settlement. Population fluctuations inferred from the varying numbers of sites, are explained mainly via immigrations and emigrations, while settlement movement is seen as a result of economic factors such as economic centralization and intensive exploitation.
of the plain linked to larger economic systems e.g. LM I Malia or Venetian demands. Hence, LM I scarcity of material is explained via emigration and urbanisation, while site location on the plain is seen as the result of a wider economic structure centred at the palatial centres, in which the rural areas produced goods to be used in centres (Malia) and in turn imported luxury goods. It seems that prevailing views of the Culture-History tradition are also adopted, e.g. it is implied that LM II destructions were due to the Santorini eruption. Along the same lines, the idea of Minoan unity under Knossian control is favoured with suggestions such as, that the Mycenaean presence in Lasithi was part of the system of garrisons around Crete responsible for the flow of tribute to Knossos.

As a conclusion, reconstructions of past social histories focus on subsistence (farming, herding, and hunting), permanent and seasonal settlements, production, contacts, settlement movement (from higher hills to areas closer to cultivable land), burial and religious practices. Locational choice is explained via geography, environment, political and social reasons. Diachronic patterns are sought and noted, such as the exploitation of the plain by invaders (Mycenaeans, Dorians, Venetians) and the reaction of the inhabitants by deserting the plain in LM IIIC, Classical and Venetian periods respectively. Besides that, the same pattern of subsistence and living throughout history is identified, extrapolated from periods with historical and ethnographical sources and based on adaptation principles.

**Influential Sources:** The history of archaeological research that involves the excavation of many sites was used as a source of information but also influenced aims and interpretation. It is stated that Lasithi survey intended to carry out Pendlebury’s work whose series of excavations in the plain aimed at the reconstruction of a history of ancient settlement.

**Summary Assessment**

**Strengths:** wide interpretative framework, systematic work and multi-disciplinarity.

**Weaknesses:** no sampling, not fully diachronic, no clear criteria used for site interpretations.

**Evaluation of data and Interpretation:** archaeological data is collected only up to LR even though descriptive accounts of life in Lasithi include the Venetian period and 19th-20th centuries. Lack of sampling and the study of material in the field allow some doubts as to the reporting of a complete spectrum of human activity. Interpretation follows usual trends in Minoan archaeology and is also influenced by New Archaeology, covering a wide range of economic and social issues in settlement archaeology.

**Knowledge acquired:** loci of human activity per period and interesting interpretative suggestions regarding economic histories.

**Integrability:** medium-high

**Publication:** completed

Lasithi survey is a typical product of landscape research in the 70’s when reconstructions of ancient histories through survey came very much in fashion. The choice of such a unique geographically area (a plateau 800m above sea level and surrounded by mountains) that constitutes an environmental ‘pocket’, makes a diachronic study particularly interesting. A Modernist approach with emphasis on subsistence, systems and repetition of patterns of living is discerned throughout the study. The fact that walking was intensive and not based on judgments of ‘where sites should be’ allowed the discovery of small sites that elucidated a diverse picture of human activity in ancient times. In fact, sites down to a size of 10x10m are included in the catalogue.

What we ultimately have is an account of how people lived in different periods, a narrative history. We are clear about how the writer sees the past and we get a variable picture of human activity based on a multi-disciplinary approach and the rich archaeological knowledge of the area. Narrative is fully diachronic, but post Roman periods are only partially and historically / ethnographically documented. The Venetian period is based on Spanakis’s work (Spanakis 1957, 1976) while the 19th and early 20th centuries, on the ethnographical work undertaken by H. Blitzer and there are also some brief references to travellers (Pashley and Spratt). The
Byzantine and Turkish periods are not discussed and receive no comment as to the respective archaeology. One wonders whether anything at all was actually found, or these periods were either totally unrecognizable to the researchers or of no significance archaeologically. It seems that the significance of later periods was in the identification of evidence and modes of living that could be used for relevant interpretations in ancient times. In any case, the ethnographical work is very interesting and helpful in understanding life in such an idiosyncratic environment and was the first such work to take place under the hospice of an archaeological project.

A problem that we have to deal with is that site definition and characterization (in particular that of a settlement) seems quite problematic as there are no definable criteria upon which interpretations are based. Lack of systematic sampling does not allow studying densities of human activity across the landscape and creates problems in the definition of site extents per period. Presentation is also weak compared to nowadays standards, with not enough visualisation of the data and interpretations discussed. Maps show dots that represent sites in relation to contours and thus one can of course also note distances between them, but they are all treated as if they are of the same function and thus human presence in the wider landscape is poorly represented. Such problems though, are present in most landscape archaeology reports still now, even if off-site sampling has actually taken place.

Overall, this project had a pioneer character and was most important for its time. Multi-disciplinary and diachronic, it applied new methods and a wide interpretative framework. It manages to construct a history of ancient activity illuminating a poorly known but very interesting area and discusses society from various perspectives, giving us clear interpretative suggestions with which we can agree or disagree.

Landscape Approach: the landscape is seen as a spatial entity of characteristic environment and geography where human behaviour develops accordingly, but not in an environmentally deterministic sense, as social factors are not neglected.

3.6.3 Survey ID: Kommos

Problem Orientation: aims and methods
This survey project took place in 1978-79 under the direction of Hope-Simpson, as part of a long study at the site of Kommos and its wider area. The site is a very important Minoan town, brought into archaeological attention already in the beginning of the 20th century and excavated systematically from 1976-1985 (study seasons lasted until 1990). Large scale excavation was complemented by fauna, flora, geological, soil and landuse studies, as well as a systematic survey. The aims of the survey are not explicitly declared, but these are implied by statements such as ‘we believe that we have achieved our objective of locating and recording almost every significant observable (emphasis in the original) site or “scatter” of ancient artefacts in the survey area’. The principal aim of the whole archaeological investigation in the area however, was ‘to understand the physical and archaeological character of the town’ and surface survey was one of the “methods” used.

Out of the 25km² of the area of interest, they investigated about 70%; the other 30% was inaccessible. Walking methods are declared to be ‘simple and traditional’, investigating hilltops and slopes but also valley bottoms, traversing both along and across plateaus, terraces, and valleys. As in other projects of the 70’s (Lasithi, Ayiofarango), field investigation was not planned upon a specific sampling technique and no off-site collection took place. The area of interest that could be explored on foot was walked as carefully as possible and researchers looked for sherd concentrations and other material remains that seemed to represent sites. Surface collection was confined mainly to sites, even though the site catalogue includes many sites/scatters, where from no finds were collected.
Presentation / Relocatability
Field investigations were based on Second World War RAF photographs, which in combination with field measurements produced topographical maps of about 20m contours. Their accuracy is stated to be low as there was no field control (apparently there were no maps available, and certainly neither was the necessary technology at that time). However, sites are claimed to have been recorded reasonably accurately within 20m of their exact location, as they could all be positioned on the air photographs. Extensive text description together with toponyms used in site records should allow quite reasonable chances of relocating sites.

The location of the sites is given schematically, so what we actually acquire is an idea of the approximate location and a basic visualisation of the discussed patterns (sites per chronological period). Presentation includes object and landscape photos, sketch maps of architectural remains, while soil and landuse maps are included in separate sections of the volume.

### Density per area/period

<table>
<thead>
<tr>
<th>area surveyed (km²)</th>
<th>Total site no</th>
<th>PH</th>
<th>GR</th>
<th>BVT</th>
<th>Modern</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>120</td>
<td>63</td>
<td>86</td>
<td>13</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Or: 20.59 (map area)</td>
<td>58</td>
<td>78</td>
<td>11</td>
<td>4</td>
<td>0.2</td>
<td>0.04</td>
</tr>
<tr>
<td>Densities per km² (target population)</td>
<td>4.8</td>
<td>2.52</td>
<td>3.44</td>
<td>0.52</td>
<td>0.2</td>
<td>0.04</td>
</tr>
<tr>
<td>Densities per km² (sampled population)</td>
<td>17.5</td>
<td>6.857</td>
<td>3.6</td>
<td>4.914</td>
<td>0.742</td>
<td>0.285</td>
</tr>
</tbody>
</table>

**Site definition:** the term ‘site’ is used to describe ‘places where evidence is sufficient to warrant the conclusion that a habitation, burial, or other type of ancient site actually existed at, or very near, the precise location of the surface finds’. Ancient structures were the most secure evidence, especially when they could be dated. Sites were classified as large (i.e. 10,000m²), medium (2,500-10,000m²) and small (under 2,500m²). No site sampling actually took place, measurements were rough and the spread of artefacts is not believed to necessarily represent the actual extents of the site. Scatters are called ‘large’, ‘moderate’ or ‘light’ and from the last, finds were usually not collected.

Interpretative Framework
Interpretation was based on surface data that were not collected in a consistent manner and in many cases no sherds were collected at all or they were identified *in situ* (e.g. ancient Metallon). However, it is believed that ‘the artefacts analysed constitute a representative selection of the evidence of ancient habitation in the area in all the periods recognized’, even though one wonders how certain this can be with no sampling and often no laboratory work. Site size was estimated and not measured, and we presume that eye observations classified sites as large, medium and small, even though artefact spread is stated to not be a trustworthy criterion in defining site size; The project’s investigator commends briefly on the problems of interpreting the surface record due to changes caused by erosion, sand cover, sea level changes and modern agriculture and as an example, the lack of Minoan finds in some areas was thought to be due to later disturbances (e.g. ancient Metallon was densely occupied in Roman times). Visibility problems due to vegetation were also considered and in some cases problematic areas were revisited the second year. Overall, there seems to be little trust on the surface record, which is interpreted according to the obvious relationships between approximate location and pottery quantity.
The site catalogue gives text descriptions of site-location and the data/evidence observed. The information presented, and thus considered important, include the chronological periods recognised, but in the great majority of cases no function for each period is discussed. As a result there is no distinction between presence of human activity and certain habitation. As shown in the discussion of the settlement patterns, however, it seems that settlement or habitation is in fact implied for all sites, as if it is common sense that pottery concentrations always represent settlement activity. As an example, in one case the presence of a Minoan sherd is presented not as certain Minoan presence, but as possible Minoan habitation. The project’s diachronic approach hardly reaches the Medieval (apparently Arab and Byzantine) and Venetian periods, which are practically only mentioned, while locations of modern activity are mentioned only so as to serve relocatability. Interest lies not in diachronic dynamic landscape reconstructions, but in reconstructions of the density of ancient settlement. These are in fact typical characteristics of the Culture-History tradition, which however survive in the Landscape Tradition as well.

Interpretation of the settlement patterns is based on a correlative approach, reporting locational preferences in different periods. Altitude, slope and distance to the sea are the major geographical characteristics observed. Thus, Minoan sites are often found in clusters and there is a preference for south slopes sheltered from the winds. FN/EM I has been found near the coast and possibly at a later stage on hills and ridges further inland, perhaps a sign of insecurity. Habitation on the hills is in general interpreted as a sign of concern for security in all periods, even if in the MM IB for example, both hills and the coast are inhabited. The usual EM II population increase is also attested here and the increase in the size and number of MM sites shows a continuation of this trend. The lack of sites between EM II-MMIA is interpreted as a period of centralisation probably around Phaistos, an interpretation connected to the rise of the palaces and supported by Minoan archaeologists in general across the island. Similarly, the small number of LM III sites of large extent shows a tendency for nucleation. The weight is by far on observing nucleation versus dispersal of sites/settlements and not so much on the kind of sites, the activities represented in the landscape and what these might reveal for the relevant societies. Discussion of this theme uses the combination of the size of settlements and the number of sites, even if sizes were only estimated and not reported for every site in the catalogue. In short, quantity and dispersal of material is studied in order to conclude on extensive or restricted habitation of sites and country, as well as on preference of location over time. An interesting point is that the re-habitation of some sites during Protogeometric to Archaic times is explained through an idea much favoured in post-modern theory, namely memory (sites were previously inhabited in LBA).

Influential sources: the main framework is settlement archaeology of the 60’s and processual work on environmental issues. Interpretation has combined a Culture-History framework with New Archaeology developments.

Summary Assessment

Strengths: rather critical attitude, effort for good site descriptions.
Weaknesses: no function interpretations. Limitations in data analysis and interpretative framework.
Evaluation of data and Interpretation: the data acquired are subject to the limitations of the field approaches of the time. Interpretation seems to treat all loci of activity as habitation sites. It does not explore socio-economic relationships.
Knowledge acquired: good descriptions of site locations and evidence observed. A picture of the density of human activity in the area.
Integrability: medium
Publication: completed.

Kommos survey is one of the tools employed in a much larger project in the area, which studies the history of one of the most important Minoan sites. It benefits from excavation work at the site and gives us important information regarding the history of ancient settlement in its immediate area. The emphasis of the survey
report is on the detailed descriptions of observations made. Text descriptions remind us of Culture-History reports, even though the approach of exploring the physical and cultural landscape in an intensive manner and diachronically, classifies the project into the Landscape Tradition. This is one of the first large scale surveys in Crete and as in other similar cases, one can recognise a Culture-History theoretical framework regarding field methodology of ‘let’s look around as carefully as possible and try to identify periods of occupation’. Only now work is more systematic, there is a large amount of time and people invested and projects incorporate organised environmental studies.

Hope Simpson’s attitude to surface survey is well known through his earlier publications and his statements here are quite characteristic: ‘it should be realized that surface surveys alone, even when of “intensive” type, cannot be relied upon to produce anything approaching a complete picture of the patterns of ancient settlement’. As he states, for sure earlier deposits are most likely to be obscured by alluviation and later deposits and observations have depended on time allowed. Hope-Simpson’s traditionally critical stance towards survey does of course remind us of its limitations and the caution with which we should interpret our data. Indeed, site movement and size changes have been reported and studied repeatedly. However, the point is not whether survey is more valuable than excavation, but what we can gain most from both these methodological tools. It is a fact that neither survey nor excavation can provide us with a ‘complete picture’ of ancient activity or ancient settlement. Moreover, the ‘intensive’ type undertaken in the 70’s is not that intensive in comparison with later developments; the merits of an off-site approach have been adequately discussed since. The complexity of the surface record is certainly great, but as survey developments have demonstrated, we can also improve reading and understanding it.

A rather important weakness in the survey report is that site information is not clear and adequate and does not allow us to reconsider interpretations. Mapping is limited to the approximate visualisation of site location and does not allow analysis, which is further restricted due to lack of sampling and the limited material collection. The fact that the site catalogue presents only chronological periods found, and the treatment of most but not all sites as settlements in the discussion, perplexes the reader over which site is interpreted as what and why. Evidence that is not reported in the catalogue is used, e.g. size and certain function of sites and in general, lack of consistency and controllable field methods limit understanding, and instead, promote the acceptance of a reconstructed density of human activity with no objection. This is of course a rather usual situation in survey reports and I am not necessarily suggesting that results should be significantly different if better field and analysis methods were used; however, interpretations should certainly be clearer.

Still, the sincerity over the restriction of the evidence available and the poor quality of the maps as well as the effort to be cautious in using the evidence available should be acknowledged. The picture we acquire over the density of human activity in the area is no doubt significant and descriptions of landuse and topography help us ‘visualise’ how people might have lived.

Landscape Approach: the landscape is approached as the spatial context of material remains, and as a physical landscape that can help us understand the reasons of locational preference.

3.6.4 Survey id: Chania

Problem Orientation: aims and methods
This project (one-person survey) was undertaken by Jennifer Moody from 1978 to 1987 towards her PhD thesis. The aims were declared to be twofold; 1) to reconstruct the settlement system that supported the Minoan centre in Chania and compare it with the one existing in central Crete and Messenia and 2) to test systematic sampling in the rugged terrain of Crete. The area of influence and interaction between the Minoan palace in Chania and its hinterland (survey boundary) was defined upon economic criteria, namely the time usually spent to and from market places. It was hypothesised that an area within a 3-hour distance from the Minoan palace
in Chania (and similarly Knossos and Pylos) would define a large enough boundary and target population on which various statistical models could be tested.

The end of 70’s was a time of fast developments in archaeological theory that encouraged questions of cultural growth and change particularly within a cultural ecology framework. Landscape studies were acknowledged as the means to reconstruct the processes that led to specific settlement distributions and were reinforced with the adoption of systematic surface survey, the application of statistical techniques and the co-operation with other disciplines, mainly ecology and geography. The methodology followed in this case was formulated within a theoretical framework that stressed the importance of environmental studies, multi-disciplinarity and field survey and included the study of previous archaeological research in the area, the collection of new data via field survey, and the application of statistical tests.

Field methodology included both extensive and intensive techniques. The landscape was initially divided into 2km² areas on the map and secondarily into field units which were walked in transects of a 7-20m interval. Walking transects could in fact be ‘contour’, ‘terrace’ or ‘straight linear’ depending on the topography. Basically, it seems that the landscape was divided into larger or smaller topographical units which were walked in different ways according to what seemed most appropriate, until a scatter was identified. There were no consistent off-site counts, but ‘sites’ or ‘scatters’ were identified upon a visual estimate of higher artefact density and importance of the material. Regarding site sampling, steps included the measurement of the circumference of an activity locus based on the spread of architecture and artefacts, its plotting on the map and the collection of 1 or 2 samples, as well as diagnostics from the whole site. The sampling unit was defined as a circle of a 70cm radius. Landuse played an influential role on the decision of field methods and sampling.

Presentation / Relocatability
The maps used were the Greek Military Maps of 1:5000 and British Army Maps of 1km² grids, but the ones presented are of 1:142,857, 1:133,333 (topographical), 1:650,000 (geological) and 1:200,000 (sites). Site information is given in a consistent manner and principally comprises location including map co-ordinates, nearest village and toponyms, size, distance from the coast and Chania, history of research, functional and chronological interpretations, and environmental description. Presentation offers a pretty high level of visualisation including maps of statistical analysis and numerous tables and graphs. In general the visualisation of both methodology and interpretation is given great emphasis. Relocatability is said to be quite good and it is expected to be so, considering that the landscape is pretty stable in Akrotiri and locational description quite detailed. However, based on the scales presented and as site-maps do not include topographical and modern features, scatters would be quite problematic to relocate.

Density per area / period

<table>
<thead>
<tr>
<th>area surveyed (km²)</th>
<th>Total site no</th>
<th>PH</th>
<th>GR</th>
<th>BVT</th>
<th>Modern</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>171</td>
<td>272 (29 from previous research)</td>
<td>266</td>
<td>115</td>
<td>125</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>Or:</td>
<td></td>
<td>257</td>
<td>107</td>
<td>119</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>Densities per km² (target population)</td>
<td>1,59</td>
<td>1,555</td>
<td>0,672</td>
<td>0,730</td>
<td>0,070</td>
<td>0,035</td>
</tr>
<tr>
<td>Densities per km² (sampled population)</td>
<td>146</td>
<td>1,863</td>
<td>1,821</td>
<td>0,787</td>
<td>0,856</td>
<td>0,082</td>
</tr>
</tbody>
</table>
Site definition: in the beginning it was decided that ‘a site would be defined as a place where a density of 4+ artefacts per sampling unit (a circle of 70cm-radius) was found’. Soon however, ‘less dense artefact scatters were also recorded and called ‘scatter’’. Function interpretations were based on both material culture present and the topography of the location and include six categories: habitation, scatter, sacred, burial, isolated find and quarry. Site sizes range from 0.3 – 7.64 ha and have defined a relevant site hierarchy: level 1 (large towns): 7+ha (80+households), Level two (towns): 5-3.5ha (50-40 households), Level three (villages): 3.49-2.4ha (38-28 households), Level 4a (small villages) 2.3-1ha (25-15 households), Level 4b (hamlets): 0.99-0.28ha (15-8 households), Level 4c (single houses or farms): 0.03-0.2ha.

Note: Some sites could be a single dispersed settlement or different habitations. Moody states that she separates the sites because it’s easier to combine information than to divide it. Additionally to the 272 sites of the Kydonia (Chania area), the catalogue includes 30 more known sites from the wider area of western Crete, which although not in the survey area, they influenced interpretation.

Interpretative Framework
This is one of the first New-Wave surveys in Greece and the first one to apply sampling techniques in Crete. The theoretical framework, upon which it is based, is quite characteristic of the developments of New Archaeology; it sets questions of socio-economic relationships as an understanding of past human behaviour, stresses the advantages of intensive surveys over extensive and demonstrates the usefulness of statistical applications comparing to personal speculations. Aiming at general reconstructions of mode of living in different periods Moody uses her data on a background of already existing interpretations. Thus, interpretation formulates within the theoretical framework of Minoan archaeology and explores themes such as overseas contacts, peer polity, subsistence, territories, influence spheres, site-interaction, exchange networks and hierarchy looking at similarities and differences between periods and the different parts of Crete and seeking the origins of identified social and economic systems e.g. the MM hierarchies might be seen already in the EM period. The underlying theme is the ‘interaction between general cultural growth processes and the changing constraints of local environment and human cultures’ and within a strong cultural ecological perspective, change is seen as a gradual, internal process occasionally punctuated by external stimuli.

Ecological considerations played a leading role in function definition, but also in the study of site distribution. Environmental factors, specifically topography, elevation, geology and water, were recorded consistently and examined in relation to site location in order to determine correlations and study environmental influence. Subsistence potential is thus, studied in a structured way as it is considered very important for the understanding of the development of human cultures. Inferences on the character of a site whether agricultural, pastoral, industrial etc and the efforts to read seasonality, are based on the quantity and nature of material but also on the location of sites in relation to the geography. Studies of erosion and sedimentation history were used in order to assess agricultural land while subsistence studies include environmental research such as pollen and animal data, which incorporate studies regarding the exploitation of animals for primary or secondary products.

The analysis was based on a variety of statistical methods, which explored systematically and diachronically, trends in the relationships between site types and environment as well as spatial associations among sites for all hierarchical levels. Hierarchy has traditionally been defined upon size differences and amount of sites in each size-level per period and in this case calculations of size resulted in the definition of a four-tier hierarchy (see site density section), whose changes are followed over time. Distribution is explored in terms of the correlations between environmental factors and sites of different hierarchical level. The significance of environmental associations was estimated very high and proximity to exploitable sources was identified as the strongest correlation between environment and site location, but as patterns were not predictable the probability of proximity to already existing settlements as a social factor influencing choice of site location was also examined. Territory, inferred mainly from distance relationships between sites, but taking into account also site size and catchment area, is also a fashionable theme explored within hierarchy studies.
The relationship between settlements of different rank and critical environmental variables is thought to illuminate their function but also their role in a wider site-interaction system, while clustering and dispersal among sites of both different and the same hierarchical levels are thought to reveal a social character in the decision of the locality of new sites relevant to their function and hierarchy level. Indeed such an approach hints to characteristics of a site such as its relationship with agriculture, industry, commerce, its self-sufficiency, socio-economic sphere etc, however, divergence from patterns such as the reasons why only some cells of the same environmental values were inhabited and not others was not discussed adequately.

Overall, the interpretation of the site distribution aimed at and resulted in, the reconstruction of the settlement system or else the socio-economic and administrative circumstances that created the observed distribution of sites. The explanation of the settlement system was based on the definition of a hierarchical structure and interaction between sites, which were analysed in terms of function, location, population and subsistence. Population and size calculations were also used to infer internal site structure e.g. EM sites were viewed as not densely inhabited. However, the social meaning of dense or not occupation of a site was not actually discussed. The interpretative framework promotes the consideration of a variety of factors, economic, social, political, religious, and environmental and is formulated within a wider discussion of states, climatic influence, exchange networks, contacts and influence spheres. Change is studied as an intra-cultural development and it was concluded that settlement differentiation in Akrotiri was the result of small-scale, local processes. General, systemic concepts within the project’s theoretical approach are evident also in explanations such as, that the fall of the palace systems might be seen as the result of competition caused by decentralisation.

Influential References and Sources: New Archaeology sampling and statistical analysis theory shaped Chania survey and its analytical techniques. Interpretation was formulated within the same framework influenced by Geographical theory and studies regarding the inter-relationships between social organization, exchange networks, administrative systems and material culture distributions e.g. Smith (1976), Renfrew (1972, 1986). A cultural evolutionary perspective is also evident in discussions about the Chania state (Friedman and Rowlands 1978a and b; Friedman 1982). Moreover, all previous archaeological research in the area has been used as sources of information and interpretative background.

Summary Assessment

Strengths: Multidisciplinarity. Strong theoretical framework, emphasis on methodological and analytical principles; effort for clear relationships between aims, methods and interpretations.
Weaknesses: problems in the relationship between site sampling and hierarchy models. Site interpretations not always clear.
Evaluation of data and Interpretation: the amount of work, the holistic approach, the attention to methodological correctness and the multifaceted interpretative framework allow valuable insights in the past of the Chania region. However, site size estimates based on visual approximation of material spread and not on grid sampling, are not precise enough to allow strong models of hierarchy per period.
Knowledge acquired: for the historical periods we basically learn about places where material was found, but there is no further study. We gain a much clearer picture of the PH periods and socio-economic processes.
Integrability: high.
Publication: completed.

KASP project was part of the outbreak of New-Wave surveys, a response to archaeological interest in questions of cultural process, which necessitated systematic study of the landscape at a regional scale and usually a diachronic level. Archaeological theory borrowed many concepts and methods from New Geography (central place theory, catchment area, sampling and statistical analysis etc) and this is a rather typical
example where most ‘new’ concepts and methods are used. The strong theoretical framework is supported by extended discussion of both field methodology and interpretative approaches. Discussion includes issues of recoverability, survey biases, the effectiveness of field methods and biases in the statistical methods used in analysis. Subjectivity, the problematic nature of surface data and the speculative character of interpretations are therefore stressed, within a theoretical framework that considered both the potential and constraints of archaeology. The fact that archaeological conclusions may be nothing more than hypothetical postulates was already acknowledged within the Culture-History tradition and researchers have in general been cautious regarding the certainty assigned to their interpretations. However, it is within the New Archaeology tradition that for the first time some effort is made to assess and estimate biases and the varying degrees of probabilities in archaeological explanations. Comparison of survey work became the means towards regional reconstructions, but it was acknowledged that the variability of intensity and quality in fieldwork posed significant problems. Still, Moody expresses the optimism of the time that one should analyse and interpret ones data rather than not even try, as long as the limitations of that data is stated and understood.

Structured and ‘objective’ methodologies are given a great importance and a holistic approach is pursued in order to understand cultural behaviour in the past encompassing archaeological, environmental, historical and ethnographical studies. The reconstruction of the settlement system in the PH period is based on descriptions of site function, distribution, population estimates and hierarchy and it explores the social and economic nature of defined chronological phases. Excavation data and research already undertaken in Minoan archaeology constitute a general interpretative framework within which KASP survey data are interpreted, seeking differences and similarities between Eastern and Western Crete and testing the proposed reconstructions.

One of the greatest advantages of this project has been Moody’s development of a coarse ware chronology, reinforcing the analytical potential of surface pottery, which by default is the least diagnostic. The approach has led the way for most regional projects and indeed its contribution to survey interpretation has been significant, even more so when rugged and little known areas such as western Crete are concerned, where coarse wares are usually the best we can get from the surface. Moreover, the significance given to explicitness defined a clear structure in the presentation of problem orientation, aims, methods and results. Analysis upon which socio-economic interpretations are based is also clearly presented and includes: discussion of site types for all periods in the survey area, discussion of the methods used in population estimates (the only survey which performed various calculations including and excluding possible sites), presentation of the correlation between site location and environmental factors, correlation between specific site types and environmental factors and comparisons of identified correlations over time. Hence, the strong theoretical and methodological framework attested, allow quite a high credibility on data and interpretations.

The main problems encountered concern the fragmentary nature of site sampling but also the presentation of interpretations, specifically the site catalogue, which although has a well-defined structure, interpretations of site functions are often unclear. Quantitative and qualitative criteria even though used to determine site characterisation, are not discussed explicitly and in relation to their variability over time so that we understand what sites are called habitations, which ones can not be interpreted and in which cases only presence of material was noted. The distinction between substantial but uninterpretable quantity of material and simple presence is usually not possible to make. The problem becomes worse due to the focus on the PH period. In most cases functions are stated only for PH times while later periods are stated as being present even though we usually can not be sure whether only a couple of sherds were noted or a substantial amount which either could not be interpreted or its interpretation was not considered important. When a site is called ‘Minoan habitation’ and periods of several hundreds of centuries are noted, it seems to be implied that the site is interpreted as a habitation for all this time. However, the hierarchical differentiation proposed on the basis of site size is not clear for all periods, as site size does not vary per period and one wonders whether the same size is applied to all periods in the analysis of hierarchy that follows. For example a site interpreted as ‘Minoan habitation’ that exhibits material from pre-palatial to late palatial times (could be more than 2000
years) and which according to its spread of material is classified as a village in LM I, is it taken to be a village for all PH periods noted on site? Moreover, characterisations such as ‘Minoan and later habitation’ where periods up to Turkish times might be noted, increase the ambiguity of interpretations (is this site considered to be a habitation for all later periods noted on site?). Comments in the text that follows every site description are usually not of much help in understanding the process of interpretation. Nonetheless, this project remains a very good example of methodical consciousness in the process of data acquisition, interpretation and communication.

Landscape approach: the landscape is seen as a spatial entity with specific environmental conditions, within which human cultures develop in a unique man-environment inter-relationship.

3.6.5 Survey id: Palaikastro

Problem Orientation: aims and methods
The site of Palaikastro in eastern Crete has been studied since the beginning of the last century with a series of excavations, on-going today. Extensive researches in the wider area over the years has led to the identification of many Bronze Age find places (Wroncka 1959; Kanta 1980) and excavations have revealed several loci of settlement, burial and religious practices. In 1983 an intensive survey of the site was undertaken, initiated by the urgent need to record the prehistoric remains before modern construction and erosion destroy all crucial evidence. Survey was used as a means to define the town’s boundaries, network of streets and routes of access. By plotting deposits and recording all architecture within the town they tried to establish how it changed size and activity foci over different periods of the Bronze Age. The combination of survey and excavation data in the wider area aimed to study the history of the development of the town in relation to activity in the surrounding area.

The urban area explored was about 36 hectares and the field method used is described as ‘systematic examination of the chosen area, field by field, noting and sketching architectural and other features’. Aerial photography (balloon photos) allowed a more successful navigation on the ground through the preceding identification of land features. It is supported that sherds were not collected due to their immense amount, worn condition and the extensive reoccupation of the town in LM III, which conceals earlier material (only excavation is thought to be suitable for earlier phases). Instead, subjective counts of ‘dense’, ‘light’, ‘sparse’ and ‘nil’ densities were taken, on the basis of ground tests which related these terms with real numbers per m². Surface studies were reinforced by a magnetic survey of 13000 m² in order to ‘complement the conventional site evaluation in the elucidation of major wall locations’.

Presentation / Relocatability
Presentation consists of a general contour map of the immediate area at scale of 1:20,000, plans showing walls and previous excavations per period (1:6,666), and walls in relation to areas of the magnetic survey (1:3,750). The sherd density map is at a scale of 1:4,500 and allows a picture of how dense material is across the town, but does not differentiate between periods. Moreover, there are house plans (1:300), pottery drawings, quarries sketch-map and plans, tables and plots of the magnetometer survey results. Relocatability is of course not an issue, as precision in the location of architectural and other remains has been an important concern, therefore, many good maps and excavation plans are available. Overall, presentation reflects the attention given to the precise mapping of material culture in its 2-dimentional spatial relationships.

Density per area / period
Not applicable.
Interpretative Framework

This project combines components of the Topographic and Landscape Traditions, combining a focus on the precise mapping of architectural remains and landscape features such as routes, and on intensive surface survey approaches, estimating sherd densities. It functions within a multi-disciplinary framework and applies remote sensing techniques along with archaeological recording. The employment of a variety of methods, both traditional and modern, aimed at the detailed study of the spread of material culture, which was the main interpretative tool for the identification of the centre and the size of the settlement at Palaikastro.

Results showed that the LM I town (period of greatest expansion) extends over an area of 600x600m² and that the centre of the town actually lies to the north of the ridges where the first excavations took place. An analogy to the situation at Zakros and Knossos is made, and it is assumed that the houses of the wealthy are situated in a level higher than that of the centre of the town (Platon 1974 and Hood and Smyth 1981: in MacGillivray et al. 1984, p.136). Architectural and pottery survey also led to the identification of new routes enhancing the picture obtained through excavation; routes are noted in a self-explanatory way of linking the town with other areas of the island and sites around, while the strongly built structures along the routes were explained as defensive in character (the typical LM I guard posts). Materials used in architecture and their sources were studied within a problem orientation of establishing patterns between materials and function and exploring questions regarding transport, technology and life-style.

In general terms, interpretative framework is based on the identification and characterisation of material culture, which is used to construct possible models of the town’s extents, function and structure (routes, entrances, and main habitation areas). At the same time there is also some consideration of the spatial relationships between town and nearby loci of variable activities (religious, burial, industrial), which indeed define a significant component in the understanding of a town’s historical development. However, we lack suggestions on what processes might have been critical in the developmental changes observed, or more synthetic insights into the relationships between different sites over time and the inter-relationships between people and the landscape.

Influential Sources: this work is part of the continuous studies at the site of Palaikastro, and therefore the history of archaeological research that involves the excavation of segments of the Minoan town as well as various loci around it, is the basic core supporting interpretative framework. However, new field methods and techniques were also applied within the framework of the Landscape Tradition. The work of Khalikiopoulos (1903) which has a geographical focus has also been taken into account.

Summary Assessment

Strengths: A multi-disciplinary methodological framework has allowed the acquisition of very important data.
Weaknesses: lack of sampling. No exploration of social questions.
Evaluation of data and Interpretation: the intensity of architectural studies and surface observation in combination with the magnetic survey and knowledge acquired through excavation, has allowed the collection of a high quality of data and the suggestion of plausible reconstructions of the town’s developmental history (mainly from an architectural / demographic point of view). However, lack of sampling has perhaps restricted the potential of the data available.
Knowledge acquired: extents of the town in LM I, additional information on the road system.
Integrability: medium-high
Publication: completed

This project may not offer any remarkable insights into Minoan social organization, but it sets its objectives clearly: to define the extents of the Minoan town and trace its developmental history by studying the spread of material culture using a variety of methods. The settlement of Palaikastro offers indeed a unique opportunity
for such a study, as the site is almost intact by later activity and the amount of previous work (mainly excavations on site and in nearby sites) offers invaluable information in trying to relate town activity with its immediate landscape. The methodological framework adopted seems suitable for the questions asked, as a combination of survey densities, excavation plots and the results of the magnetic survey are used for a detailed study of the site. Moreover, other sites nearby are also explored, namely routes, defence structures, quarries, the harbour, habitations, burials and religious sites.

However, the surface examination methods did not exploit intensive surface survey to best of its potential. Even though the field by field inspection allows a general idea of activity density over the area and informs us on the possible extents of the town, lack of systematic walking and sampling prohibit the precise mapping of densities and their micro-variations. With no collection it is not possible to re-evaluate data and even though excavation may be the main tool in the study prior to LM III (it is stated that collection would not make much sense due to the extensive occupation of LM III), systematically collected surface data might also add significantly to chronological variation of activity foci and extents over the town (it is accepted that sometimes a distinction between LM I and LM III on the surface can be made). The decision not to sample was reinforced by the belief that the combination of architectural studies and estimates of pottery densities are strong enough indicators of cultural activity and therefore a sample was taken only in two cases where deep ploughing had brought to the surface considerable material, but no comparison can be made with other surface areas. The 1990 paper (MacGillivray, J. A., and J. driessen. 1990) presents a thoughtful reconstruction of the Minoan activity based on the re-examination of the excavation data; however, it would be desirable to have similar chronological maps of Minoan activity based on survey data as well. Our inability to work with on-site period densities is attested in other urban surveys as well; therefore we are by default limited in making comparisons between different projects.

One of the greatest assets of the project is the significance given to the sufficient documentation of data, methods and way of thought and the serious effort for the use of explicit criteria in the interpretation of the data observed, for example we are given the sets of characteristics used to define a wall as certain, likely or possibly Minoan. Thus, we obtain a very descent record of the situation of material remains, and an assessment of the result of archaeological researches over 100 years. Researchers are being objective in the assessment of the potential of their data and methods, for example excavation biases are acknowledged, as is the limited help acquired through the magnetic survey. A critical approach to the reconstruction of the settlement activity in the area, which depends heavily on excavation data, highlights problems regarding the exact dates of building construction and the inherent bias of the selective nature of excavation. Overall, we acquire a clear picture of the archaeology of the area, but it would be useful to have further discussions on interrelationships between people and landscape over time and how we may understand the relevant societies.

Landscape Approach: the landscape is approached mainly from a topographical point of view, observing the spatial interrelationships among loci of material culture.

3.6.6 Survey id: Phaistos

Problem Orientation: aims and methods
The survey of the western Mesara plain is a characteristic product of the developments of landscape archaeology in the 80’s. The aim was to study the diachronic settlement and environmental history of the area, focusing on the circumstances that promoted the rise of complex societies, namely of a Minoan polity and a Classical Polis (both at Phaistos). As they state, they hoped ‘through survey to trace the rise of the Phaistian state and its regional structure as well as to identify the local ecological and cultural factors that might have contributed to its development’. Interrelated was the goal of providing an archaeological context for major excavated sites in the area. The area was chosen for its long established archaeological interest, demonstrating a number of very important and previously researched sites, in particular Minoan, which provided a fertile ground for the specific research questions.
The research team employed an inter-disciplinary approach encompassing environmental (K. Pope, J. and Th. Shay), archaeological (V. Watrous, D. Hadzi-Vallianou and J. Bennet), historical (D. Tsougarakis and H. Angelomati-Tsougarakis) and ethnographical studies (H. Blitzer). The landscape was, thus, studied on both a cultural and environmental level. Geomorphological studies as well as helping with the environmental reconstruction, aimed also at providing a stratified sample for the archaeological survey and at assessing the surface record. Field methods were based on those implemented in the Keos survey in 1983; 12-20 people walked field tracts at a spacing of 10-20m, counting all material found and collecting diagnostics. The total area covered was 22 km² over 3 field seasons (1984, 1986, 1987). Sites were identified in the field as exceptionally high pottery densities and were revisited in order to establish their extents and study their relationships with the landscape, as well as with other sites. Site sampling involved material collection along 2 axes at right angles, and grab collection from the quadrants.

Presentation / Relocatability
As this is the latest and best so far published interdisciplinary, regional survey in Crete, presentation is expectedly very good. Sites are presented per period on contour maps (usually on 1:77.000) with a functions legend. Tables, graphs, photos and maps follow the interdisciplinary framework of the project. Human activity, however, is not presented through density maps; Maps of the tracts walked do not present intensity of landscape activity, but a binary record of tracts with definite or probable pottery of the various periods. Many of the sites should be fairly easy to relocate as many are known and most are in clusters, and also because the area’s geography helps walking and visibility. Single tholoi and sherd concentrations of a small area would of course pose greater difficulties.

### Density per area / period

<table>
<thead>
<tr>
<th>area surveyed (km²)</th>
<th>Total site no</th>
<th>PH</th>
<th>GR</th>
<th>BVT</th>
<th>Modern</th>
<th>Unknown</th>
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<tr>
<td>22</td>
<td>113</td>
<td>76</td>
<td>67</td>
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<tr>
<td>Or:</td>
<td></td>
<td>75</td>
<td>67</td>
<td>24</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Densities per km²</td>
<td>(target and sampled)</td>
<td>5,136</td>
<td>3,454</td>
<td>3,045</td>
<td>1,090</td>
<td>0,227</td>
</tr>
</tbody>
</table>

**Site definition:** target and sampled populations coincide. Sites were defined during fieldwalking using as main criteria the recognition of fairly definable boundaries and dense concentrations of artefacts. When they decided upon a site, they only counted to the end of the tract; collection was performed at a secondary stage along two axes from the notional centre, after having re-walked the site so as to define its approximate boundaries. Eight sites were found outside the survey area, and an additional catalogue of Byzantine to Ottoman period sites known from written sources is published.

Interpretative Framework
Questions regarding the rise of complex societies were a driving force for the development of regional surveys in the 60’s and 70’s across the world. Another characteristic of the time is the acknowledgement of the environment’s influential role in human societies, which promoted multi-disciplinarity in archaeological research. By the 80’s, quantitative methods were also a ‘must’, while the 90’s saw intensive theoretical discussions regarding explanatory models of past societies. Within this framework the Mesara survey shaped its methods and research questions, but also its interpretative approach.
Studies towards an environmental reconstruction aimed at providing a context of human settlement and activity. At the same time, questions of social organisation sought also the impact of human activity on the environment. The intensity of such activity was assessed through the establishment of periods of landscape change and stability and the identification of erosion and depositional cycles, in connection with the archaeological data recovered. Such an assessment aimed at a better understanding of the socio-economic and political structure of the relevant societies that developed in the area. In general, the study of the relationships between cultural factors and the environment was considered as a prerequisite for the understanding of the rise of complex societies in the region. Methodological and interpretative themes of man-environment studies are best comparable with those in the southern Argolid survey (Kevin Pope was involved in both), and form a characteristic example of New Archaeology’s research framework. In the same context geomorphological work assessed recoverability, e.g. Final Neolithic sites are estimated to be underrepresented due to the fact that they were identified in deposits which rarely survive on the surface. The issue of small representation of specific periods was explored further via estimations of visibility (which was assessed to not have influenced the discovery of sites significantly) and the consideration of pottery knowledge for specific periods. Densities of artefacts are thus interpreted with caution taking into account survey methodology, the environment, and the interpretative potential of artefacts (although it is not as clear how the bias of poorly known pottery was evaluated in relation to results).

The main themes figuring in the interpretation of data towards a history of settlement, concern hierarchy, settlement dispersal or nucleation as a cause and result of socio-political and economic situations, demographic expansion, subsistence, sequence of settlement over time, chronological and functional variation. Hierarchy was defined at 3 levels, namely centres, villages and farmhouses, with a possibly additional level of seasonal sites. The last, are an interpretative suggestion attested in the Landscape Tradition, which is not only related to small numbers of pottery densities, but to the observation of current landuse. Ethnographical studies were used to identify various economic strategies, whose effect could also be traced in the environmental record, and which shaped the interpretative framework. Historical sources and archives allowed valuable insights into man-land relationships that cause and result from, social, economic and political circumstances. Analogical was used extensively in pursuing interpretative ideas and in particular Egyptian history contemporary to Minoan times was used as a major source; Egypt was concluded to have influenced greatly Minoan ideological structure of palatial times. In fact, state formation was explained as the result of intense social stratification and conflict in combination with an ideological framework borrowed from Egypt and the Near East and imitated by local communities. Renfrew’s neoevolutionism and redistribution model are discussed, but ultimately rejected.

All themes explored have long been fashionable in Minoan archaeology, and some particularly so, since the extensive practice of intensive surface surveys. Interpretation takes into account discussion of previous researchers in the area as well as patterns identified by landscape archaeology projects in other areas of Crete. In fact, the particular questions of the rise of palatial and Greek Phaistos are explored in the context of discoveries and discussions in the wider Aegean, Greek Mainland and SE Mediterranean. It is stated that they have supported ‘an inductive and more flexible gathering and evaluation of cultural data within a systemic approach before attempting to understand the data in the light of any single hypothesis or model’ (Watrous et al. 2004:8). Various models are discussed and rejected and finally a combination of a processual theoretical framework together with post-processual ideas and concepts was admitted to have been adopted. Ultimately, a diachronic diagram of social evolution is presented, describing environment, subsistence, population, technology, exchange, ideology, conflict / competition, social organisation (egalitarian, ranked, stratified, state, empire, kingdom and polis), settlement pattern, social diversity and social hierarchy.

Influential sources: theoretical framework of most previous and contemporary regional projects in both the old and new world e.g. Mexico, Mesopotamia, Messenia survey, southern Argolid, Melos, Keos (methods), Boeotia (quantitative work). Fieldwork followed a full coverage approach (Fish and Kowaleski 1990) and interpretation was influenced by Systems Theory. Landmarks on survey literature such as Flannery 1976. Previous research in the area, namely Greek and foreign archaeologists.
Summary Assessment

**Strengths:** inter-disciplinary approach, defined methods, broad interpretative framework. Good publication and high integrability. Self-assessment.

**Weaknesses:**

**Evaluation of data and Interpretation:** strong theoretical and methodological backgrounds encourage a belief in the acquisition of high quality data and the formulation of relevant inferences.

**Knowledge acquired:** a comprehensible reconstruction of historical development in the area.

**Integrability:** high.

**Publication:** completed

Regional settlement surveys have traditionally been interested in environmental reconstructions and diachronic settlement patterns, asking questions in relation to the rise of complex societies. The current project is a product of the Landscape Tradition and thus, makes use of relevant popular theoretical and methodological developments. Sampling and quantitative methods are used in all kinds of fieldwork, namely archaeological, environmental and ethnographical. Field and analytical methods are discussed extensively and often compared to other projects and publications. Within the framework of ‘proper archaeological discourse’ presentation describes both methodological and interpretative frameworks. The site catalogue presents in an exemplary clear manner the relevant interpretations of functions per period with a good chronological precision. Uncertainty is stated and so are opinions of site relationships, e.g. a cemetery or graves related to a particular settlement. The overall publication of the project allows a great deal of clarity over aims and interpretative framework, discussing in detail the history of archaeological landscape theory within which the current project was born and developed as well as which interpretative ideas were followed and why. As a result, we are able to understand and assess conclusions and integration is greatly enhanced.

The project uses interdisciplinarity in a very good way. Geomorphological studies in combination with other environmental (e.g. botanical) and archaeological data, historical sources and current environmental research of landuse, vegetation etc, allow an in-depth look into the history of landscape evolution. Ethnographical work and the study of the present society and economy with its variability between town and village life also make an important contribution towards an understanding of man-environment interrelationships. As in most landscape archaeology projects comparability is pursued, and this is evident in the frequent references to other survey projects in Greece. The effort for the acquirement of objective observations is linked to an effort for the construction of objective interpretations, a goal proclaimed by all New-Wave surveys. The approach is fully diachronic and it is very important that there is quite a methodical effort to achieve self-assessment and present some of the project’s limitations. Thus, site collection methods were thought to be adequate for determining overall site size, but not for distinguishing size between different periods. Overall, this is the best so far published survey work in Crete.

**Landscape approach:** landscape is perceived as the interaction of cultural and environmental factors that determine the process of evolution (change) over time.

### 3.6.7 Survey ID: Hagia Photia

Problem Orientation: aims and methods

This project is a context survey, regarded as complementary to an excavation undertaken within the survey boundaries. However, it is stated that the survey was planned ‘as a research per se, for a better understanding of the region and not to locate new sites for future excavations’ and that the project was envisaged as an experiment to help determine the relationship between intensive survey coverage, cost investment and the actual results achieved. The project is part of the investigation of the wider area of the Siteia Gulf, which is on-going and consists of small projects undertaken by the Ephoreia, but also foreign scholars, and which use archaeological excavation, extensive and intensive survey, and geological investigations. The plan has
been the intensive coverage of some selected areas over an extended region, presumably in order to collect a greater amount of information about the archaeology of these areas so that ultimately the combination of archaeological and physical-landscape data may propose a more illuminating picture of the area’s history; no specific questions have been set for which intensive survey would seek answers.

Planning was decided upon practical factors of finances and personnel and thus, an area of 4.05 km² defined by archaeological and geographical criteria was intensively investigated by 20 people over a period of 3 weeks, under the direction of M. Tsipopoulou. Coverage was complete with a sampling interval of 1-1.5m, and the procedure was to count sherds and collect 70% of the diagnostics and all small finds and stone tools. Architecture and landuse were also recorded in detail in notebooks, with an attempt to standardize the procedure. The survey units walked were called fields, even though they did not actually coincide with agricultural fields or private properties. Their size and boundaries were decided on a day-to-day basis while walking, allowing flexibility in the execution of the project, however, we do not know what criteria were used to define their size.

Presentation / Relocatability
The topographical maps used were at a scale of 1:5000, but presentation consists of a contour map with the survey boundary and units walked at a scale of 1:12,500 and a couple of sketch maps which show the geographical location of the area, and the horizontal relationships between some of the archaeology. Some of the units are shaded, representing a higher pottery density, which is discussed in the text explaining which groups of them are taken as a site, but site boundaries are not shown on the map. The surface is thus represented in terms of where archaeological material was denser, but variability of density is not shown. Pottery drawings and object photos including walls and other finds, present the material recovered and landscape photos allow a vivid visualisation of the area. Relocatability is not a problem because the area surveyed is small with known sites and scales of the maps are pretty good.

Density per area / period

<table>
<thead>
<tr>
<th>area surveyed (km²)</th>
<th>Total site no</th>
<th>PH</th>
<th>GR</th>
<th>BVT</th>
<th>Modern</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.05</td>
<td>10</td>
<td>10</td>
<td>5</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Or: 1,038 (map area)</td>
<td>10</td>
<td>10</td>
<td>5</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Densities per km² (target and sampled)</td>
<td>2,469</td>
<td>2,469</td>
<td>1,234</td>
<td>0,493</td>
<td>0,246</td>
<td></td>
</tr>
</tbody>
</table>

Site definition: Target and sampled populations coincide. The discussion relating to the site definition explains the problems in interpreting the surface record and the variable situation between sites and between plain and hill. More specifically, only two sites had surviving architecture, while higher sherd density was not always related to sites, e.g. at the excavated site on top of the hill of Kouphota, some surface walls were visible, but not a great number of sherds. In the end, they defined a site upon the presence of at least 30 sherds per 10 m² for the plain, whereas on the hill even a few sherds were considered to be due to human activity.

Interpretative Framework
Intensive survey is treated as one of the methods used in the archaeological exploration of the area. It was regarded as complimentary to the excavation undertaken on a hill within its boundaries, which in combination with other excavation work and archaeological research over the century had already supplied researchers with an idea of settlement in the wider area around the plain. The choice of the area was thus based on the results of
previous researches, and at the same time on the fact that the geographical location of the area – the fact that it was a plain nearby the coast – was considered as a crucial factor to the development of settlement and human activity.

Site-discussion in text form includes description of the evidence observed for all chronological periods and explains the line of thought between sherd quantity, type, chronology and interpretation in terms of site function in the relevant period. Pottery in particular receives great attention and it is described in detail through tables, adopting Rutter’s suggestions in recording pottery from surface surveys (Rutter 1983). Geography and topography as well as modern landuse of the site are also described.

This project is in fact one of several in the area, both excavations and surveys, as the principle researcher works in the relevant Ephoreia and has thus investigated the region extensively, both through her own field-work and by incorporating the results of all previous archaeological work undertaken. As the survey did not aim to answer any specific questions about settlement and activity in the area, but to collect information and ‘then see what may result out of it’, focus lies on presenting the archaeological record and interpreting it in terms of site definition, chronology and function, but not so much in discussing site interrelationships and social questions, which partly shows the perspective of a field as opposed to a theoretical archaeologist. Instead, attention is paid to the difficulty of interpreting the surface record. However, a historical narrative for all the sub-periods of the Bronze Age is constructed and there are questions about the movement and character of the communities in the plain. Changes observed in the use of the same site (e.g. Kouphota hill) are explained in terms of population changes. A brief mention to activity of all periods up to the present (noting archaeological and tourist activity) shows a general diachronic interest in the history of the area.

Influential sources: The work of all previous researchers / excavators, both Greek and foreign has been investigated and problem orientation lies within the same framework. Regarding the methodology of surface survey, the project follows the main works of the ‘New Wave’ surveys, e.g. Plog, Plog and Wait 1978, Shennan 1985, Keller and Rupp 1983, Gallant 1986, Bintliff and Snodgrass1988a.

Summary Assessment

**Strengths:** Reflection on survey problems, clear record of processes and circumstances. Much comparative material from excavations has promoted accuracy in pottery interpretations.

**Weaknesses:** not a broad interpretative framework regarding site interrelationships from both survey and excavations. No site sampling.

**Evaluation of data and Interpretation:** finds are presented in detail and interpretations are specific, but we are not given a complete discussion of the relationships between data recorded, which have been both landscape and material.

**Knowledge acquired:** loci of activity, which contribute towards a narrative of the use of the area over time.

**Integrability:** high

**Publication:** completed.

The main archaeological work undertaken in the area has been based on excavations, and thus survey has been implemented to acquire more data that could be compared with information already known. Being able to study a lot of excavated material in relation to surface surveys is an invaluable tool in understanding the surface-subsurface relationship. It is worth noting the statement that the purpose of the survey was not to find new sites, but to understand the history of the area and the excavations, even though the results of the project involve basically a list of sites. A second statement is that the excavations were found to assist the survey (in defining the boundaries and interpreting the finds), but not the reverse, as no sites related to the excavated ones were found, therefore it is clear that survey is considered as a secondary, additional methodological tool after excavation. These statements are rather baffling, because understanding of the area around an excavated site undeniably helps towards its better understanding, and this is not only related to the discovery of relevant
sites. Moreover, even though the surface survey was planned as a ‘a research per se, and the surface-subsurface relationship as well as the relationships between intensive coverage and cost investment have been considered, it is not clear what came out of it.

On another line, the publication is not always clear about the researcher’s thoughts, although the importance of publishing survey results in a way that others understand and are able to use is much stressed. Mentions to surveys in Petras, Siteia airport and in general the Siteia golf, refer to rather intensive archaeological explorations, but in the sense of intensive systematic walking (Tsipopoulou 1986). Thus, a catalogue of 12 sites in the wider area of the Siteia golf is included, result of many years’ explorations and excavations in the area. A few additional sites mentioned later on are not numbered and therefore, the distinction among the various loci noted as sites is not clear. There are also a few questions raised regarding field methodology, e.g. how were field units defined, how was the frequency of artefacts and the 70% (which was collected) estimated, if not actually measured, and how could 20 people have walked 4,05km² in 18 days (usually on average they could have covered about 0, 72km² and that is with at least 2m sampling interval). Besides that, the area was formally revisited twice (after torrential rainfalls which caused alterations on the soil surface and after the pottery study was complete), but results of these resurveys are not explicitly discussed, even though it is stated that intensive systematic survey is explored as a tool.

On the other hand, the fact that the main researcher has been working in the Ephoreia is a great asset, as she has been able to gain the best possible experience in archaeological material and the area in general. Her long acquaintance with the field is obvious in the importance she gives to archaeological material and its detailed recording. She reflects on the problems of comparability between different survey projects and she stresses the importance of publishing results and criteria as clearly as possible. Thus, it is very helpful that the circumstances within which the survey took place are explained and the sincerity on the weaknesses of the project due to financial restrictions is appreciable, e.g. geomorphological work is thought necessary in order to understand the ancient sea-shore, but could not be undertaken at that point. Also, it is acknowledged that the pottery was studied only by one person who could not be an expert in all periods, even though they were interested in the diachronic history of the area. The problems of defining a site were discussed and these were attributed to the intensiveness of the research that made the recognition of higher densities difficult, the disappearance of architecture due to the long cultivation of the plain, surface-subsurface inconsistencies (tested in the excavated sites), but also the possible sherd movement down slope and the effects of erosion.

Landscape approach:
the landscape is viewed as the spatial context of archaeological loci which represent human activity over time. Interest lies in the location of archaeological remains and their location is explained mainly in terms of the geographical characteristics of the area.

3.6.8 Survey ID: Pseira

Problem Orientation: aims and methods
The goals of this project directed by R.Hope Simpson, Ph.Betancourt, and K.Davaras are defined as 1) to place the Minoan settlement within its environmental and historical context and 2) to perform a systematic investigation of the island itself (no further explanation on what is to be investigated). The important settlement excavated in 1906-07 played a determinant role in the questions set and the clear focus on the Minoan period; interest was on the interactions between settlement and its landscape and it was stated that ‘the general history of the periods of habitation on the island was necessary so that the site’s history could contribute to the larger pattern of cultural development in eastern Crete’. Previously expressed hypotheses were also tested via survey, in specific the beginning and the end of settlement activity, and the capacity or not of the island to support the population.

A fully diachronic approach was followed and the whole island of about 1,75km² was systematically surveyed between 1985 and 1989. Field-teams consisted of 3-5 people. The strategy is declared to have been based on climate, topography, previous work and general information. As the aim was to understand
when and how people lived and interacted with the specific landscape, investigations focused on the physical environment and explored the natural resources and the possibilities for subsistence. Research followed the following stages: 1) analysis of earlier work, 2) study of the natural landscape, 3) intensive archaeological survey, 4) excavation of selected sites, 5) laboratory analysis of soils etc, 6) interpretation and coordination with nearby regions. Archaeological survey lasted for 5 seasons and involved walking over the whole island at a spacing of about 5-10m, collecting all material found and recording locations of material culture as sites. The cemetery area was surveyed on the basis of a 5m grid in order to study the chronology of pottery distributions in detail and define its extents and periods of use. In short, the survey aimed at a diachronic understanding of the history of human activity and its interaction with the environment, a typical goal of projects in the Landscape Tradition.

Presentation / Relocatability
Site pottery data are reported in great detail through tables and text descriptions. Additional tables and graphs present statistical analyses used in interpretation. 20m- contour maps display the distribution of sites per period at a scale of about 1:11,500 and geology is presented in relation to the wider area of Crete, but also through a map of 1:10,000. The cemetery survey is published through plan views of the grid showing locations of pottery per period and the relevant tables for all grid squares. Sites are all published with their map coordinates; therefore most could be fairly easily relocated within such a small surface, even though in reality locations of 1 or a few sherds are problematic. Presentation includes of course landscape and object photos, drawings and architectural plans.

Density per area/period

<table>
<thead>
<tr>
<th>area surveyed (km²)</th>
<th>Total site no</th>
<th>PH</th>
<th>GR</th>
<th>BVT</th>
<th>Modern</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,75</td>
<td>314</td>
<td>305</td>
<td>9</td>
<td>156</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Or: 2,163 (map area)</td>
<td></td>
<td>305</td>
<td>9</td>
<td>156</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Densities per km² (target and sampled)</td>
<td>179,428</td>
<td>174,285</td>
<td>5,142</td>
<td>89,142</td>
<td>8,571</td>
<td></td>
</tr>
</tbody>
</table>

Site definition: any location with pottery or other evidence of human activity. Sites may be the location of 1 sherd, usually in combination with a terrace. Locations of different parts of a site, e.g. a farm, are recorded as separate sites and so are locations of eroded material. An extreme example is the beach of the town, which forms a site with 2 eroded Minoan sherds and 1 Byzantine.

Interpretative Framework
Results were seen in the light of various other survey and excavation projects in the NE coast of Crete, while surveys from the wider Aegean area and also outside it were consulted in relation to terracing, manuring and crops, themes that are quite extensively discussed. Ecological studies played a crucial role in the project’s interpretative framework and several publications on ecological issues, soils, terraces etc have in fact preceded the volumes of the surface survey. Palaeoenvironmental research combined vegetation, climatic and landuse studies to help define the natural environment and the use of the landscape by people for their subsistence. Soil analysis in combination with the surface record determined agricultural potential and revealed the landuse pattern. The resulted picture was one of intensive agricultural use through terracing for most of the Minoan
period, and more specifically during the Protopalatial and in particular the Neopalatial times. Crops included cereals, grapes, olives and pulses and the integration of excavation and survey evidence verified a diversified landuse combining mixed farming and animal husbandry, suitable to the marginal character of the island.

Ethnography also played an important role in trying to understand subsistence in such a marginal landscape. Analogy is considered useful in expressing likely hypotheses on the ground of geographical similarities, as these may trigger similar human responses to environmental conditions, even if patterns can not really be proven. Ethnological studies were used in issues concerning crops adopted; advantages of various crops, time investment and agricultural practices are discussed extensively, portraying a picture of island subsistence through various practices. In this framework, Peter Day studies pottery not just as an item of everyday use but he tries to reveal social relationships through the study of in-built meaning relating to identity, movement and even marriage observed in potters’ communities in the ethnographic record. Indeed, social meaning can be discerned in pottery, as in all material artefacts if one attempts to look at it.

The reconstruction of the island’s settlement history verifies habitation for the first time in FN with evidence from the town, the survey and the cemetery. From EM I the island started being increasingly exploited for agriculture and by MM, land management through terraces and manuring was extensive and provided the necessary goods from mixed farming to support the population of the 2 settlements. In LM I we have evidence for population rise and intensification of agriculture with more terraces and the building of dams to manage watering. Even though trade is a justifiable thought for the development of the town in Pseira, survey proved that the economic life of the island was based on agriculture. LM II and LM III produced little evidence and after the LM IIIB destruction of the town, Pseira is abandoned following an island-wide pattern of a movement inland, attested at the end of the Bronze Age. Evidence for the 1st millennium B.C. is sparse and only in the Early Byzantine period do we have again a rural population with 2 farms and permanent constructions in the fields (the Byzantine period in this project is starts from the 5th century A.D.). The island has been uninhabited since 900 A.D. and has only seasonally been used to graze animals.

Pottery is the stronger interpretative tool in survey and it is used to explore various questions regarding human activity, society and relationships with the outside world. In particular, pottery statistics in combination with soil studies made enlightening revelations. Internal statistics (where pots of the same period and fabric are compared) seem quite consistent between pottery from the excavation and the survey. Surface pottery did not reveal loci of specific function, but its wide variety showed that it was settlement debris used as manure in the fields and the same secondary use was concluded for all materials (stone, obsidian etc). This result concerns MM and LM I which were the periods of the highest agricultural intensity involving an enormous effort to cultivate the land through the construction of terraces and the fertilization of the soil. In particular for LM I there seems to be the greater intensification of agricultural landuse matched with the population increase shown in the excavation data. In this period there is a much higher proportion of sherds from cooking vessels, which is explained as the pots being used to prepare a hot meal in the field, painting a vivid picture of the mode of living.

Furthermore, researchers contribute to general discussions about Minoan society and archaeological evidence is used to verify variation and similarities with other places on the island. Thus, conical drinking cups attested elsewhere and linked to an elite rising in Prepalatial and Protopalatial times are missing from Pseira, indicating that it functioned on a remote basis outside island-wide developments. MM II had a violent end as elsewhere in Crete, a phenomenon that is thought to testify social changes that brought peace to the region and led to the great prosperity of LM. LM I Knossian influences in connection with the assumed foreign expertise in dam engineering put the island on socio-political developments of a greater scale. The brief interpretative comments on Minoan society, hint to a cultural evolutionary framework, rather characteristic for Minoan archaeology.

Influential sources: field methodology was formulated within the influential framework of surface survey developments, but Binford’s ideas on cultural systems seem to have played a strategic role; it is stated that ‘the methodology had to ensure the collection of as much data as possible, to determine whether the island
was sufficiently self-sustaining to suggest such a cultural system’. Interpretation of the off-site record took into account Bintliff and Snodgrass’s work in Boeotia.

Summary Assessment

**Strengths:** interdisciplinarity and interesting interpretative framework.

**Weaknesses:** data recording does not allow the visualisation of the density of activities on the surface.

**Evaluation of data and Interpretation:** the quality of the data acquired is very good, but the surface can not be visualised as a continuum of cultural activity but as loci of finds, whose definition is as usual unclear.

**Knowledge acquired:** very interesting insights into Pseiran socio-economic organisation and therefore we learn more about Minoan society as a whole.

**Integrability:** medium low.

**Publication:** completed.

This is a very important survey project as it investigates the little known theme of agricultural practices and reveals vital information about Minoan life. As declared, the area was advantageous, with definable limits, excellent preservation due to little activity after Minoan times, good visibility and the possibility of selective excavation. The excavated settlement and the possibility to also excavate additional selected sites in combination with the surface survey is a rare and ideal situation and have helped immensely the interpretation of surface data, allowing the dating of terraces. Moreover, Betancourt’s long experience and expertise in Minoan pottery allowed extensive and very informative use of the pottery collected. Thus, even though survey found most of Sieger’s conclusions correct, intensive work allowed the correction of previous beliefs for example it was concluded that subsistence was based on agriculture while trade was hardly evidenced, agriculture was intensive enough to support the population of the town and habitation was attested from FN as opposed to Pendlebury and Warren’s belief that the island was first inhabited in EM II. On a methodological basis, the combination of survey with excavation highlighted inherent survey problems, in particular the difficulty in distinguishing between a terrace and a habitation only from pottery data, since both cases may be represented on the surface with similar numbers and type of ceramics. Hope Simpson once again stresses the weaknesses of survey in comparison to excavation even though survey was considered imperative in the case of the eroded and unpublished area of the cemetery. Based on the minimal relationship between surface and buried data at excavated terraces, he draws attention to the fact that many sites identified as farms in Cretan surveys, may be nothing more than agricultural plots. However, despite the considerable difficulty in distinguishing between permanent and seasonal sites or the variability of landscape activities in general, survey weaknesses are not only subject to the restrictions of the surface record, but also to our methodology, definitions and presentation.

In this framework, by rejecting scatters, off-site material and sampling, in effect they walked the landscape looking for sites, but site definition was at a much higher resolution than in most surveys. One wonders whether it is helpful or confusing to treat pottery concentrations from ‘very thick’ (1 sherd / 10m²) to ‘very sparse’ (1 sherd / 200m²) in the same manner, as ‘sites’. In my opinion it is not correct to have maps and a site catalogue that treat space of definable activity and large extent (e.g. the settlement) in the same way as loci with 1 or 2 sherds, often clearly eroded from elsewhere. Resolution becomes even more mixed with loci catalogued as separate sites, but which may constitute a settlement or farm/habitation, which would be considered as one site in other surveys.

Due to site definition, as well as the small size and preserved character of the island, site densities on Pseira are naturally unprecedented and make comparisons with site densities of other surveys totally meaningless. Pseira offers the extraordinary situation of getting to know a little changed landscape since the Minoan times, but the ‘sites’ it records are mainly agricultural terraces and not the usual ‘habitation’, ‘burial’ or ‘ritual’ sites of other projects. Site reports are exemplary in presenting all the data found, but sites are usually
not given a chronological and function interpretation in terms of defining the type of human activity evidenced; the vast majority of them are interpreted as loci of agricultural practice and feed the final construction of the island’s historical development. In fact, it is not really understood why data are grouped into separate sites; a sherd density map would be more helpful in visualising variable intensity of human activity in the area and would allow us to view the landscape as a continuum and not as loci of activity, whose differences are obliterated in dot maps.

**Landscape Approach:** landscape is approached as a spatial entity with specific environment, which consists of loci of human activity. Interrelationships between environment and people are explored and the cultural shaping of the environment is stressed.

3.6.9 **Survey id: VrokaSTro**

**Problem Orientation: aims and methods**
The main aim of this project, directed by J. Moody and B. Hayden, was to place the Late Bronze / Early Iron Age settlement of VrokaSTro ‘within its regional context in order to understand better how it functioned and related to its environment’. Although it was a context survey studying the regional environment around a main site it was fully diachronic and settlement patterns were explored from the earliest evidence of human activity till the end of the Turkish period (1898). The goals of the project were thus twofold, to study the little known transitional period of Late Bronze / Early Iron Age, and also to study the settlement and environmental history of a typically rural area of the southern Aegean. Sampling was systematic, stratified upon defined ecological zones, which took into account geology, slope, topography and elevation. Thus, 13 eco-zones were selected within which to interpret archaeological data (site location, size, density and perhaps function in relation to eco-systems).

A pre-survey on the coastal zone was performed in the first season (1986) with 100% coverage at 10-45m walking interval and 2m-radius vacuum circles performed every 100m. The rest of the area received 50% coverage and a 10% on cliffs and steep slopes, at a 10-20m walking interval. The landscape was divided into transects 50m wide and every other transect was walked by 2-4 people, performing 2m-radius vacuum circles every 50m. In the end, an 80% sampling fraction was achieved and the area actually seen was at a level of 8-16% precision. The sizes of settlements recovered were 1.3 hectares, 0.39 hectares and 0.13 hectares, so even the smallest settlement of 0.13 hectares would have been successfully recovered with a walking interval of 20m at most. However, habitation or other sites of smaller dimensions e.g. PH habitations of 10x10 (GN1) may have been totally missed during fieldwalking.

Survey methodology focused on the collection of a wide and sufficient amount of landscape data so as to attempt the reconstruction of the cultural - ecological history of the area. A conscious goal, as with most regional intensive survey projects was to compare results with other projects and thus detect similarities and differences in settlement patterns.

**Presentation / Relocatability**
The presentation of this project includes geological maps, toponyms and sites for different chronological periods in relation to contours, sketch maps, transects walked, the environmental zones identified as well as object drawings, graphs and tables. There is a great interest in the spatial distribution of various classes of data considered important for the understanding of settlement patterns, e.g. threshing floors, springs, wells, chapels and grain mills. Map scales vary from 1:50,000 to 1:10,000 and sites are assigned map coordinates. Great importance is given to associations between site-location and topography as well as geology, and graphs show the relationship between numbers of sites and geology over time. Regarding relocatability, since the sites are only viewed in relation to contours, relocation is not easy inland, where the landscape is extremely broken, in particular as far as small sites and scatters are concerned. The recorded condition and size of the sites may be indicative of what to expect when trying to find them, but in any case, maps that show the sites in relation to
modern features of landuse would be necessary for relocation purposes as well as for an understanding of the present landscape. The very good scale, in which sites are presented, though, shows the importance that this project gives to location in relation to topography.

### Density per area / period

<table>
<thead>
<tr>
<th>area surveyed (km²)</th>
<th>Total site no</th>
<th>PH</th>
<th>GR</th>
<th>BVT</th>
<th>Modern</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>50km²</td>
<td>195</td>
<td>124</td>
<td>110</td>
<td>106</td>
<td>49</td>
<td>0</td>
</tr>
<tr>
<td>Or:</td>
<td>40.90 (map area)</td>
<td>123</td>
<td>107</td>
<td>98</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>Densities per km² (target population)</td>
<td>3.9</td>
<td>2.48</td>
<td>2.2</td>
<td>2.12</td>
<td>0.98</td>
<td></td>
</tr>
<tr>
<td>Densities per km² (sampled population)</td>
<td>20</td>
<td>9.75</td>
<td>6.2</td>
<td>5.5</td>
<td>5.3</td>
<td>2.45</td>
</tr>
</tbody>
</table>

*Site definition:* in the publication of the project it is stated: ‘The term “site” is used in this publication to denote a collection of artefacts, primarily sherds, occasionally accompanied by chipped and ground stone, metal, glass, and architectural remains’. Site sizes vary; interpretations are based on density and spread of material (influenced by many factors) as well as ecological features. However, there is not always a clear distinction between site functions in particular between settlement and habitation, which are supposed to reflect site hierarchy. Moreover, sites of the same description are interpreted as habitation sites for PH and as agropastoral activity sites for the BVT, since field houses, terraces and relevant landuse features are often well preserved. Clearer definitions of site function characterisations would certainly be desirable.

There is also a problem with multi-period settlements, as there is often no function variation for all periods present on site. Thus, when only a few sherds of a period e.g. PH have been found on a GR settlement, and depending on what they say on their site description, the site may be given the attribute ‘habitation’ or ‘unknown activity’ for PH in the database, even if the general function is ‘settlement’. Regarding densities, given the fact that they recovered sites down to a size of 10x10m, but most sites were much larger, the precision they used was adequate to recover sites of 0.01 hectares, at probably a pretty good accuracy.

**Interpretative Framework**

Interpretation of the settlement history of the Vrokastro area unravels through arguments and hypotheses about communities, their subsistence, interrelationships of power and control, mobility (mainly due to social changes) and longevity of sites, based on a synthesis of site interpretations. Sites are studied in relation to chronology, function, geology, soil, vegetation, landuse, topography including elevation and distance to the sea, architectural and historical evidence and although observed correlations are not always explained, an explanatory approach is pursued even when a pattern does not fit the norm. Each site record includes site-size, chronology and function per period (even though the last not consistently), as well as landuse observations.

Archaeological, environmental and landuse data is all used in site interpretations in order to arrive at an appropriate chronological and functional definition. Environmental studies aimed not only at providing a context for the sites, but it is claimed that they also sought an understanding of the surface record so as to assess recoverability of surface finds. Geological and geomorphological studies in particular sought the elucidation of settlement changes due to river changes effects. The general conceptual framework follows a clear cultural-ecological approach putting a lot of emphasis on environmental and landuse observations.
Thus, settlement patterns of observed nucleation or dispersal are viewed in terms of subsistence potential and environmental history, routes, hierarchy and socio-political factors. Spatial relationships between sites, site size, function as well as the permanent or seasonal character of an occupation site are explored in order to reveal the economic, social and political systems operating and changing through time focusing on and thus interpreting patterns from a perspective of power relationships.

The reconstruction of demographic trends over time is expectedly of great interest but particularly difficult especially for early periods due to low recoverability of relevant ceramics and material culture in general, the unavoidable field techniques biases and the fact that multi-period sites make difficult to assess site size per period. However, the establishment of a hierarchy is of primary importance as in all intensive survey projects, as it is believed to elucidate both issues of demography and the socio-political situations of the periods in question. It is important to note that continuity and change play an important role in their effort to understand the ecological history of the area.

Finally, this project does not operate in a vacuum, but seeks to compare its data and interpretations with those of other survey projects in view of reconstructing and understanding the history of the Cretan island as a whole. There is thus, a strong relationship with other survey projects undertaken on the island. Within this framework they seek similarities and differences, acknowledging the fact that local topographical, environmental, and historical circumstances and resources play a significant role in economic and social processes.

Infl uential References and Sources: This project lies within the tradition of New Wave Surveys and has used a wide bibliography of archaeological work undertaken in Crete and the rest of Greece. Travellers, historical sources, Greek researchers and first archaeologists have been widely referenced throughout the publication. Survey methodology was influenced by developments of the 80’s and 90’s, and the whole project gave emphasis to environmental studies, landuse and ethnoarchaeology. Theoretical considerations concern landuse and palaeoeconomy, the emergence of state societies and complexity, ranking, resources and exchange.

Summary Assessment

**Strengths:** sophisticated methodological and interpretative framework, multidisciplinarity and assessment of surface record recoverability; examination of the environmental history of the area, detailed recording and published methodology.

**Weaknesses:** deficiencies in definitions, classifications and presentation of data.

**Evaluation of data and Interpretation:** interpretation develops around issues of population fluctuations and settlement patterns (nucleated versus dispersed) relative to ecological and socio-political circumstances. Variability and definitions of site functions in combination with use of landscape data in interpretations allow a high degree of confidence in interpretative suggestions. However there are problems of ambiguity, e.g. in multi-period sites, where we don’t understand whether the same function is assumed for all periods.

**Knowledge acquired:** Environmental and human activity history through time.

**Integrability:** high.

**Publication:** completed

One of the great assets of this project is its interdisciplinary nature and its explanatory framework, usually separating data from interpretations and taking into account knowledge acquired from other researchers even though this is not really assessed (as is usually the case). Researchers provide us with some of the most complete site records, trying to be consistent in the presentation of data recorded, combining raw data with a literary text. Statements regarding the methodology followed, the interpretative problems encountered and the desire to combine data with those of other projects, reveal the ‘proper’ archaeological discourse of this tradition that seeks to be explicit in observations and explanatory in interpretations.
Sampling and field-methods are similar to other survey projects in which Jennifer Moody was involved, among which inter-comparability is probably easier to achieve. Analysis of densities per period is mainly conducted in relation to environmental zones; however, we would need better precision in area sizes walked as well as a discussion of the relationships between densities and environmental characteristics of the zones studied. If presentation included site sizes per period, patterns of recoverability, hierarchy etc would be better understood. A clearer and well defined classification of site functions would also be desirable so that correlations of sites enhance understanding of the settlement patterns observed. For example, in the PH period, both kinds of isolated structures, (big with megalithic walls and smaller with rubble walls) are interpreted as ‘habitations’ even though it is implied that they may play a different role in hierarchy. Besides that, in multi-period sites there is often no distinction of function variability between periods; however, even unknown activity should form a class in the classificatory system so that it is clear what interpretations exist per period. Although data are presented in support of interpretations, there are not always clear correlations between the two. An additional problem relates to relocatability, especially for small sites, as their presentation only in relation to contours is certainly not adequate. Maps with modern landscape features in relation to the archaeology are necessary, both for relocatability purposes and in order to achieve an in depth understanding of the present landscape and its historical development. For example, a map of the Ottoman sites’ distribution should include landscape features found on topographical maps as well as those recorded during the survey (e.g. kalderimia or dromoi). However, it has to be stated that the above comments relate to weaknesses observed in almost all survey projects.

Overall, this is one of the most complete landscape research projects within the tradition of regional intensive surveys, following a cultural-ecological approach and choosing methods that reflect the problem orientation towards the reconstruction of the landscape ecology over time. The fact that the project has actually reached final publication is of great importance for the study of Cretan history and archaeology, and hopefully publication of other projects will soon follow so that integration and comparison of research is actually feasible. The problem that still remains, of course and which is responsible for most weaknesses in landscape research is the lack of standards in survey work and in particularly as far as publication is concerned.

_Landscape approach:_ landscape is the spatial framework of changing man-environment interrelationships. Environment is seen not only as a background to human activity, but as the enabling factor for human choice and behavioural strategies, which in turn shape the landscape.

3.6.10 _Survey ID: Sphakia_

Problem Orientation: aims and methods

Sphakia Survey started in 1987 by J. Moody and L. Nixon with the collaboration of O. Rackam and S. Price, and falls within the tradition of Landscape Archaeology. As well as trying to establish the regional settlement history over time, research gives great importance to environmental studies and tries to understand ‘the sequence of human interaction with the environment’. Questions include contacts with other areas, landuse and subsistence systems, relationships between coast and inland. Sphakia had received little attention from archaeologists; it demonstrates an outstanding environmental variability and still now keeps an isolated character both geographically and culturally. All these factors made Sphakia an appealing ground for inter-disciplinary research of how man lived in the specific settings and how landscape has changed and why.

Field methods combined extensive judgmental and intensive stratified sampling, based on 8 environmental zones identified in the area, and which represent different potential for human exploitation. As the survey area was huge (470 sq. km), it was divided in 8 regions, each one consisting of more than one environmental zone. Different percentages (sampling fractions) were taken from each region at a range of 10-100%; the coastal areas were examined more intensively, since they offer better opportunities for human exploitation and have thus been the focus of cultural activity throughout history.
The methodological framework of research and fieldwork design was influenced by the Boeotia and Montarrenti Surveys (Bintliff and Snodgrass 1985; Barker and Symonds 1984). Survey sampling and recording changed through field seasons adjusting to the needs of the project. The first pilot survey involved line and contour transects recording all artefacts and vacuum circles every 100 paces (77m). Later, the area was walked through line transects at 10-15m interval spacing, which provided a precision of 13-20%. Teams were small consisting of 3-4 people. On site a special collection additional to the line transects took place, in order to enrich data. By ‘special collection’ the researchers mean a smaller sampling interval between vacuum circles (every 5-10m), sometimes additional diagonal transects from the notional site centre, and grab sampling from the quadrants formed. Dating was based on the coarse-ware chronology built by Moody for north-western Crete (Moody 1985). Interdisciplinary studies included Historical Ecology, Geomorphology and Social Anthropology.

Presentation / Relocatability
This project focuses on presenting its methodology and data through a series of publications including a web site, which contains a site catalogue, graphs, tables, and a big number of landscape and object photos. However, maps are rare. A ‘site’ is defined as the ‘area of significant human activity’ and thus we have a great variability of sites including ‘a set of ancient terraces or the area around a spring’. The use of detailed maps down to 1:5000 would support quite a high probability of site recovery, except for sites with no distinct material remains; In any case, site-maps are not published yet except for an example in the Anopolis plain, where we have a topographical map of 1:66666 with contours every 200 meters and a few dots representing site locations. The rough and wild landscape of most of the area would definitely be a problem in site relocation and thus although many sites are well-known already, many others could only be relocated upon small scale mapping and good presentation including modern features. A hand-held GPS is believed to have been used, and in this case both mapping and relocatability will be greatly enhanced. However, we need to await the project’s full publication.

Density per area / period

<table>
<thead>
<tr>
<th>area surveyed (km²)</th>
<th>Total site no</th>
<th>PH</th>
<th>GR</th>
<th>BVT</th>
<th>Modern</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>470</td>
<td>339</td>
<td>127</td>
<td>167</td>
<td>197</td>
<td>103</td>
<td>4</td>
</tr>
<tr>
<td>Or:</td>
<td></td>
<td>125</td>
<td>162</td>
<td>194</td>
<td>103</td>
<td>4</td>
</tr>
<tr>
<td>Densities per km²</td>
<td></td>
<td>0.721</td>
<td>0.270</td>
<td>0.355</td>
<td>0.419</td>
<td>0.219</td>
</tr>
<tr>
<td>(target population)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Densities per km²</td>
<td></td>
<td>23.5km²</td>
<td>14,425</td>
<td>5,404</td>
<td>7,106</td>
<td>8,382</td>
</tr>
<tr>
<td>(sampled population)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Site definition: any locality with significant human activity. Sites are found through normal fieldwalking but usually are revisited for further sampling. Scatter sizes are also stated in many cases, the term ‘scatter’ being a class among others in site descriptions (e.g. settlement, farmstead etc). A problem occurring when we want to compare site densities with those of other projects is that not everybody would give ‘site status’ to all Sphakia sites. In the Internet database for example, under the function class ‘beehives’ there is a GR ‘site’ where only 3 fragments of a GR beehive were found. In other occasions although the presence of a period’s pottery is stated, this period is not included in the site’s chronological characterisation, perhaps because pottery is not considered adequate. In the above table however, total site numbers include these few sites. It should also be
noted that in some cases a settlement consisting of several distinct areas of activity is not included in their
database as 1 site, but each distinguished area gets a site number (e.g. Phoinix-Loutro). Thus, although the sites
numbered in their catalogue amounts to 339, they state that they recovered about 312 sites (Nixon et al. 1999).
Differences in site definitions, demonstrate clearly the necessity of publishing site maps which distinguish
between different functions, dates, sizes and appearance as well as confidence on characterisations.

Interpretative Framework

Survey techniques allowed the study of site size, function and chronological variation, while the
combination of historical and anthropological evidence set a strong base for the interpretation of archaeological
data and offered a better understanding of the environment. The quantity and quality of data recorded within
the diachronic and multi-disciplinary scope of the project, allowed in the end interpretations relevant to the
questions set regarding landscape use and change over time.

Settlement patterns were based on pottery densities and spread, although mainly on architecture and
historical sources for BVT. The study of site size, character and number led to the identification of specific
patterns; for example in the BVT period the pattern is one of both ‘nucleated’ and ‘dispersed’ villages, while
the quantity of Venetian-Turkish sites is taken to indicate that the area was capable of supporting much larger
populations than it does now. The extensive presence of prehistoric pottery is seen as proof of the extensive use
of the landscape, while the presence of sherds in the Madhares, as either a route through the high mountains
or use of the area as summer pasturage like now. Archaeological data are in general treated with respect to
surface survey theoretical considerations regarding the recoverability and understanding of the surface record,
e.g. problems of visibility and pottery recognition for specific periods (LM III) are recognised as playing an
important role to the identification of sites.

Sphakia survey sheds light into issues such as itinerant sites (sites that move in space through time –
Bintliff and Snodgrass 1988b), connections with other areas (fabric analysis, obsidian), diachronic pastoralism,
variability of subsistence strategies and their impact with the environment. Hierarchy is among the favourite
themes explored, as in most projects of the same tradition, not only so as to understand social circumstances
per period, but also as a means of comparing settlement patterns diachronically (Nixon et al. 1999).

Regarding patterns of man-environment interrelationships, altitude is the main factor according to
which site location is categorised and characterises one of the many correlative models used in the project,
for example that LN / EM sites tend to be located at 600-800m altitude whereas coastal areas are preferred
in later prehistory. Patterns between settlement and environmental factors include landscape potential such
as proximity to sea and fertile land and are used to elucidate socio-economic circumstances. An explanatory
approach is generally pursued via the integration of a variety of data accumulated within the interdisciplinary
framework of the project and the consideration of site formation processes in trying to understand a site’s
history.

Summing up, the interpretative framework of Sphakia survey is based on the notion that human
activity in the landscape is only understood when studied diachronically, inter-disciplinarily and in relation to
the environment and its potential, making use of historical sources and ethnography to shed light even to little
known periods such as the BVT times. A strong cultural-ecological perspective is evident throughout research
and interpretation.

Influential References and Sources: Hood, Travellers, as well as Greek archaeologists who worked in
the area were used as information-historical sources and their interpretations were taken into account. Barker
in the methodology of the survey project.
Summary Assessment

**Strengths:** interdisciplinary and diachronic framework, detailed landscape history, synthetic interpretative approach, man-environment interactions, pottery fabrics.

**Weaknesses:** we need more information on sampling methods (e.g. sample size) and better presentation, but no full publication yet.

**Evaluation of data and Interpretation:** a large and diverse amount of data in combination with a strong theoretical framework, allowed interesting interpretations regarding cultural expression within a specific landscape; however, information is a bit general for the whole area. Diachronic comparisons of the variability in environmental and occupational history would be valuable. Environmental, site function and chronology maps will hopefully appear with the full publication.

**Knowledge acquired:** Environmental and cultural history.

**Integrability:** medium-high.

**Publication:** not completed, but many preliminary articles.

Sphakia survey is one of the most recent and complete landscape research projects. The results are relevant to the questions asked and the methodology chosen, and interpretations are based on a complex theoretical framework of man-environment interrelationships over time. The outcome is a history of cultural expression in the specific settings over specific time periods. The project’s strong ethnographical character promotes reflections on the mode of human living relative to environmental potential and constraints, but within different social settings in different periods. Interdisciplinarity promotes understanding of landscape ecology through time, and it includes environmental studies, geomorphology, IT, but also historical texts, which in combination with field survey helped shed light into the little known period of VT times.

Surface survey methodology takes into account recent theoretical questions on appropriate techniques, site formation processes and recoverability biases and tries to recover sites of a large range of functions throughout history. An interesting statement is that prehistoric pottery found in sites with long occupational phases in historical times is more significant than when found on its own, because the prevailing R / LR phases tend to obscure earlier settlement phases. The opposite view however, supports that many PH sites are only discovered at a secondary stage during site sampling and would not have been recovered if concentrations of the more distinguishable historical periods had not been noticed by fieldwalkers in the first place.

One of the most important declared aims is the comparison of Sphakia data and results with those of other survey projects, thus, researchers make an effort for consistency, which as stated allows comparability. Publication, in the spectrum of which IT has also been recruited, has received great attention and indeed, dissemination of theory and methods, and the ability to compare survey results are among the most important criteria for a project’s value. The project is one of the most well published at a preliminary level; however, there are still questions that can not be answered upon the currently published information. These concern sampling techniques in relation to the region’s size, the criteria upon which field-methods varied, and the decision process regarding classifications of function and chronology. For example, sometimes chronological periods appear in the text documentation of a site, but not in the summary description as if they don’t represent an important enough period, however there are cases where only 3 sherds assign a chronological and functional description. Survey publication should present clearly raw data and interpretations that are based on fully described analyses, a process which can greatly be enhanced by the application of IT.

**Landscape Approach:** Perception is based on what we see, which includes both environmental and human elements. Changes are studied within the man-environment interdependent relationship. Landscape use is explored from an economic point of view, namely its subsistence potential and ways of exploitation through time, but its symbolic character is also acknowledged occasionally, for example xoklisia are seen as marking important features of the landscape.
3.6.11 Survey ID: KAVOUSI

Problem Orientation: aims and methods
Kavousi-Thriphti survey was undertaken by D. Haggis in the process of his PhD research, between 1988 and 1990. The aim was ‘to provide a regional archaeological context for the LM IIIC / PG excavated sites of Vronda and Kastro by reconstructing the history of the region and its settlement patterns and by evaluating the archaeological evidence for the transition from the Bronze Age to the Early Iron Age’. Moreover, the study of the physical environment and topography aimed at providing a context for the study of the faunal remains from the excavations. A third focus of interest is claimed to be the study of the periods prior to and during the appearance of Minoan palaces and the Greek city states which represent crucial stages in the development of complex societies. Within the theoretical framework of Landscape Archaeology after the break of New Wave Surveys, much attention is given to the diversity of cultural responses to local topography and environment for which local micro-regional topographical and cultural studies are believed to be a prerequisite. The search of environmental and cultural criteria in order to test historical and archaeological models of human activity is characteristic of Landscape Tradition at the time. Local circumstances are also taken to elucidate island-wide effects of the palatial and polis systems in particular when inter-comparability of similar studies is established. The periods that received detailed archaeological study were from Neolithic to Roman whereas the post Roman periods were only partly recorded and not really studied.

Methodology took into account the environmental disparity of the regions studied. Field walking was based on the division of the landscape upon topographical units, within which landscape transects up to 500m long were defined. These were divided in 50m segments on which field-records were based. 1-3 fieldwalkers walked the area at a space interval varying from 5m on the mountains where they walked contour lines, to 25m in the plain where they walked transects. The sampled area which coincided with the target population of the modern district of Kavousi was thus a stratified sample based on topographical variability and fieldwalking methods were applied accordingly. Archaeological material was not allowed to be collected and thus off-site material was only recorded, in order to define loci of interest which were revisited at a secondary stage.

Site sampling consisted of two perpendicular transects extending from a notional centre which were divided in units 2m wide and 5m long. Sherd counts and collection was based on these transects but were also augmented by a ‘grab sample’ from the quadrants. The borders of the site were defined at cardinal points where less than 2 sherds were counted at two contiguous units and the borders between transects were explored for any irregularities. The purpose was to define the size and boundaries of the site, and the range of periods and functions represented by coarse and fine wares as well as architecture. The chronological range of a site was determined by the range of diagnostic fine wares and the relative proportion of the coarse fabric types and vessel shapes. Surface scatters recovered were at a size of 25-100m², whereas other major projects, which were more intensive (Mesara, Nemea, Kea, Boeotia and the southern Argolid) recovered surface scatters as small as 12m². However, installations (e.g. graves) down to 10-25m² were also found.

The methodology employed to answer the questions / aims of the project, was based on a multi-disciplinary approach, which involved aerial photography and mapping, environmental studies and fabrics analysis. Environmental studies included some geomorphological work to assess the effect of alluvial deposits in the plain which, however, did not appear to be important.

Presentation / Relocatability
Aerial photographs and Greek Army Maps were used at a scale of 1:5000, which certainly allows good mapping of landscape observations. However, the scales in which site maps are presented are 1:85,000-1:91,000 and as usual only in relation to contours. Presentation includes site maps per period, graphs, tables, architectural plans and object-drawings and photos. Maps also present site clusters discussed in the text, so in a way there is an attempt to present visually the interpretations suggested. Sketch maps show a close-up view of specific sites, with architecture and landscape features. Site records include text descriptions of...
locations. Landscape descriptions and distances from known points such as roads or other sites seem to aim at helping relocation, but also at providing a picture of the immediate surroundings and sometimes the spatial relationships among different sites. Without, however, more accurate visual representations and geographical information, relocation remains problematic.

Density per area / period

<table>
<thead>
<tr>
<th>area surveyed (km²)</th>
<th>Total site no</th>
<th>PH</th>
<th>GR</th>
<th>BVT</th>
<th>Modern</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>91</td>
<td>80</td>
<td>34</td>
<td>20</td>
<td>14</td>
<td>0</td>
</tr>
<tr>
<td>Or:</td>
<td></td>
<td>77</td>
<td>33</td>
<td>18</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Densities per km²</td>
<td></td>
<td>4,333</td>
<td>3,809</td>
<td>1,619</td>
<td>0,952</td>
<td>0,666</td>
</tr>
</tbody>
</table>

Site definition: ‘the identification of ‘farmhouse’ (<0.10 ha.) and ‘hamlet’ (0.10-0.60 ha) remains largely impressionistic. ‘Farmhouse’ sites have discernible architecture that suggests no more than three units; pottery consists of a presumably domestic assemblage of storage and cooking vessels and jugs, amphoras, and cups. Site-size definition is based on an estimate of the number of possible houses / households extrapolated from the agglomerate plans and spatial extent of EM II Myrtos-Phournou Koriphi, LM IIIC Vronda, and 20th century Trapeza (Avgo valley, Kavousi): Myrtos: 0.24 ha (5-6 households); Vronda: 0.60 ha (12-16 households); Trapeza: 0.375 ha (10-20 households)’. 

Locus: a locus was any area of any size that required further investigation after primary field walking. The criteria used were the anomalous increase in artefacts (or discreet deposit) noticed either while walking or after plotting the densities on a map. Thus, loci were usually high-density concentrations with detectable spatial limits. A locus could be secondarily defined as one or more sites or not be given a site status at all.

Note: Post Roman sites have not been recorded consistently and have not been studied.

Interpretative Framework

This survey was part of a much larger project (Kavousi project started in 1979) which aimed to study and publish known sites and artefacts from the early 20th century excavations in the area as well as continuing excavation work in important EIA sites. The work of all previous archaeologists has been used as information material and has also guided interpretations. The results of the survey are thus, viewed within a context of archaeological knowledge presented through a historical overview of the rich archaeological research undertaken in the area.

The characteristics explored and used in defining the settlement pattern over time were the number and size of sites as an expression of population density, their spatial linkages expressing a nucleated, clustered or dispersed habitation pattern and their location in relation to geography and subsistence potential. The relationship between the above is discussed as indicative of specific economic and social articulations of each epoch in a specific landscape. For example, the relatively low off-site density in comparison with the results of surveys such as Mesara, Nemea, Boeotia and Keos is taken as an indication of less dense exploitation and discontinuous habitation. Periods with less but larger sites are interpreted as exhibiting a different socio-economic organisation than periods with small, dispersed or clustered sites. In the same way, locational choice is considered in relation to proximity to arable land and water sources, but also to the sea, communication and trade routes, in order to study socio-economic behaviour.

Focus lies on a micro-regional level of local socio-economic organisation, but although there is a strong emphasis on regionalism and local distinctiveness, the Kavousi region is analysed in relation to socio-
political and economic circumstances in neighbouring areas and the rest of the island, based on available excavation and survey data. Divergence from general patterns is seen as local responses to island-wide phenomena such as the rise of ‘palaces’ and later the Greek polis. The study of local trajectories is believed to allow a more in-depth understanding of such island-wide structures.

Discussions of settlement patterns are of course always based upon the interpretation of material scatters. Site size is generally the basic criterion used for the characterisation of a site as a farmstead, hamlet or settlement. Thus, the MM I-II landscape is dotted with small sites (0.02 ha – 0.10 ha) which are interpreted as farmsteads or small hamlets as opposed to the EM I-II landscape, which exhibits fewer, nucleated and larger sites. Hierarchy, being one of the most fashionable issues explored via survey, is discussed not only through site size, but also through sites’ spatial structure (e.g. nucleated or clustered patterns) and building variations within a site. Thus, the appearance of megalithic farmsteads in the Protopalatial period, often in the centre of site clusters, which is attested throughout the island is interpreted as indicative of a social organisation at the time based on ‘family units’. The change from the dispersed MM II pattern to the more nucleated one of LM I, when towns are larger and large country houses are associated with agricultural organisation and economic routes, is interpreted as a shift from a household economy towards a town (and in Kavousi port) economy, related to economic structures connected with palace formation. Settlement patterns’ changes are thus, seen within a wider spatial framework than the region studied and a wider chronological context than an isolated period. Along the same lines the rise of the Greek city-states is explained as a result of a pre-existing complex social organisation with clan units developing strong identities in stable and discrete topographical entities.

Changes in the spatial arrangement of settlement patterns are interpreted as the result of changes in economic behaviour, which result to changes in socioeconomic structures. Thus, MM I-II and LM IIIC-Archaic site clustering shows dependence on agricultural sources. In Protopalatial times we have a dispersed pattern of farms and hamlets in clusters, but from LM IIIC we have nucleation in terms of larger site size, but in reality the pattern is similar to that of Protopalatial times and should be described as dispersed and in clusters. Both periods have sites in the same locations, show population rise, communal burials, and intra-regional distribution of pottery. Nucleation is taken as indicative of social structure in clan units, low population levels, need for good arable land and water, whereas dispersal shows population rise, family units, dependency on agricultural and pastoral land.

Overall, interpretative discussion develops around the burning issues of contemporary Minoan archaeology such as ‘state’, ‘territory’, spheres of influence, complexity, socioeconomic change. Cultural ecology perspectives have had a leading role in guiding interpretation; the resulting similarities between different periods, namely site clustering in MM I-II, LM IIIC-Archaic and Modern times are explained in terms of the local topographical exigencies. Divergence from this pattern however, notably in Neopalatial and recent times is explained in terms of island-wide economic and political systems.

**Influential References and Sources:** major survey projects in the Aegean, but also elsewhere, regarding theoretical and methodological framework, but also interpretations; General archaeological theory e.g. M.B. Schiffer (1987); Interpretative framework of contemporary Minoan Archaeology; Previous researchers e.g. Hood, Faure, Alexiou etc; J. Moody (1985) for the use of coarse wares in dating.
Summary Assessment

**Strengths:** explicitness in definitions such as site function interpretations; wide interpretative framework; social explanation over time, exploring in depth human-landscape interactions; inter-disciplinarity.

**Weaknesses:** no consistency in post-Roman data recording and presentation, not fully diachronic. Site function interpretations not always clear.

**Evaluation of data and Interpretation:** since off-site material was not collected and sites were not grid-sampled, important data and information might have been lost. However, the level of methodological and theoretical approaches is high, and even though data can not be assessed, interpretations are an important contribution to our approaching the past.

**Knowledge acquired:** socio-economic trajectories of the region of Kavousi from Prehistory up to Roman times, in particular regarding periods well attested in the surface record, namely Protopalatial, Neopalatial, Early Iron Age and Roman.

**Integrability:** high.

**Publication:** not completed (?), but many relevant publications and PhD thesis.

A strong theoretical framework supports both methodology and interpretation and explicit definitions and explanations clarify choices and results. The preference of an arbitrary boundary, as opposed to a hypothetical territory of a central place, is sustained with the discussion of the diversity of spatial structures in different periods and areas (Cherry 1983): ‘... the size and complexity of cultural systems tend to not remain the same over time’. Besides that, it is stressed that it is important to analyse numerous forms of societal organization, which may not be dependent on a hierarchical model. The methodology chosen as well as the interpretative analysis follow the questions declared to be of interest and which concern the periods of transition to palatial and EIA societies.

Fieldwork was designed in relation to questions set and the practical issues involved, like time and people available. A stratified sample upon topographical / environmental criteria and flexibility in field-methods seem to have allowed a satisfactory study of the region, while loci revisits allow a well-thought site definition and interpretation. The purpose of site sampling was to determine size, density and chronology. Recording only along two axes however, even though in combination with diagnostics’ grab sampling, is not precise enough to assess the density of different ceramics and therefore neither the relationship between fine and coarse wares. Nonetheless, a relative idea of the chronology via both fine and coarse ware studies has been achieved. Methodology stressed the importance of studying stratified deposits and the excavations carried out by the Kavousi project has allowed the study of local coarse wares, which is stated to have resulted in the implementation of an effective chronology for Bronze and Early Iron Ages. Indeed, coarse ware studies have been proved a powerful and essential tool in survey and are now applied in most regional survey projects.

One of the main strengths of this survey is that it is relatively well published and important definitions of site function interpretations as well as good documentation of field-methods and relative records demonstrate the weight given to explicitness and the willingness to communicate results and interpretations. However, the lack of publication standards has resulted in this case also, in the omission of important information and sometimes the ambiguity of interpretations. Many basic questions remain unanswered, for example we do not know site density variation per period or what portion of the area was actually walked since the fieldwalking interval was variable and some areas were excluded. Besides that, the fact that no off-site diagnostics were collected, even though it could not be avoided, means that we do not have a picture of off-site landscape activity over time. For the high level of this project, some assessment of precision and biases would be expected.

Interpretation, as always in landscape archaeological studies, is based on the identification of settlement patterns, which describe the structure of sites’ location, size and density in identifiable periods and are believed to express specific economic and social systems. Cultural reconstruction in Kavousi-Thriphti
survey is not restricted to the search of the origin or the diachronic discontinuity between apparent settlement patterns in distinct periods; special attention is paid to transitional periods and the question of how such patterns functioned. Kavousi survey focuses on socio-economic variability over time and the observation of the relationships between sites as well as sites and the landscape. Most interesting explanations constitute the models of ‘integration’ and ‘connectedness,’ which represent heterarchical and hierarchical patterns of cultural expression respectively; Haggis, (2002) defines integration as ‘the quantity of lines and points of horizontal interconnection, the density and diversity of lattices of intercommunication and interaction – social, religious and economic –across the landscape. It is the measurement of the diversity of links between sites, usually of equal rank, and between sites and the physical landscape itself’. Connectedness ‘presupposes singular, unilateral, hierarchical and intensive links to a limited number of selected sites, and extensive and often specialised agricultural and pastoral activities’. The change between periods observed in settlement patterns, and traditionally believed to be caused by changes in socio-political circumstances and invasions (e.g. LM IIIC), has in general attracted much interest in Minoan archaeology theoretical discussions.

Finally, local environmental factors are considered crucial in assessing hierarchy. Haggis does not try to identify an island-wide pattern, but recognises local trajectories and regional differences which, however, he sees in relation to what is happening in the rest of the island. It is supported that small-scale surveys help assess the effect of island wide political and economic changes by analysing regional responses through the study of settlement patterns changes. It is true that micro-regional studies allow greater detail in the understanding of social processes through the analysis of man-environment interrelationships and the development of site hierarchies and inter-site spatial structures. Thus, the region is not seen in a vacuum but in relation to a wider spatial and chronological context. Processes in the rest of the island and the Aegean in general are considered, and the profound social structures of palatial Crete and the Greek city-states are explained in relation to pre-existing socio-economic organization. It is evident that there is a strong interest in the circumstances that led to specific social structures which promotes explanation as opposed to plain description.

**Landscape approach:** landscape is the geographical, topographical and environmental context within which cultural behaviour is formulated. Its study in relation to human activity allows insights into past socio-economic structures.

### 3.6.12 Survey id: Malia

**Problem Orientation: aims and methods**

This is a project directed by the French S. Muller, and the aims declared consist of the discovery of all archaeological remains in the Malia plain and the construction of a map of occupation for all periods. More specific goals include: 1) the definition of the extents of the Minoan town around the palace, 2) the discovery of other habitation centres related to the palace but also pre- and post-palatial ones, 3) the location of the necropolises of the second palace, the harbour and the quarries, 4) the understanding of the water sources and their use from the palace, 5) the discovery of circulation routes and 6) the definition of the mode of occupation in Byzantine times. Some of these aims are stated to be the objective of other researchers involved with the site. The project is in fact part of the overall study of the palace and its spatial context, but within a landscape archaeology framework a diachronic perspective of the history of occupation in the area is pursued.

Survey methodology followed Bintliff and Snodgrass’s methods in Boeotia (1985), dividing the non-cultivated area into 50x50m grid squares, which were walked at intervals of 10m. The cultivated areas were walked as fields identified first in the aerial photographs, presumably also in 10m intervals. The objective was to record pottery densities and architectural remains in detail. The urban survey, which lasted for about 11 weeks over 3 seasons starting in 1989, was followed by a survey of the wider area of about 40km². Boundaries and units were defined upon geographical and topographical criteria. The aim was to locate secondary sites and every place of human activity in general. Time available was only 2 weeks for 10 walkers in 1995 and 3
weeks with 8 walkers in 1996, when they tried to obtain an idea of the whole plain and record the sites found and their location. Multi-disciplinarity involved aerial photographs, sedimentology, topographical mapping, architectural studies and IT. The survey has also a strong rescue character, as Malia is a very fast developing tourist location.

Presentation / Relocatability
The urban survey covered basically zone A, namely the area where the Minoan town around the palace is expected to lie. Maps used were at a scale of 1:1000. Density maps of the areas walked are presented at 1:17,391, while the overall survey boundary is shown on a topographic map of 1:94,340. Density maps are presented as separate sketch plans and they are not integrated in topographical maps. In the form of sketch maps we also have the areas surveyed per year and the location of architectural remains. Relocatability should be at a good level since topographical mapping was of primary importance, but at the moment we only have descriptive accounts of some of the sites. Most figures in the reports are object and landscape photographs.

Density per area / period

<table>
<thead>
<tr>
<th>area surveyed (km²)</th>
<th>Total site no</th>
<th>PH</th>
<th>GR</th>
<th>BVT</th>
<th>Modern</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>85</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Or:

Densities per km² (target population) 2,125

Site definition: no explicit site definition; we only know that the landscape survey around the site of Malia seeks to record every place of human activity. We do not have a site catalogue, but we are given the final number of sites recovered.

Interpretative Framework
The major problem of the urban survey was to define the extents of the town. In some cases, e.g. to the N and E of the palace it was difficult to conclude on whether buildings discovered belonged to the town or were isolated. Pottery concentrations, which as expected are higher around the palace, have in general been the principal evidence of new habitation quarters, but empty spaces may also be considered as habitation areas in the light of geomorphological changes. For example the area with very bad visibility NW of the palace which is empty of finds but connects the palace with traces of houses and a road, is thought to be a huge suburb. Both fieldwork and aerial photographs were used in order to trace features, whether house remains, terraces or routes, which are then interpreted regarding their relationship to the urban area. In other words, the location of architectural features and pottery concentrations form the evidence of the extents of the various habitation quarters of the town.

Intensive landscape survey in the plain but also extensive work in surrounding areas and neighbouring hills, show an effort to understand the site within its immediate spatial context and in particular, habitation in the plain of Malia. Most of the sites found in the landscape survey of the plain are habitation sites and interpretation focuses on describing their pattern. Three habitation zones are observed: by the coast, in the plain just under the 20m contours and at the foot of mount Selena, around 100-150m altitude. The identified pattern is said to allow an intuition for the existence of sites that have disappeared. The majority of the pottery belongs to LM III and LR, while presence from LM IIIB till LR was only sparse. MM II is represented in
almost all sites showing a dispersed pattern, while LM I is observed only in a few sites which are generally bigger, a sign of nucleation around big sites. This pattern is observed to be similar with the one reported in Mesara and contradictory to the one in Vrokastro.

In general, problem orientation focuses on the reconstruction of ancient topography and landuse. Terraces observed around the palace are thought to correspond to quarters of the Minoan town and Minoan routes are seen to divide currently cultivated fields according to the organisation of the territory in Minoan times. Routes are not explored systematically, but they were recorded, as their function is considered important for the understanding of the site and its relationship with space around.

Landscape observations and geomorphological considerations, in combination with information regarding traditional agricultural practices, were used to enlighten past landuse e.g. the utilisation of cisterns in terrace-agriculture nowadays is seen as evidence of a tradition lasting since the Minoan times and quarries were studied in a diachronic framework. Moreover, an independent palaeo-ecological study using evidence from hydrography and soil degradation aims at assessing the possibilities of autarchy in Minoan Malia. However, data synthesis is as yet rather descriptive; we are not given explanatory suggestions as to the relationship between spread of material culture and socio-political circumstances.

Influential sources: New-Wave surveys and their landscape approach, in particular the Boeotia project.

As always, all excavation work undertaken in the area.

Summary Assessment

**Strengths:** good site survey techniques.

**Weaknesses:** not published

**Evaluation of data and Interpretation:** methods are trustworthy, but as publication is not complete we can not assess gaps neither in methodology nor in interpretation.

**Knowledge acquired:** a picture of past remains in the area, especially regarding the structure of the Minoan town and the surrounding landscape.

**Integrability:** low

**Publication:** not completed.

Malia survey is published up to now in the form of reports in the BCH series. Publications consist mainly of descriptive accounts of what the research team did and what was found at certain locations. Survey techniques are modern and the landscape approach seems promising and enlightening, revealing ancient landscape organisation under current landscape observations. Intensive study has also led to the correction of previous hypotheses e.g. the line of walls on the coast is not part of a fortification, but belong to a series of buildings. Multidisciplinarity is expected to allow multivariate analyses and lead to instructive conclusions regarding the history of landscape development in the area. Moreover, the rescue character of the project gives it an additional value, as it undertakes an active role in the sad and complex issue of the fast and irreversible destruction of ancient landscapes.

However, with the present state of publication, project understanding remains low. We acquire an idea of human activity in the area in particular regarding the Minoan times, but this is not viewed in a socio-political and economic context. As we do not have density maps of the whole area and there are no results as yet regarding functional and chronological variability, it is difficult to understand the spatial structure of the town, and the lack of a site catalogue of the landscape survey does not allow us understanding of the surrounding area over time either. Hopefully the historical development of the Malia site and plain will be clear in the future.

**Landscape Approach:** landscape is approached as the spatial context of human activity, but also as the physical environment which people use and subscribe social action (use and organisation of space).
3.6.13 Survey id: Aghios Vasilios Valley

Problem Orientation: aims and methods

This project headed by J. Moody, A. Peatfield, and S. Markoulaki took place in 1991 and was designed to explore the relationship between the PH settlement pattern and the peak sanctuary of Atsipadhes, so as to test A. Peatfield’s hypothesis (1983) regarding PK function in Minoan Society. According to this the role of most Peak Sanctuaries changed in the Protopalatial period, from being local sacred places to most of them going out of use in the Neopalatial except for those that were linked to administrative centres. Excavation at the peak sanctuary of Atsipadhes was thus complemented by landscape research of the wider area (10 km² around it) including intensive surface collection. Although this was a surface survey around a site of interest and the main focus lied in the Minoan period, data collection included all periods up to now.

The field methods used were similar to those adopted in Chania-Akroteri, Sphakia and Vrokastro survey projects because the same person was either the main field director or co-director in all of them (Jennifer Moody). More specifically, the landscape was divided in km², then in quadrants of 500mx500m and each quadrant in 50x50m units. The 10 km² walked were divided into 50m-wide landscape transects and every other transect was walked by 3 fieldwalkers at a space interval of 16m, making the sample size 50% of the target population. Diagnostics were collected throughout the transect lines and detailed environmental and archaeological records were made every 50m, where 1m-radius vacuum circles were performed. Detailed recording and mapping in map units, as well as keeping pace numbers, aimed at locational accuracy, which is indeed necessary when revisits are to take place. Revisits were actually an important part of the project, especially regarding Bronze Age material due to its rarity; places where even 1 Minoan sherd was found were revisited for a second more thorough inspection. A place of interest was often designated as site only after a revisit. Sites were sampled at this secondary stage of exploration.

Presentation / Relocatability

The maps used were the British Army maps of WW II at a scale of 1:50.000 and a relevant grid was laid across the valley, shown in a figure that presents the sampling strategy. Presentation of the methodology is supplemented by an example of field forms. Another figure presents a sketch of the stratigraphy of the main site of Hagios Georgios. The survey boundary and some of the sites (possible Bronze Age scatters and revisited scatters) are presented in 2 contour maps of 1:50.000, but for the moment not even a site catalogue is published and presentation is in fact poor. Presumably locational information including map co-ordinates will be included in future publications, but the usual problem of relocating small sites especially if not related to modern land features will probably remain. Overall, presentation up to now focuses on methodology and a general 2 dimensional view of sites in relation to contours.

Density per area / period

<table>
<thead>
<tr>
<th>area surveyed (km²)</th>
<th>Total site no</th>
<th>PH</th>
<th>GR</th>
<th>BVT</th>
<th>Modern</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>380+</td>
<td>88</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Or:

Densities per km² (target population) 19 4,4

Densities per km² (sampled population) 12 31,666 7,333
Site definition: Presumably the same as in Sphakia and Vrokastro, where site was any locality with significant human activity. Bronze Age scatters could be of much lower densities comparatively to other periods, because of scarcity of material. Judging by the fact that a similar methodology as the above mentioned projects was followed, the precision used seems adequate to recover sites of down to 0.02 hectares at a good accuracy.

Interpretative Framework
The theoretical framework of the project reflects the 90’s in landscape archaeology, when questions developed around issues of socio-political life and human ecology, exploring hierarchy, nucleation and dispersal of settlements over time, as well as the relationships between human activity and environment in a diachronic perspective. Surface record biases were taken into account and the environmental record was studied in detail so as to understand both the geomorphological history and its impact to site recoverability, as well as man-environment interrelationships in the valley. Interpretation took into account previous archaeological work in the area and operated within a framework of data comparison with other landscape research projects. Thus, the Neopalatial dispersed settlement pattern, which contradicts evidence from other surveys (Kavousi, Vrokastro etc), was linked to the MM II abandonment of Monasteraki and Apodoulou. The chronology of the Peak Sanctuary was in agreement with survey data and A. Peatfield’s model of peak sanctuaries, suggesting that only those related to major centres survived in the Neo-palatial period, was supported by survey results. Indeed, in the case of Atsipadhes the Peak Sanctuary was abandoned and no nucleation around a major centre was attested.

Spatial patterning is explored in relation to subsistence potential and as an indicator of socio-political situations, an approach that in landscape archaeology has become a consistent component of methodology and interpretative framework since the impact of New Archaeology. However, the fact that only preliminary and brief reports have actually been published does not allow us an in-depth understanding of the project.

Influential References and Sources: The Province of Hagios Vasilios had been previously explored by Hood and Warren (1966) and their report was used as a source of information. Regarding methodology, it lays within the development of the New-Wave surface surveys. Interpretative framework is typical of Minoan landscape archaeology since the 90’s, concerned with changes in settlement patterns, nucleation, dispersal and hierarchy, in an effort to understand the socio-political and economic characteristics of a complex society.

Summary Assessment
Strengths: the project operates within the methodological and interpretative framework of the Landscape Tradition; it is concerned with surface record recoverability, environmental history of the area, detailed recording and published methodology.
Weaknesses: very fragmentary publication up to now; no data can be used.
Evaluation of data and Interpretation: Interpretation as yet kept to a minimum. It develops around issues of population fluctuations and settlement patterns (nucleated versus dispersed). Data are not published and therefore can not be assessed.
Knowledge acquired: Basics of environmental and human activity history through time.
Integrability: estimated high, but no full publication as yet.
Publication: not completed

Current publications give us a summary of the environmental history of the area, an account of the methods used, and a summary of their interpretations regarding settlement patterns. It is one of the most recent and detailed surface survey projects, which adopted clear and well tested field techniques, although site sampling on the basis of 2 perpendicular axes does not give adequate information so as to quantify pottery variability and estimate site extents in different periods. It is certainly an asset that the field director pursued comparability with other surface survey projects and although this was expected since she was involved in
all of them, it is important that the point of comparability is stressed. The environmental study undertaken includes more than just a background of vegetation and land potential, and is used to understand surface biases. Explanatory models are sought in relation to site recovery and in this framework it is concluded that the settlement pattern must have been affected by 3 flush-flood episodes as opposed to consistent erosion. However, the interrelationships with human activity are not really understood.

The main problem with this survey is inadequate publication up to the present, fact that prohibits understanding and assessment. Moreover, we have no information whatsoever about historical periods. Nevertheless, it appears to be well-thought with specific questions and methods able to answer these questions. Results are expected to be of a high degree of confidence.

Landscape approach: environmental history and topography so that we understand better human activity in the area. As yet we don’t have an explanatory framework discussing economic and socio-political issues over time.

3.6.14 Survey ID: Gournia

Problem Orientation: aims and methods
Gournia survey, undertaken by V. Watrous, K. Davaras, and H. Blitzer, aimed to document the natural environment and history of settlement around the Minoan town of Gournia prior to the reopening of the excavations, and it was one of several survey and re-excavation projects in eastern Crete, as a result of the Greek Ministry’s encouragement to foreign schools in the early 80’s to refocus on their old excavations. Questions formulated along themes of environment and subsistence, population and settlements, economic relations and the town’s role in the political organization of the region.

The area surveyed was about 24km² and fieldwork lasted for 3 seasons (1994-96). Fieldwalking was performed in 100m transects at a space interval of 10m and all sherds seen were collected. Research methodology involved geomorphology and ethnography as principal tools; the first so as to study changes in the physical landscape and in particular the coastline and drainage systems. Ethnography in turn, explored issues of local land use, agriculture, traditional industries and water management.

Presentation / Relocatability
The current publications focus on the presentation of site maps at 1:17,241, 1:57,142 and 1:86,956. An interesting map shows the spread of pottery through symbols representing type and quantity of sherds. Presentation is expected to be along the same lines as most intensive survey projects.

<table>
<thead>
<tr>
<th>Density per area / period</th>
<th>area surveyed (km²)</th>
<th>Total site no</th>
<th>PH</th>
<th>GR</th>
<th>BVT</th>
<th>Modern</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>24</td>
<td>156 (new sites)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Or:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Densities per km² (target population)</td>
<td></td>
<td>6,5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Densities per km² (sampled population)</td>
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</tbody>
</table>

Site definition: no site definition. Presumably peaks of artefact densities, since off-site pottery is counted.
Interpretative Framework
Gournia survey is a typical project of the Landscape Tradition, focusing on themes of regional social complexity and using multidisciplinarity as an important guide in the interpretative process of the data collected. Environmental studies provide the necessary information to approach issues of subsistence and the role of environment in socio-economic structures. For example, the fact that the Gournia River was probably perennial in antiquity is seen as a possible explanation for the location of Gournia, whose settlers seem to have preferred easy access to water than a more strategic location at the mouth of the isthmus. Geology was used to understand landuse and issues of agriculture; moreover, the fact that the region of Gournia has a unique outcropping of grano-diorite, which has been used in pottery and can be easily traced, was used as a tool to trace ceramics’ movement, elucidating issues of trade and ceramics production. Ethnography on the other hand, has also played a leading role to interpretation. The ethnographic record is stated to form the best background to understanding regional data. Blitzer’s work showed that people before the 1920 did not cultivate the valley floor, because water was only seasonal and the soil did not respond well to dry farming. An interesting short discussion on the use of terraces, opposes Moody and Rackham’s view on terraces, who explain their construction in relation to specific crops and as a means to avoid erosion. Instead, it is supported that people’s stories do not link terrace morphology to specific crops, but to time and energy available in connection with the need to increase yields. However, their ‘social’ need to increase cultivable land does not contradict the ‘ecological’ concern of preventing erosion; the two are interlinked.

Preliminary results published up to now offer a brief description of the settlement history over time according to the main aims of the project and indeed all regional surveys. The basic themes explored concern numbers of settlements per period translated into settlement expansion / reduction, which in turn corresponds to population increase / decrease and economic life; e.g. a dispersed pattern usually represents family farmsteds and agrarian economy (EM II, MM IA-MM II), while the slight decrease of settlement in MM III – LM I is explained as the result of the eruption of Thera and nucleation in Gournia. Increase in the size of settlements (e.g. Gournia in MM IB-II), in combination with imported goods and burial display is explained as evidence of the rise of an elite. Moreover, correlations between settlements and environmental factors such as soil are used as indication of subsistence economy, e.g. dry farming versus well-watered grazing land. Geographical location is also linked to economic and social conditions, e.g. coastal settlements in connection with imports are evidence of commercial industries, while habitation of remote hills (EM IIB – MM IA) shows a need for defence. The description of settlement patterns over time refers to a sharp population drop in LM IIIA – B and hilltop sites of LM IIC, the largest of which in Profitis Elias developed to the city-state of Larisa. The lack of settlement in the Hellenistic period is related to the historical sources referring to continuous warfare in the area at the time, while the Roman period sees an expansion of settlement, which lasted until the 9th A.D. Settlement reduction is evidenced again in the middle Byzantine period, and from Venetian times it picks up again.

Overall, there is a clear link between data (pottery and environmental) and explanation: site ceramic assemblages are seen as a direct reflection of subsistence strategies, and regarding the LM I period they highlight the use of dry farming and dependence on a mixture of cereals, vines, legumes, livestock and kitchen gardens. The lack of off-site pottery – which is a sign of agricultural activity– on the valley floor, is explained as a result of the dry soil, which is unsuitable for dry farming. Off-site pottery is studied and interpreted as an indication of manuring following the framework of several other survey projects, and a practice supported by the ethnographical record as well.

Influential Sources: survey projects worldwide; the history of Minoan archaeological research. Bintliff and Snodgrass (1988a) on off-site pottery distributions.
Summary Assessment

**Strengths:** multidisciplinarity and interesting interpretative framework.

**Weaknesses:** not fully published

**Evaluation of data and Interpretation:** data can not be assessed with the current publications, but a multi-disciplinary methodology and explanatory framework promise interesting interpretative suggestions.

**Knowledge acquired:** an illuminating picture of settlement patterns and population increase / decrease over time; explanatory suggestions regarding subsistence; socio-economic insights.

**Integrability:** low

**Publication:** not completed

This project belongs to the Landscape Tradition and in particular the so-called New-Wave surveys and could be described as an offspring of new Archaeology developments, demonstrating a strong relationship between the data observed and the interpretative schemes proposed focusing on economy, subsistence and social hierarchy. Multi-disciplinarity is a strong methodological and interpretative tool and analogy both in space and time plays an important role in interpretation. Results were seen in relation to data and interpretations from neighbouring regional surveys, and even preliminary publications enhance our understanding of Minoan society in the area. The underlying conceptual framework is influenced by cultural evolutionary concepts of state formation; it studies the rise of a palace society and links population fluctuations with economic practices and the rise of social hierarchies. Interpretative suggestions within this framework are very interesting; however, they may at times be debatable. For example the nucleation at the site of Gournia in MM III – LM I is commended upon ‘as a sign that Gournia had established a system of local tribute which required a more nucleated population, farming relatively larger areas’. Nonetheless, it is not necessary that there is a direct relationship between urbanism and larger schemes of agricultural exploitation under the power of elite. Urbanism and economic development can also be related to horizontal social relationships where a larger amount of the population profits from trade or exploits his land from the city. In an effort to reconstruct social hierarchy, Gournia is proposed to be a second order administrative centre controlling its immediate region, but functioning under the influence of a larger centre, which may have been situated at Ierapetra (where no palatial centre is as yet identified), Malia or even Knossos.

Survey methodology is not explained adequately, it seems however that it follows basic standards of the New-Wave surveys, involving off-site collections and site-sampling, which equals to a large body of regional and site information valuable for the reconstruction of the history of the area. Surface record biases seem to have been taken into account. It was a full-coverage survey, where all the sherds seen were collected, and it is astonishing that virtually all of them were dated, as it is suggested. No site catalogue is of course published except for a few sites at the journal of Archaiologikon Deltion and in general publication is as yet at a very preliminary stage. Therefore, results can not be assessed and integrated in inter-regional analyses.

**Landscape Approach:** the landscape is approached as an environmentally determined spatial context of human activity, where social evolution is based on interactions between people and environment.

3.6.15 **Survey id: Gavdos**

Problem Orientation: aims and methods

Gavdos survey directed by K. Kopaka, started in 1992 and falls within the general theoretical and methodological framework of intensive surface survey and modern landscape research. The researchers are interested in the development, extent and density of human settlement in an insular landscape over time and seek to approach patterns of settlement, landuse, communication routes, environmental and man-made disturbances and changes. The ultimate aim is claimed to be the construction of an as complete as possible picture of the history of space in which various human communities have lived over time.
In such a task, clear theoretical planning and inter-disciplinarity are stated to be a prerequisite. Thus, environmental and social sciences have been employed in a continuous interplay, structuring methodology upon an interdisciplinary framework of studying the history of Gavdos culture and landscape. In particular, geomorphology, hydrology, historical ecology, social anthropology, ethnography, history and archaeology have guided research at various levels of intensity. Walking has been extensive and intensive, extensive being used in order to define areas of archaeological interest that should receive intensive research and for areas that can not be intensively covered.

Presentation / Relocatability
A map of 1:666,666 shows the location of the island of Gavdos, in relation to the other islands around Crete and Crete itself, in a framework of island archaeology. No site maps published as yet, but it is stated that topographical maps of 1:5000 were used. The only map presented is based on the 1:50000 topographical maps from (GYS). Presentation includes object drawings and photos, in particular photos of architecture, but also of an everyday life theme, namely the arrival at the small harbour. This relates to the importance given in ethnography and the character of a small remote island.

Density per area / period
No site catalogue published as yet. However, it is stated that up to 1996, 80 sites were found. Site definition: an archaeological unit, either isolated (tomb, kiln etc) or more complex (farm, cemetery, settlement etc). The identification and the boundaries of a site are decided upon the quantitative and qualitative character of the finds in relation to the wider shaping of the landscape. The site catalogue includes all monuments recovered till the end of the 19th century, whereas monuments of the 20th century are recorded but not included in the catalogue.

Interpretative Framework
The project is presented in a close relationship with older landscape research traditions, such as Travellers, antiquarians and other archaeologists, in that they all share a common problem orientation of identifying and recording natural and man-made landscape monuments. Human Geography and historical topography are claimed to have always been the principle goals of cultural landscape exploration and we note a reflective approach on the historical background of landscape research with insights into theory and methodology. Encompassing traits of Human Geography, Culture-History archaeology and a traveller’s look, its most important characteristic that shapes its whole conceptual framework is its emphasis on multi-disciplinarity. To introduce the reader to the spatial entity of the island, they give us a geographical description with co-ordinates and distances from surrounding places. Toponyms are studied consistently and photos aim at initiating us to the general landscape of the island.

Aims and interpretation develop around the identification of settlement patterns in terms of site density and locational preferences over time. Preliminary results show that the island had been inhabited since the Final Neolithic, putting Gavdos among the islands fist settled. Human activity seemed more intense during the EBA, MBA, Hellenistic, Roman and Late Roman / Early Byzantine periods, a pattern also observed in Crete and elsewhere. Habitation during these periods seemed dense and exploitation was rather intensive in both the coast and the hinterland. It is stated that the study of finds and the synthetic mapping of zones of archaeological interest will be used to reveal the chronology, organisation and function of settlements over different periods of occupation, the general networks of settlement and economic activity and the diachronic relationship between Gavdos, Crete and other areas of the Aegean and the Mediterranean.

This project is a typical product of the last decade of landscape research tradition, focusing on questions of landscape history and ecology and using archaeology as its major tool, but only one among others. The questions set do not seek to produce site maps per period, but to understand and reveal the dynamics of
a particular landscape (that of an island) over time. Furthermore, this idiosyncratic landscape is considered in relation to other islands within a framework of intensified archaeological interest towards island cultures.

Influential References / sources: theoretical and methodological framework of systematic intensive surveys.

Summary Assessment

Strengths: clear aims and theoretical framework as well as an inter-disciplinary framework of research.
Weaknesses: not adequate preliminary publication.
Evaluation of data and Interpretation: not much data available as yet.
Knowledge acquired: a general idea about the cultural history of the island, its landscape and the history of research. The particularity of such an insular landscape is emphasised.
Integrability: low.
Publication: not completed.

Unfortunately publication of this project is very limited, therefore almost nothing can be said on the results acquired, both data and interpretations. Although there seems to be a clear problem orientation and the application of recent theoretical and methodological tools allows us to expect interesting answers to the questions set, in reality, neither methodology nor results can be assessed. Information given is rather general and we lack even basic information. Site definition and designation of boundaries are not as clear and explicit as it would be desired and the use and results of interdisciplinarity for the understanding of historical landscape ecology not really lucid. Naturally, the on-going teaching component of the project probably dictates a high degree of variability in field-methods and in fact fieldwork still takes place. It remains to be clear how methods relate to results and how the teaching character of the project is incorporated with its research framework.

On the other hand, the diachronic landscape reconstruction pursued and the studies of man-environment interrelationships, which elucidate the idiosyncratic character of the societies evolving in an insular island landscape, delineate a significant research goal. Archaeological research within the Landscape Tradition goes beyond correlative relationships and the interest in site location, to seeking understanding of historical landscape ecology. The fact that Gavdos is a small island enforces and facilitates such an approach. Co-operation with other disciplines seems to exceed multi-disciplinarity and reach an inter-disciplinary level, which is in fact essential if the goals are so complex and aim this high. Natural and social sciences need to work hand-in-hand so as to approach understanding of the particularity of such an island landscape in its totality.

Landscape Approach: landscape is seen as an entity that forms the playground of natural and cultural interplay.

3.6.16 Survey ID: Praisos

Problem Orientation: aims and methods
The aim of this landscape project, directed by J. Whitley, was ‘to provide a history of settlement in the immediate area of the city of Praisos and thus to place this ancient city into some kind of local context’. The chronological periods that receive most attention in the preliminary publications are from LM IIIB through the end of the Archaic. Even though Praisos was the core of research, being a major city-state until its destruction by Hierapytna in 143 B.C., there is a great focus on the transition from Bronze to Iron Age, with Kypia as the major LM IIIC site.

Field study consisted of topographic work, a regional intensive survey following the Keos Survey example and an urban survey following the Phlius Survey example. Small teams of 2-5 walkers walked field tracts at an interval of 15m (12-15 fieldwalkers altogether) recording diagnostics, visibility, vegetation and
landuse. Locations of catalogued activity consisted of sites and features, the latter not necessarily providing a higher pottery density comparing to surrounding areas, but considered important enough to be recorded (e.g. terrace walls and roads).

On-site sampling involved four transects/axes extended at right angles from the notional centre of the site, along which samples were taken in the form of 1-m vacuum-circles at 5m intervals. In between them transects were walked as during off-site, and diagnostic material was collected. Additional grab sampling in the quadrants allowed supplementary information especially in dating. Survey took place over 1993-94 & 1998 while in 1992 & 1994 a topographical survey was also completed.

Presentation / Relocatability
Maps published in the main preliminary report (James Whitley et al. 1999) are of a pretty good scale of 1:25,000. They show the survey boundary and a general view of sites in relation to contours, streams, some cliff faces and one road, but the area is remote and the lack of modern features hinders relocation. Coordinates are available on the maps presenting the survey boundary and the sites, site symbols however cover too big an area and the scale used seems to aim at a general picture of sites in space rather than relocatability, which seems to be a general characteristic of projects belonging to this tradition. Moreover, site location and numbers do not always agree between maps. On the other hand, some sites are presented through detailed topographic plans that relate topography with material culture, and operate as ‘close-ups’ of these relationships. Architectural plans and object drawings are also included, and one example of walked field tracts portrays the field sampling methodology. Finally, an aerial photo taken in 1943 by RAF, allows a pragmatic visualisation of the Praisos landscape. Overall, focus lies on the topographical characteristics of sites, evident as much in plans and maps as in the text descriptions of the site catalogue.

### Density per area/period

<table>
<thead>
<tr>
<th>area surveyed (km²)</th>
<th>Total site no</th>
<th>PH</th>
<th>GR</th>
<th>BVT</th>
<th>Modern</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>83</td>
<td>28</td>
<td>39</td>
<td>14</td>
<td>19</td>
<td>28</td>
</tr>
<tr>
<td>Or:</td>
<td>23</td>
<td>29</td>
<td>12</td>
<td>18</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>Densities per km² (target population)</td>
<td>9,222</td>
<td>3,111</td>
<td>4,333</td>
<td>1,555</td>
<td>2,111</td>
<td>3,111</td>
</tr>
<tr>
<td>Densities per km² (sampled population)</td>
<td>5</td>
<td>16,6</td>
<td>5,6</td>
<td>7,8</td>
<td>2,8</td>
<td>3,8</td>
</tr>
</tbody>
</table>

**Site definition:** a site is defined as a locality, which was the focus of major human activity, i.e. settlement, cult or burial, usually demonstrating architecture and a high pottery density. However, landscape features such as terraces, roads, springs and wells are also recorded and catalogued, given a ‘no site number’ characterisation.

**Interpretative Framework**

As most landscape projects, Praisos survey also looked to identify locations of defined human activity, observe their characteristics such as pottery density, function and location and try to explain their variation over time. Interpretation regarding what is a site partly occurred already at the time of fieldwalking. Observations and interpretation of site density and location explored issues of subsistence, defence, urbanisation, and territoriality. More specifically, habitation in the area is noted from Neolithic until modern times at different densities per period and variation is explained in terms of centralisation, nucleation, and rural expansion.
pattern of location observed for FN/EM times favours the idea that people seemed to have preferred naturally
defensive localities even at the cost of lack of environmental protection, phenomenon which implies social
troubles. In Protopalatial times though, the locational pattern seems to have been guided by subsistence
factors. Not all patterns could of course be explained and in some cases comparisons with results from other
surveys are used in order to suggest analogous interpretations (e.g. the fact that only little Neopalatial evidence
was noted is related to the similar situation in the Kavousi area where the pattern is explained as a sign of
urbanisation). In other instances, comparisons with data from other surveys emphasise the differences of
patterns, e.g. LM III in eastern Crete is a time of abandonment of coastal towns whereas in the Praisos area a
settlement expansion is noted (the two phenomena seem to be interrelated, since Praisos is in the hinterland).
Interpretations, however, are not always explanatory suggestions but often just statements of patterns observed.

A self-critical approach is an important characteristic of the theoretical and interpretative framework
of the project. The objectivity of results is questioned, stressing problems of recoverability and the ability
to date sites within a fine chronological framework. Modern landscape destruction is emphasised as
responsible for the constant change of the surface record, diminishing our potential to recover past landscapes.
Archaeological problems such as our deficiencies in dating pottery, in particular regarding the Greco-Roman
times, are also stated. Moreover, features like megalithic walls that were in use for long periods of time, are
recognised as hard to date and excavation is proposed as a solution.

Influential references and sources: Keos and Philus surveys served as the main influential examples
regarding off-site and on-site field methodology respectively. Previous archaeological investigations and
excavations in the area were of course also used, mainly as information sources. Interpretation takes into
account other landscape work in Crete.

Summary Assessment

**Strengths:** More light into the little known period of LM IIIC and the beginnings of the Greek cities. A
critical approach was adopted. Good scale topographical maps of some sites.

**Weaknesses:** Criteria for site definition are not clear. Examination of patterns regarding site densities
and location, but also data comparison with other areas are not consistent. Patterns are not always
explained and observations are not always consistent e.g. land potential for all periods.

**Evaluation of data and Interpretation:** multi-disciplinarity and cautiousness in interpretation suggest
quite a high confidence on site patterns. However, landscape features recorded are not sufficiently and
clearly integrated in interpretation.

**Knowledge acquired:** an idea of site density in the area through time and relevant possible
explanations. Characteristics of the SM / G period.

**Integrability:** medium-high

**Publication:** not completed.

This is one of the latest surveys in Crete and field methods were intensive and comparative to other big survey
projects. However, as in all other survey projects we lack detailed information regarding sampling and there
are also problems regarding site definition. The relationship between data observed and interpretations is rather
ambiguous. For example while they differentiate between ‘sites’ and ‘landscape features’, criteria used do not
seem to have the desired consistency, as sometimes the same description fits both their ‘sites’ and ‘landscape
features’. It is not clear why definite sites are not included in the ‘site record’ as for example a tholos tomb
probably of LM III-G or churches probably of Venetian date. A ‘probable’ tomb on the other hand of unknown
date (site 54) is called a site. Also, landscape features, some of which would be called sites in other surveys,
are sometimes assigned separate descriptions (with the prefix ‘no site number) and in other occasions they are
included as additive information in site descriptions. Common among them are megalithic walls and terraces,
which as they provide important information regarding landscape use, we should be able to include them in
our analyses, if not always with known date and function, at least taking into account their characteristics and spatial distribution. As it is, we lack ability to study them comparatively with the sites and among themselves. Visualisation is also rather weak for the moment, as sites are only seen as dots in relation to contours and also, not all of the sites discussed are noted on the map. Function and chronological variability are not presented and environmental studies are not clearly combined with survey data, and certainly not in a diachronic framework, even though this is a common weakness among surveys. Furthermore, as most sites are not assigned a specific function, it is not very clear on what data the proposed narrative of settlement patterns is based.

In any case, the project provides us with a good picture of site density in the area, and focusing on the refuge site of Kypia and the Greek city of Praisos it sheds light to these little known eras in Crete. Very important is also the critique offered regarding recoverability and fine dating, emphasising the need for a national sites and monuments record, which would indeed give greater potential to survey data.

**Landscape approach:** Landscape seems to be perceived as both the physical and artificial environment of the area. There is a focus on topography and landscape features such as natural routes and terraces, but environmental studies for the moment serve more as background information rather than as part of a real man-environment interpretative framework.

### 3.6.17 Survey ids: Katelionas and Lamnoni (Ziros Survey)

**Problem Orientation: aims and methods**

This project, headed by K. Branigan, was an intensive survey in the two upland areas of Lamnoni and Katelionas in the area of Ziros, eastern Crete. The main aim was to explore the ‘history and nature of human occupation and exploitation’ up to the Arab conquest (9th century A.D.) and complement other survey work undertaken in eastern Crete (Praisos, Minoan Roads, Nowicki and Schlager). A secondary and more specific objective was to study ‘the changing patterns of orientation in the upland communities through their acquisition of pottery supplies’, in other words to identify different sites over time that exercised an economic and maybe political control over Ziros. These, would be major centres such as Zakros, Xerokampos and Gournia for the Minoan period, or Ierapetra, Praisos and Itanos for the Greco-Roman period.

The first objective was approached by field-walking the two areas in 100m grid squares at 10m intervals, each walker collecting all material found in a 2-meter wide swath, acquiring, thus, a 20% sample of each square. Fieldwork took place over 1 month in 1994 involving 10 fieldwalkers; the choice of the grid squares, although not explicitly explained, seems to have been based upon preliminary extensive field-walking that aimed at locating areas more likely to have sites and avoiding inaccessible ones. At Katelionas they covered 14.2 km² and at Lamnoni 6.4 km².

The second objective required petrographic analysis, which has not been completed or even partly published as yet. Environmental studies, although planned, were not completed due to time restrictions and we are given a basic environmental background (mainly geomorphological and geological) in which to view the results. As in the vast majority of archaeological landscape projects the discovery of sites was the main goal and architecture was the major factor in identifying them, but pottery densities were studied, allowing a more detailed understanding of the surface record and revealing activity areas and sites of the lower scale of hierarchy.

Sites that had been noted before off-site field-walking, were field-walked at a later stage (although there was not time for all of them), in either of the following methods: using a 5m grid, sampling at 2m intervals along two transects at right angles, or a second set of 10m transects at right angle with the original ones (40% sample). The criteria upon which site sampling is decided are not stated, but presumably it depended on site size and interest, for example a prehistoric site of manageable size was probably sampled through a 5m grid.
Presentation / Relocatability

The topographical maps published by this project are at scales from about 1:1666 to 1:14,285 and present the location of grid squares with their relevant pottery densities in relation to contours, but also sites-dots (the interpretation of tract densities) classified into basic functions. As a typical project of the Landscape Tradition much importance is given to the presentation of the data and this includes maps of sampling strategy, basic topography and examples of soil stratigraphy, but also tables and of course object-drawings. Density maps are certainly a very good means of presenting the spread of material culture on the surface and there is an explicit effort to explain and display interpretations. Landscape photos add a realistic representation of the sites discussed and contribute to relocatability. Relocatability would profit from the very good scale of the maps in conjunction with the additional help of descriptive details, however, the fact that there are no topographical features such as roads or known locations, is a factor of great difficulty. Besides that, the grid squares were laid out 100x100m in the landscape, but presented also as perfect squares in a plan view on the map, which does not take into account slope and topography and thus the squares cannot be related to the contours with accuracy. Moreover, site-sampling often involved total clearance of the site material. Sites with no architecture would most probably allow little chances to be relocated.

Density per area/period

<table>
<thead>
<tr>
<th></th>
<th>area surveyed (km²)</th>
<th>Total site no</th>
<th>PH</th>
<th>GR</th>
<th>BVT</th>
<th>Modern</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lamnoni</td>
<td>0.65</td>
<td>11</td>
<td>10</td>
<td>4</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Densities per km²</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(target and sampled)</td>
<td></td>
<td>16,923</td>
<td>15,384</td>
<td>6,153</td>
<td>1,538</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Katelionas</td>
<td>1.42</td>
<td>15</td>
<td>10</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Densities per km²</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(target and sampled)</td>
<td></td>
<td>10,563</td>
<td>7,042</td>
<td>4,225</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Site definition: based on architecture in relation to pottery concentrations, but also on pottery densities. There are also occasions where they describe activity places or a site’s halo, which may not be given site status.

Interpretative Framework

This landscape project took place within the intensive survey tradition (landscape archaeology), studying pottery densities and the off-site record in order to interpret extents and type of human activity. A theme that receives attention is methodology, with special reference to sampling, precision, and visibility: its influential role on interpretation is obvious in the presentation, which includes tables with proportions of material and their relationships. The well-known tactic of looking for architectural traces accompanied by pottery concentrations typical in an extensive survey context, was certainly part of the project, but the discussion of material densities even if not the leading factor in finding a site, shows that they have been taken into account in the interpretative process. The number and type of sites found in a project depends to a large degree on interpretation, and as in many cases, here as well, a density of material that is not accompanied by architecture and that is not evidently related to densities interpreted as sites, may or may not be given site status. Field 5 is an example, where density is thought to reveal activity not related to another site and could therefore be interpreted as a site, was not treated it as a site because it could not be assigned a typical function of occupational, burial or religious character.

The history of human occupation in the area is approached by studying correlations of data observed, concerning site size and possible function, topographic location, density, spread and character of material.
Relationships between occupation, religious and burial sites are also sought, as they are considered to represent the cultural character of the communities studied. Nucleation and dispersal of settlement are the main interpretative observations concerning human activity, but what this might mean in socio-economic terms is not much discussed. Settlement patterns are compared with areas that were the focus of other intensive survey projects, with which there are certainly similarities in interpretative approaches.

Chronological gaps in their data occur in the EM period and from the end of the Bronze Age till Hellenistic times. These can not be explained, but the idea favoured is the seasonal exploitation of the area during these times. As the researcher’s main interest lies in the Bronze Age, the GR period is not discussed in as much detail, but we are given a historical background of the wider area, in which to view the survey’s results concerning human occupation. Other themes explored concern population estimates and carrying capacity of the two basins, but also issues of site recoverability; the fact that no Neolithic or much Minoan material was found on the valley floor was justified as the valley being kept for agriculture and not due to erosion masking activity sites.

Influential References and Sources: Concurrent research has naturally played an important influential role in both methodology and interpretative approaches. For example the suggestion forwarded P. Waren and Y. Tzedakis (1974) regarding the probable seasonal character of some settlements, was also adopted by Ziros survey in trying to explain the recovery of 2-3 pieces of obsidian found off-site and so as to fill in the chronological gaps in the occupational history suggested by the data. A discussion of the environment is considered necessary (since the work of Higgs and Vita Finzi, Bintliff etc in the 1970’s), even if archaeological data are not consistently explained in relation to the environmental history of the area (a weakness in most landscape archaeological projects). Regarding survey methodological, but also interpretative considerations, the survey work in Mesara, Boeotia, Keos, Lefkas and Melos is quoted.

Summary Assessment

Strengths: the effort in being ‘methodologically correct’ results in giving us a good idea of data acquired; off-site densities are discussed.
Weaknesses: environmental studies not really integrated. Site definition is not always clear. Not fully diachronic and the GR period is not adequately reported (studied?).
Evaluation of data and Interpretation: the relationship between data and interpretations is quite clear. Data appears to be quite good.
Knowledge acquired: sites and their probable relationship.
Intergrability: quite high
Publication: completed (?)

Ziros survey offers a picture of the occupational history of this very little explored area. Among the main assets of the project and its report, is the fact that density data are discussed separately and so as to lead to the site interpretations suggested. Discussion of the dispersal of material is very helpful, for two main reasons: 1) we understand better the interpretations proposed regarding the intensity of landscape use and the socio-economic character of the societies studied, (urban vs. rural settlement, self-sufficient vs. dependent, the relationship between sites of different size and location). Besides that, the character of material spread in the landscape allows us to study also cultural traits, such as the relationships between occupation areas and religious or burial areas, 2) recovered material is relevant to surface conditions and recoverability; therefore, studying concentration or dispersal, may help us understand how representative the archaeological picture may be of a particular period. It is self-explanatory that sharing such information is very important if we want to compare archaeological data of different areas.

There are some questions raised by the fact that sites were not sampled during off-site field-walking, but at a later stage through on-site field techniques described above. Thus, we understand that site recognition
was based on architecture and pottery concentrations, but it is confusing how they decided on a site’s extents before walking it and how off-site with on-site data was combined. It is said that on-site data is somehow adjusted before added to the field’s densities, but how this is done is not explained.

The basic environmental report gives us some important information about erosion, hydrology, surface conditions and soils. However, it is not linked to the archaeological data, something that is very often the case in intensive survey projects. It would be useful to have environmental data acquired at the same time as material collection, so that both co-relative and explanatory models could be proposed, regarding the location of sites, but also the recovery of material.

Landscape approach: landscape seems to be perceived as a special unity with specific environmental characteristics, where human activity spreads in a continuous record. Sites are shown as dots in relation to their topography, but also through their pottery densities.

3.7 Discussion of ‘Interpretations’ Database

3.7.1 Culture History Tradition
Site records consist of descriptions of material culture observed, often in relation to descriptions of the physical landscape. However, there is no consistency in the kind of information presented, which seems to reflect lack of consistency in data observations as well. Sometimes landscape observations seem to influence interpretations, but they are generally not considered in a consistent manner and they are not often linked to specific function characterisations. They form rather a ‘proper discourse’ aiming at providing an adequate record of archaeological locations. At times there are estimates of the area size, but pottery counts are based on estimates and general descriptions such as a few, many, most, some etc. In general, there are usually rather weak links between the data observed and site interpretations, which are often the result of a rather intuitive approach. In fact, observations may not always be accompanied by interpretations, especially regarding periods of less interest, e.g. ‘a few Medieval sherds were noted’ – no further comment.

Doubts are often expressed, usually in the form of hypothetical tenses and verbs of uncertainty, e.g. ‘most sherds appear to be Roman’ or ‘there might have been a Minoan settlement here’. Quite often, however, a site may be described as of uncertain data, but referred to as of certain interpretation. As a result, it is unclear whether researchers are certain of a site’s chronology and function, or not. An additional problem is lack of clarity in chronological and especially functional terms used. The term ‘site’ is often used instead of ’settlement’, but not always. In general there is not a clear difference between ‘occupation’, ‘settlement’, ‘habitation’, ‘hamlet’ ‘farmstead’ and ‘site’ and there are certainly not clear correlations between specific data and different interpretations. As a result, we cannot take interpretations for granted, even though researchers of this tradition often describe sites of substantial material culture and in general are very well trained in PH pottery. However, quite often we would need to re-examine data, in order to extract more usable definitions of chronology and function.

3.7.2 Landscape Tradition
Overall, projects of the Landscape Tradition usually provide an organised structure of site presentation; In this case the most typical data observed include landuse observations, topographical / environmental characteristics such as altitude, distance from the sea, vegetation and geology, but also datable pottery, architecture, area size and density. However, landuse and environmental observations are not always linked with specific interpretations, but aim primarily at offering additional information that aid site understanding. In reality it is pottery and secondarily architecture that define a site’s chronology and function. For instance terrace walls or a threshing floor are going to be interpreted as an agricultural site of a specific period, if datable pottery is also present. There are cases where e.g. a threshing floor will be noted, but not taken to represent even a possible BVT/Modern agricultural site if there is not relevant pottery. This relates to the traditional priority given to the identification of the chronology of a site rather than its function, which is a much more complex issue.
and often based only on hypotheses. Thus, usually a site description includes all the chronological periods identified and the major function, but there is no functional differentiation between periods; the same function is either assumed or implied, although in fact it is usually not clear how the site’s function is interpreted in the different periods identified. ‘Unknown function’ is not treated as a viable class.

Pottery is usually (but not always) recorded in terms of count, weight and density, and area – size of spread is also recorded; however, both pottery quantity and area-size are not recorded per period identified, but in total. As a result there is no direct relationship between these characteristics and the definition of a specific function for the various periods. In other words, we do not know what ranges of pottery counts/weights and densities define an EM I, MM III, Classical or Roman (etc) settlement, habitation etc. For example, since a Roman site requires a higher number of sherds to be called a settlement than a Minoan one, it would be helpful to know ranges and differences, both in density counts and in area sizes. The reason why such clarifications are of great importance is that social reconstructions are based on site-hierarchy, which in turn is extrapolated from site-size. A related problem is that the meaning of the same terms may vary from period to period. A field house for example, is clearly interpreted as habitation in the PH, but in the BVT its agricultural character is stressed instead. Even though there is an overall clearer relationship between data observed and interpretations, than in the Culture-History tradition, it is often very difficult to understand what observations define specific interpretations and assess whether we agree or not because presentation maintains an obscure relationship between data and interpretations.