The Dimensions of the Material Topography

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It will be presented some considerations about the organisation of landscape as observed in the Stratiké Surface Survey Project (SSSP) carried out around the ancient town of Stratos in Western Greece (Fig. 1).[1] The discussion will be concerned with specific details, such as the different uses of the landscape and sites at various times. The SSSP is concerned not only with the recovery of unknown sites from the earliest period down to the present day, but also with determining the extent of the chora of the city of Stratos, the reconstruction of its settlement patterns and the history of the Stratiké.

Introduction

Geology, topography and natural resources mould the natural environment and influence the use of space and the installations necessary for living within a certain area.[2] Whether and how these resources are exploited and the topography and the built environment are shaped depends upon the inhabitants.[3]

One generally distinguishes between nature and landscape.[4] The natural environment is defined as something without any human impact, the physical growth of the animals and plants. When a person

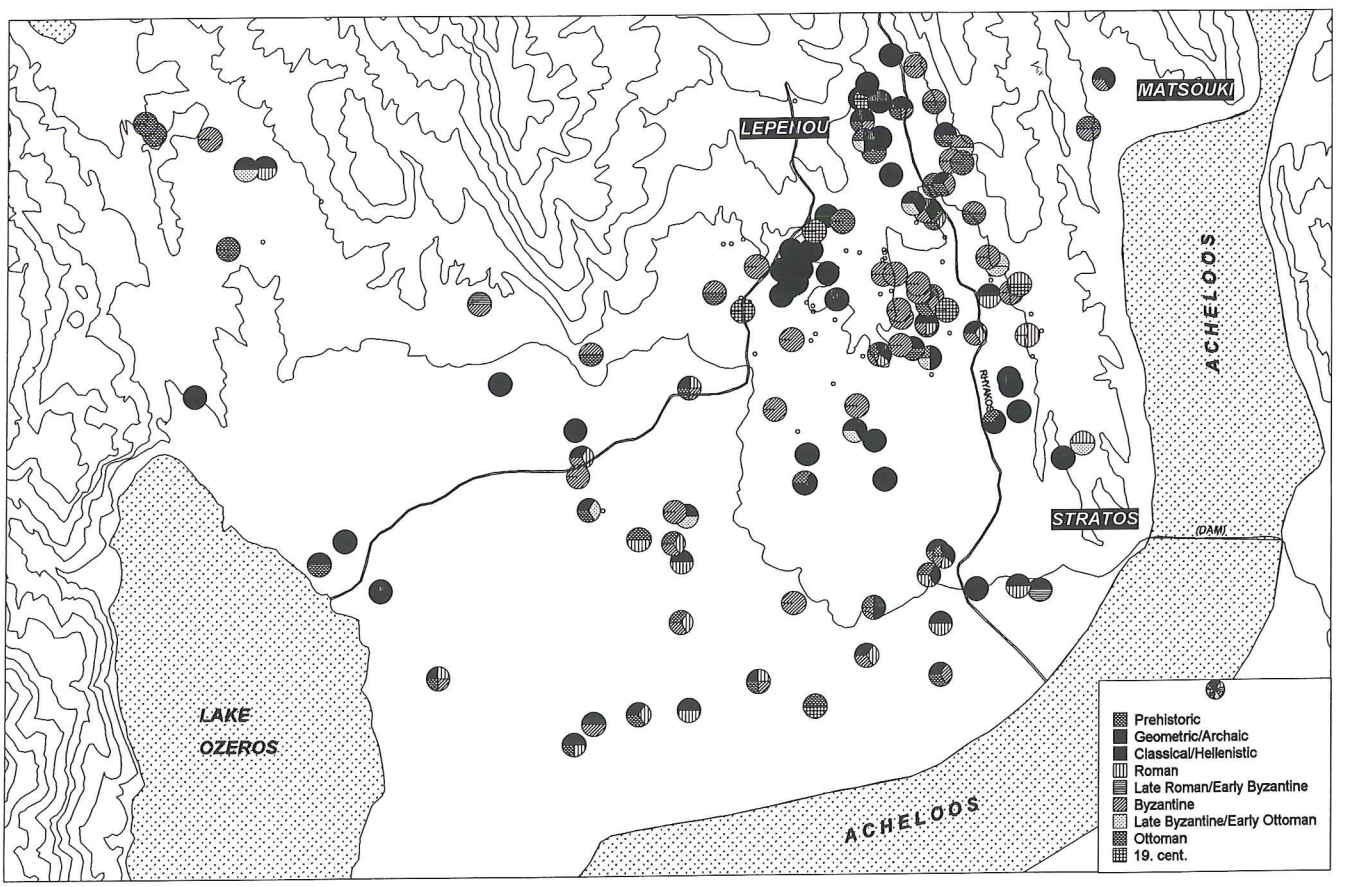

Fig. 1. Stratiké: distribution of sites by chronology (scale 1: 500).

thinks of nature he or she frequently imagines places without any visible human impact upon them: no houses, no industrialisation, but only trees, bushes and so forth. The present state of the environment, in fact, shapes the perception of what nature is or what nature ought to be. The more-or-less treeless northern part of England, for example, is seen by many people there as their natural environment, and any attempt at reforestation provokes resistance. Opponents argue that it would be an intrusion on nature. Despite the fact that the treeless countryside was created by a massive deforestation in the last 200 years, the present perception of this region is that this is original, unspoilt nature.[5] Even the national parks devoted to nature are carefully set up and structured, and so-called, "unspoilt nature" no longer exists in them.

As nature dictated the constraints or advantages of the geographical situation, so generation after generation of humans shaped this geography they transformed nature and the result might be called landscape.[6] Therefore "every landscape bears traces of this continuous and cumulative labour".[7] The most impressive sort of human impact on nature is certainly the carving of statues into mountains – a desire since the time of Alexander (Vitruvius 2. 2) – , like the oversize Buddhas on Sri Lanka or the heads of US presidents carved into Mount Rushmore. A very subtle form of landscape 'shaping' is the hidden organisation of the often cited song-lines of the Australian Aborigines.[8] Flora and fauna and landmarks form a system of signs and the basis of the "dream tracks" created by their ancestors. This sort of "totemic geography" is almost invisible and thus almost undetectable by archaeological methods and should remind us of other forms of landscape organisation and also of the fact that the unoccupied space between sites can be the result of a conscious 'leaving blank'. Therefore the formation of landscape is anything but a uniform process; the shaping and perception of landscape differ from period to period, from region to region, and from person to person.

The dimensions of topography

The interdependence of people and nature involves a complex system of spheres and concepts[9] the political, social, economic, artistic and religious-symbolic are mirrored in the landscape's 'style' This complex system of landscaping follows various rules in different chronological periods. Therefore dissimilar settlement patterns and economic systems, for instance, can form the same landscape. Since the influence on the organisation and structure of space are so manifold, it seems useful to distinguish them through different kinds of topography.

The *natural and physical topography* provides the fundamental conditions for life: water, quality of soil, vegetation, climate, natural resources.[10] This natural topography determines the possible settlement patterns and access to wider communication networks. The natural resources, such as rock, provide the material for construction. The climate influences the use of material in the construction of building as well as the kinds of clothing worn. In our case, Stratos is situated on the largest river in Greece, the Acheloos, in a wide, fertile plain – called Stratiké by Polybius (5. 96. 3) – surrounded by hills and mountains. This plain is the largest in Acarnania and permits intensive agriculture. Fords and passes allowed for access to this area (Fig. 2). The local rock – a specific kind of sandstone, called flysch – was used for building. This brownish, very soft and easily crumbled sandstone was not used for more elaborate and representative constructions. For anything which should be constructed in a more sophisticated manner, for example the orchestra or the ramps of the theatre in Stratos, a white limestone extracted from a proper nearby quarry was used.

Natural factors influence politics, economy, social organisation, and human behaviour, which leads to the second kind of topography: the *material topography*. The material topography informs how people shape their environment. Most changes in

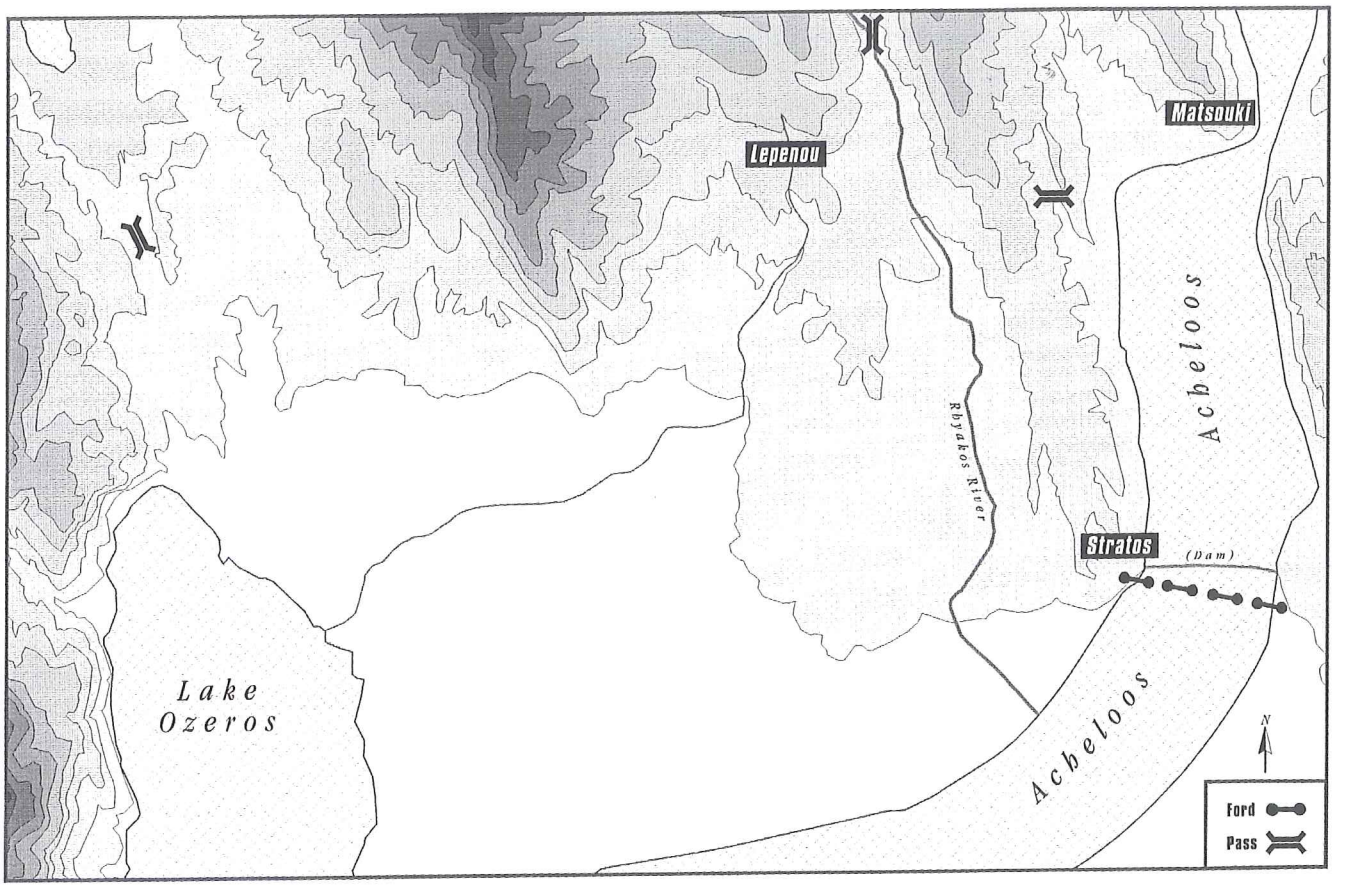

Fig. 2. Stratiké: ford and passes (scale 1: 750).

nature and landscape caused by human beings may be identified by the material culture. Material culture on a very broad definition, stands for all man-made objects, regardless of size or material (e.g. architecture as well as ceramics, art objects). The 'production' of these artefacts is influenced by several factors. The *political* and *socio-economic* conditions affects how people form their living areas. The most visible expression is the architecture: the layout of a big or small city, the construction of city walls, farmsteads, and villas. The largest settlements of the Stratiké is Stratos itself.[11] As a last bulwark against the Aetolians, Stratos, the only fortified town in the Stratiké, was set up in the far east of Acarnania on the border with Aetolia, its site overlooking the plain. The establishment of city walls clearly reflects a political decision, since the building of a city wall must be financed by the community, and land must be provided for its construction.

The distribution and features of settlements and their houses varies with time and the social organisation of a community. The arrival of the Romans marked a decided change in the use of landscape, both for Acarnania in general and for the Stratiké in particular. Acarnania in the pre-Roman period, for example, was characterised by its fortified settlements, while in the Roman era settlements were not fortified. In the Classical-Hellenistic period the settlements were built in the mountains and on the plain, while the most of Roman era settlements were situated on lower elevations.[12] The northern part of the Stratiké apparently no longer attracted settlers (Fig. 8) and people now preferred to live on the plain. Some places already settled endured, but others were abandoned as yet others were newly founded. It is very striking that in the Roman period the land use in the Stratiké differs from previous and later periods. It must be investigated how and to what extent the different economic and administrative strategies of the Roman Empire led to the obvious change of use of space in

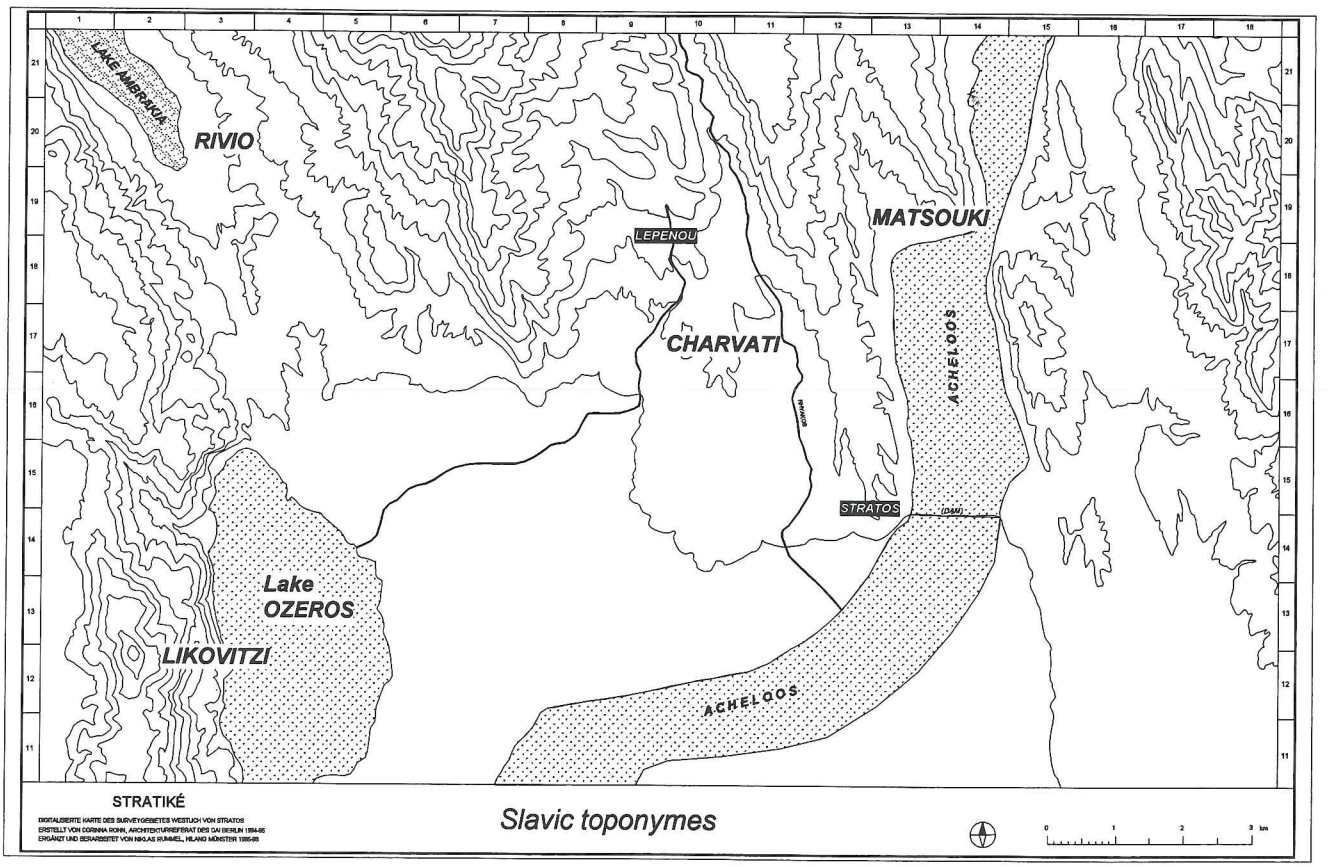

Fig. 3. Stratiké: slavic toponymes.

Acarnania, and how this affected the Greeks – certainly still living in this area.[13] Furthermore the possibilities for the use of space within and outside a settlement are manifold, and consideration of this fact can provide hints about the organisation of a society: in ancient times, for instance, cemeteries were normally placed outside the settlement, while in the Medieval period cemeteries began to be incorporated within it.[14]

Different *ecological* factors bring about different nutrition strategies and these affect the economy and architectural features of an area as well. In regions with larger plains and good soil, extensive agriculture may be expected, while settlers in hilly and mountainous regions prefer pastoralism. Different facilities are required in each region. In an agricultural area, like the Stratiké, farmers need shelters in the fields for the harvested grain. Also, farmers may live in their fields, especially in the work-intensive summer months, and we may see houses there as well as granaries. Pastoralism uses landscape differently, e.g. whether it relies on summer-transhumance with seasonal long-distance walks, or the daily moving of flocks around a village. The latter requires folds or stables within the village or close by it, whereas transhumance is characterised by semi-permanent settled areas with special facilities like fences, huts, milk pens and animal folds, where the animals may be watered and fed. Such features are usually ephemeral in nature.[15] Both forms of pastoralism have occurred in the Stratiké. In the last century the Vlachs, a Balkan tribe, regularly visited the area in the course of seasonal transhumance, while present-day shepherds daily move their flocks in and out of the villages.

Information about various ethnic groups provides a good idea of what may be expected in landscape use and material culture and one might call it the '*ethnic' environment*. In late Roman and early Byzantine times there was an obvious decline in settlement in the Stratiké, and

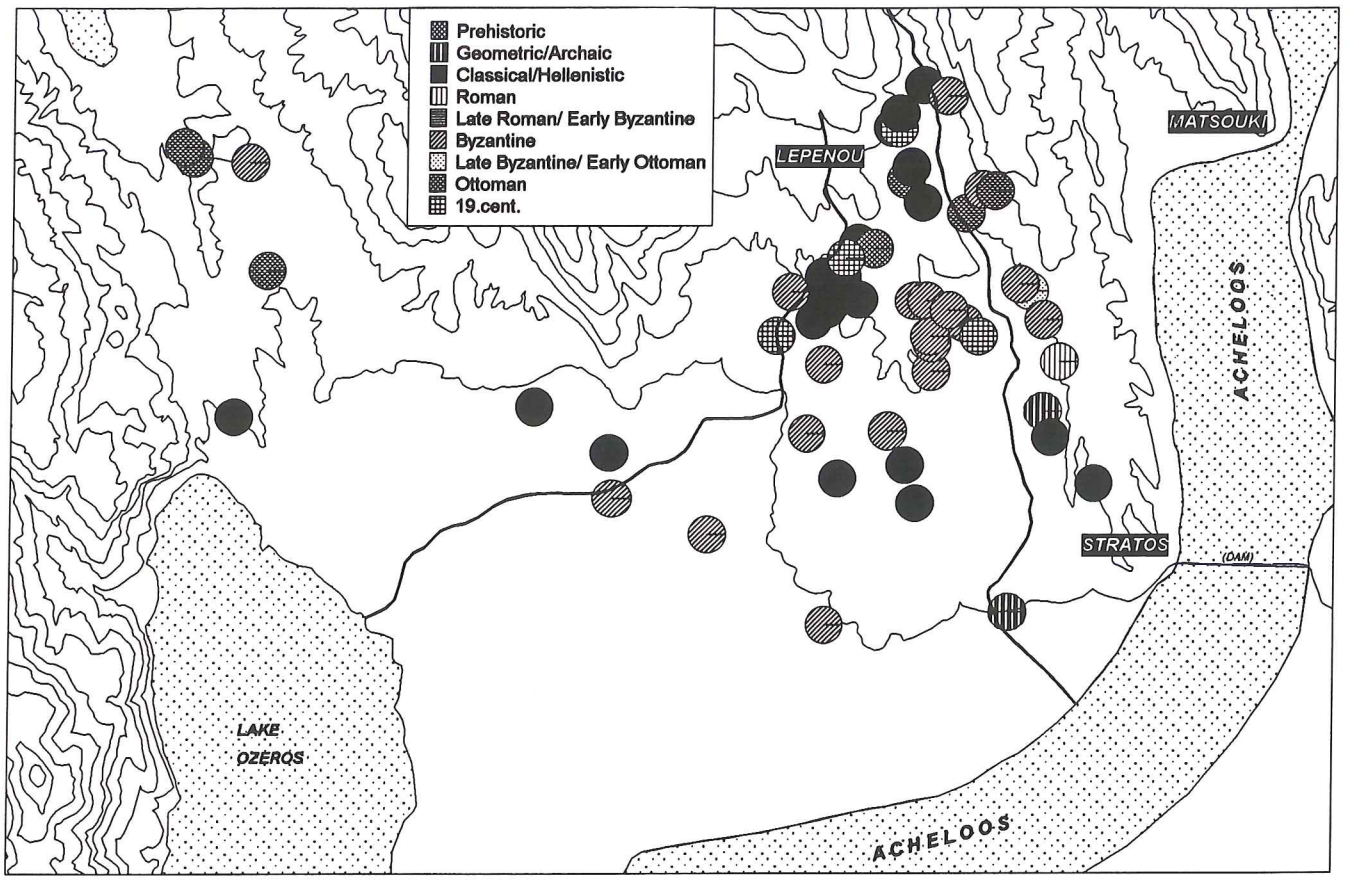

Fig. 4. Stratiké: sites with one-phase occupation (scale 1: 750).

Slavic invasions of Greece left their traces with toponymes like Charvati, Matsouki, Ozeros and Rivio (Fig. 3). Other groups followed. Benjamin of Tudela,[16] for example, tells us that in the 12th century there was a small Jewish community in Stratos. From the 15th century on, the Ottomans controlled all of the Stratiké. In the 19th century the Vlachs came regularly to the Stratiké and lived in temporary huts, as Heuzey mentioned in his book.[17] And in 1924 Greek refugees from Asia Minor were settled in the Stratiké.

A further kind of environment is the *symbolic-religious*. Emotional experiences could be expressed by religious-ritual acts. Trees or odd landmarks were perceived as magical, received a symbolic meaning and were worshipped. The installation of cult-places at certain locations, and the cosmology of the Greek gods, are closely tied to landscape. A nature deity like Pan symbolises both nature and culture. In myth, human beings may work out an attempt to rule nature as well as to conceal their fear of nature. The struggle between Heracles and Acheloos, the biggest river in Greece, might among other thing be read as the mythical conversion of the theme of "human being conquers nature", that is, the transformation of a wild, powerful stream into a navigable river. Symbolic-religious topography is easiest to comprehend when there are architectural remains, such as temples, churches or mosques, but finds like votives are also helpful.[18] The hidden secret of the "dream tracks" mentioned at the beginning of this paper might be an another example, but one which is forever lost and undetectable by archaeologist. A further example might be the conversion of a public into a sacred place by simply joining the city wall to a column of the Artemis temple at Ephesos with a rope (Herodotus, 1, 26), an act which leaves no trace. Even if one cannot give a definite answer as to why a religious structure was established at a specific location, its very existence suggests that people living within the area assigned a

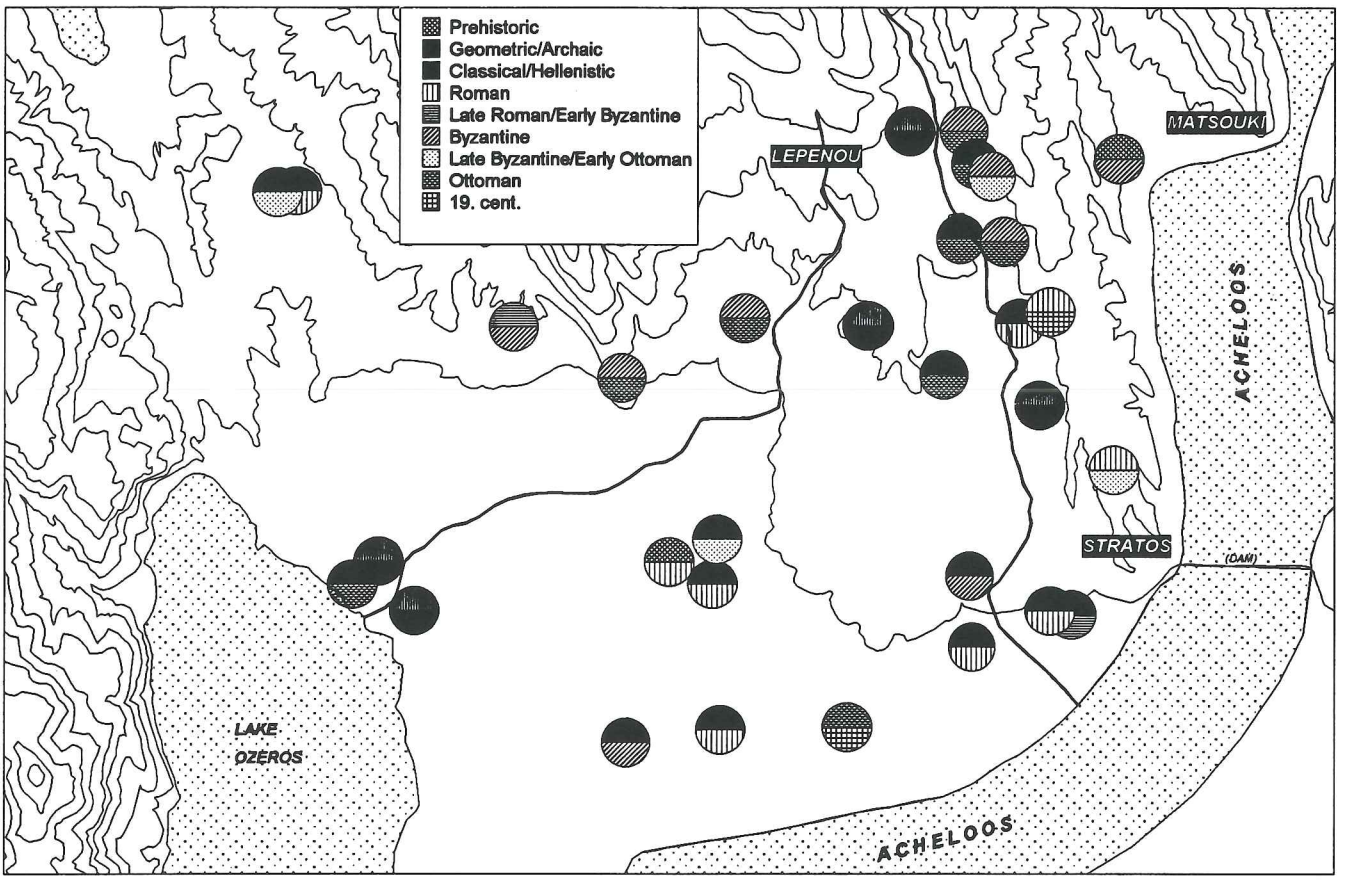

Fig. 5. Stratiké: sites with two-phases occupation (scale 1: 750).

symbolic meaning to the place and the location adds this evidence to our understanding of its function and of its symbolic meaning. One should not forget that religious structures have a metaphysical as well as economic aspects. Whether in ancient times or in the mediaeval period, sanctuaries owned real estate which they leased out, and from the cultivation of which they received income.

Finally, one could add a further form of topography which is not physically linked with landscape: the *artistic*. Artists are probably influenced by their environment and can express their feelings about and perceptions of the environment in sculpture, vase-painting etc.[19] Often styles differ from region to region. In archaeology these regional styles are often the basis for identifiying so-called ethnic groups, which is problematic.[20]

Besides the natural and material topographies there is the *perceived topography*. Especially in the symbolic-religious environment certain experiences which will not be expressed in artefacts. It is therefore more difficult to reconstruct the perception of people than the natural and material topography. More precisely this varies for different periods: the chance to understand prehistoric perceptions of the environment is fairly small[21], while the chances are better for periods in which written sources are known. Even if we have just distinguished these different topographies and environments in order to point out the diverse levels of concepts, one should not forget that this is an artificial construct. These remarks should remind us of the manifold influences upon a landscape, as well as of the difficulties encountered in recognising their impact upon the material culture.

Continuity and discontinuity

The relationship between human beings and nature are expressed through the *natural* and *material topography*. This complex system involves, to sum up, the natural-

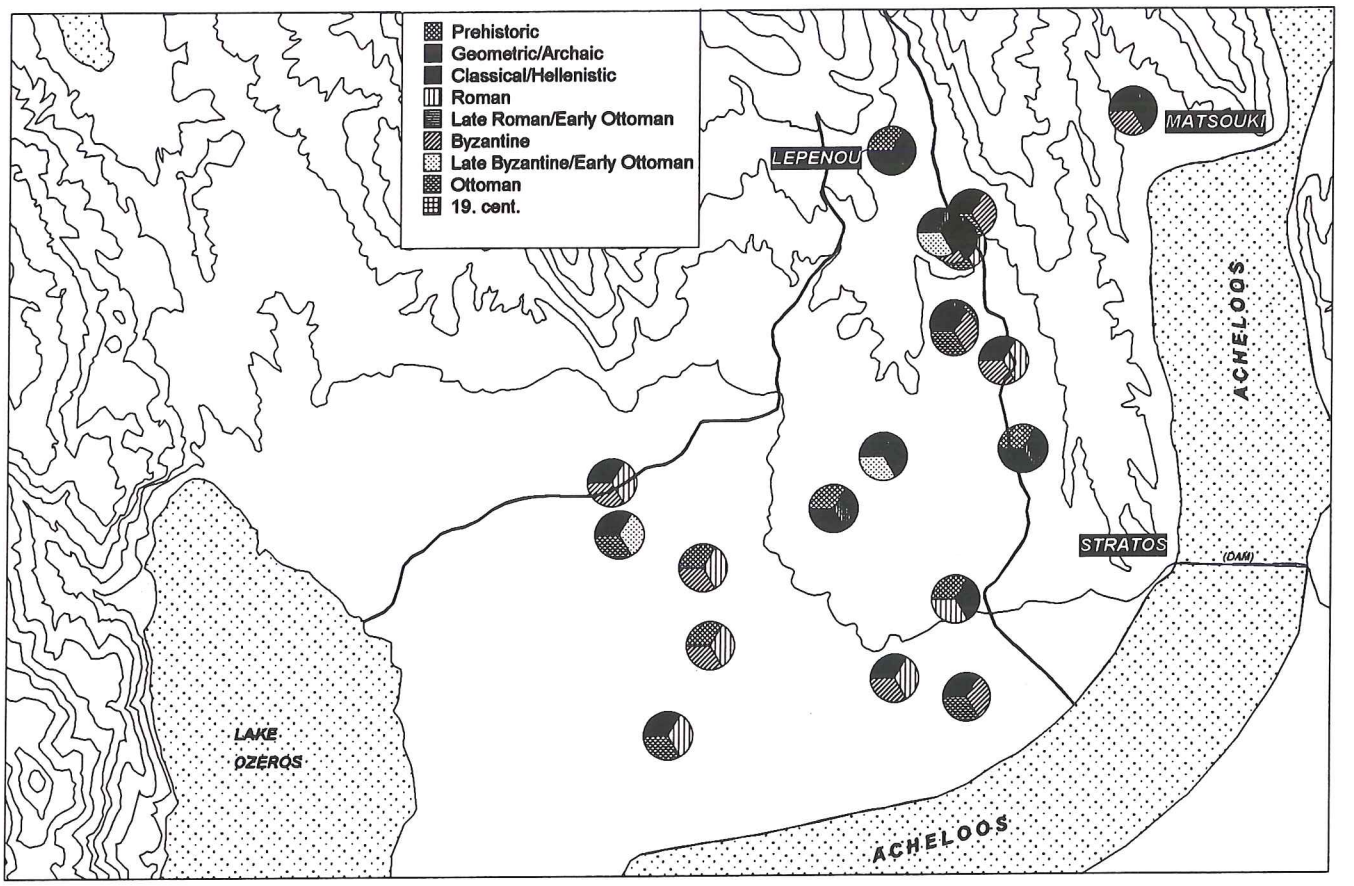

Fig. 6. Stratiké: sites with three-phases occupation (scale 1: 750).

physical, political, socio-economic, 'ethnic', symbolic-religious and artistic environment. This means that landscape reflects the organisation, thinking and perception of a society in a given area and these are further more mirrored in the archaeological finds. The archaeological method of survey[22] is an appropriate means of collecting data which offers interpretations of "rules" and patterns across wider areas in a diachronic perspective. Based on this data the analysis of a landscape allows us to recognise the phenomena such as persistence, more generally continuity, or changes of land use through our time. The shifting of sites represents very clearly the modification of landscape use and reflects social changes such as nucleation, migration, and more generally: discontinuity.[23] The continuous and discontinuous use of location is affected by time and function and concerns population, institutions, religion and religious practices. If one analyses sites and their material culture in relation to time and function, the specific features of both that location and the settlement pattern of a entire region may be reconstructed in a more precise way. If one considers continuity and discontinuity, it can be perceived in a region as a whole – at the intersite level – as well as in the site itself – at the intrasite level.

Continuity and discontinuity at intersite level

The analysis of settlement patterns is based on the distribution of sites through several periods.

The examination of a site can provide us with an indication of the preferred utilisation of certain parts of the region in different periods and of the importance of single sites within the area in various periods. The abandonment of a place may show us that it was not highly regarded or that it lacked resources. A site which remained occupied through successive periods indicates a particular interest in that location. The abandonment of sites means

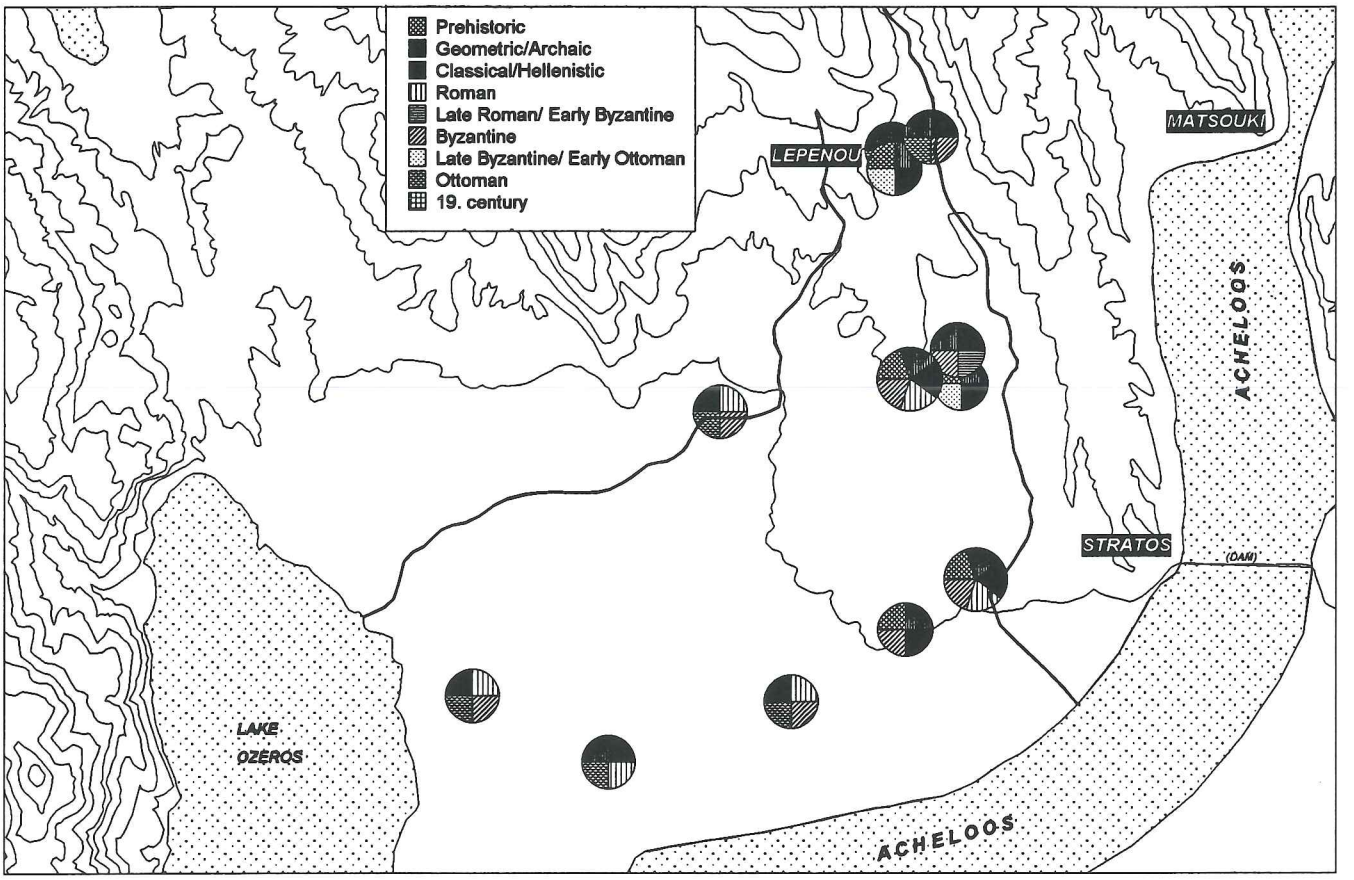

Fig. 7. Stratiké: sites with four- and five-phases occupation (scale 1: 750).

discontinuity and implies a drop in site numbers. This, however, does not necessarily testify to depopulation at the same time. Lower site numbers can attest to migration to other regions, or to the movement of inhabitants into fewer but bigger settlements in the same area; for instance, of families who follow relatives who had made the move earlier.[24] By observing where, when and for how long sites were established, it is possible to reconstruct land use and the importance of sites.

The majority of sites – Stratos occupied through all periods, will be excluded in the following – in the Stratiké were occupied only once (Fig. 4). The sites are mostly situated in the northern and western part of the Stratiké. A concentration is fairly be identified in the area between the two modern villages of Stratos and Lepenou. The southern and especially the south-western part is almost unoccupied. Sites inhabited during two phases are quite common too (Fig. 5). These sites are distributed more or less equally in the whole Stratiké and now even the South-west is inhabited. Occupation with three phases at each site occurs in the north and south, but does not occur in the western part (Fig. 6). Most sites are now situated in the plain. Multi-period sites are less common (Fig. 7). Four-phase sites exist in the area between Stratos and Lepenou and in the south, the western part is not inhabited. The few five-phase sites are all located in the eastern plain. Through all periods the eastern region was inhabited and this fact emphasises the importance of that area. Also, the northern area, around the modern village of Lepenou, was almost consistently inhabited, indicating its significance throughout a long period of time. From here, one might travel through a pass to the interior or continue on to the Ambracian Gulf. All the more exciting, therefore, is the fact that in Roman times this region was not very popular, as the drop in the number of places in this region indicates (Fig. 8). It might imply that the pass to the north was no longer of interest.

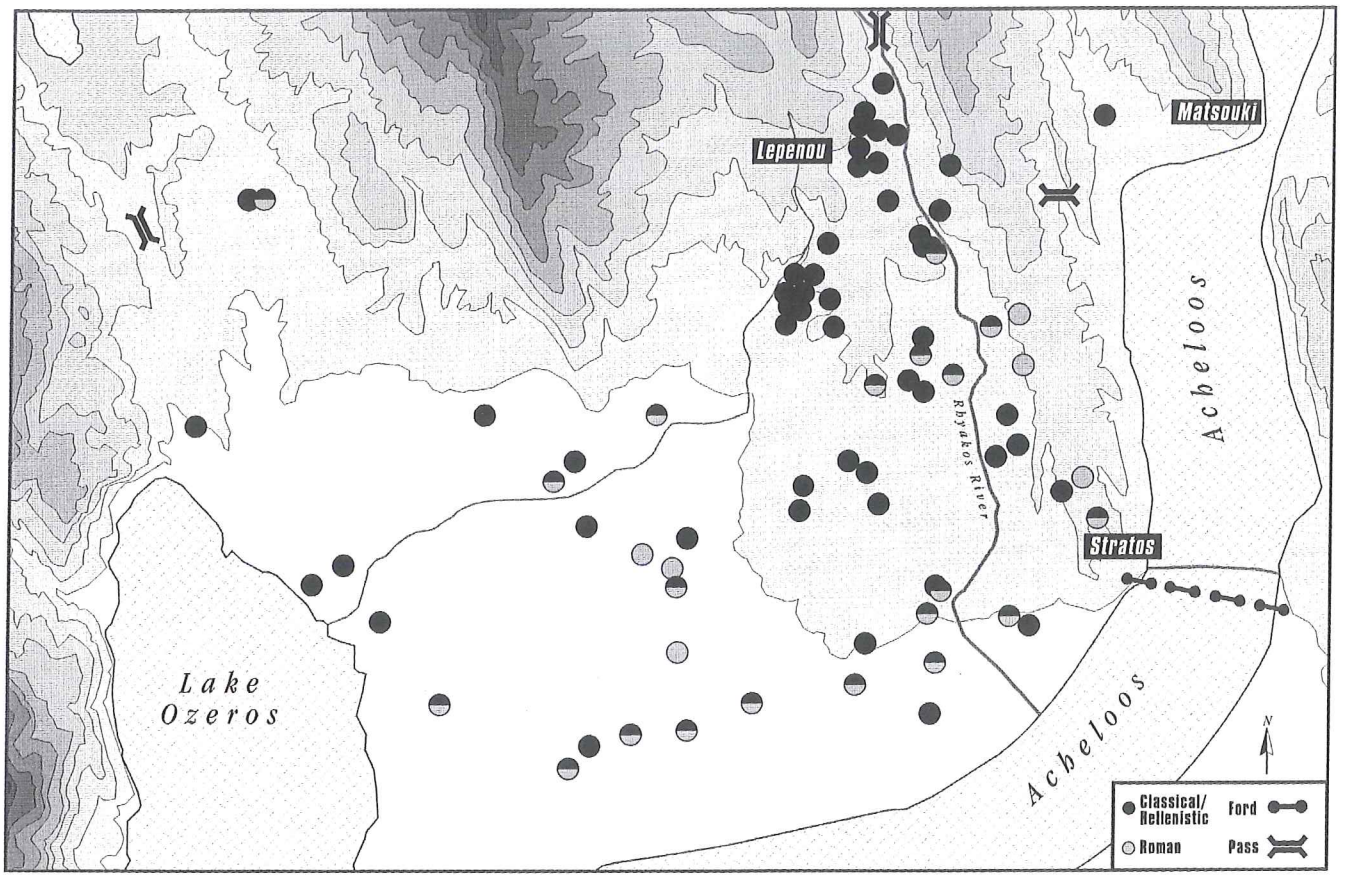

Fig. 8. Stratiké: distribution of Classical/ Hellenistic and Roman sites (scale 1: 500).

The far south of the Stratiké (Figs. 4-8) along the river Acheloos was settled again and again. Remarkable is the fact that all sites exist more or less in the same locations creating a line parallel to the river, although not all sites were continually occupied. The permanent existence of settlements in this area indicates its importance and it seems likely that a road ran through the region, running south from Stratos and its ford on the Acheloos

Continuity and discontinuity at intra-site level

Within a site there are various possibilities of continuity and discontinuity in use. One might have a permanent occupation with the same function like the settlement Stratos; or are might have a short-lived site. A third possibility is temporal continuity but for different periods in limited sections of the site. One might recognise continuity or discontinuity on a temporal as well as a functional level.

Temporal level

Different types of continuity and discontinuity may be perceived in the following ways. A site existed within a certain period, but modifications of the occupation of the site may be detected through time. In site 084 (ca. 0,65ha), for instance, the Classical-Hellenistic pottery is concentrated in the eastern part, while the density of Byzantine finds is greater in the western part (F ig. 9). This means that the settlement of the Classical-Hellenistic period was located in the eastern part and was moved to the western part by the Byzantine period. Thus one can ascertain the chronological continuity of the whole site, although different parts of the site were occupied at various times.[25]

Functional level

There may be continuity or discontinuity of function as well. A site such as a cemetery may keep its function over time. Discontinuity of function means that a site continues to exist but its function

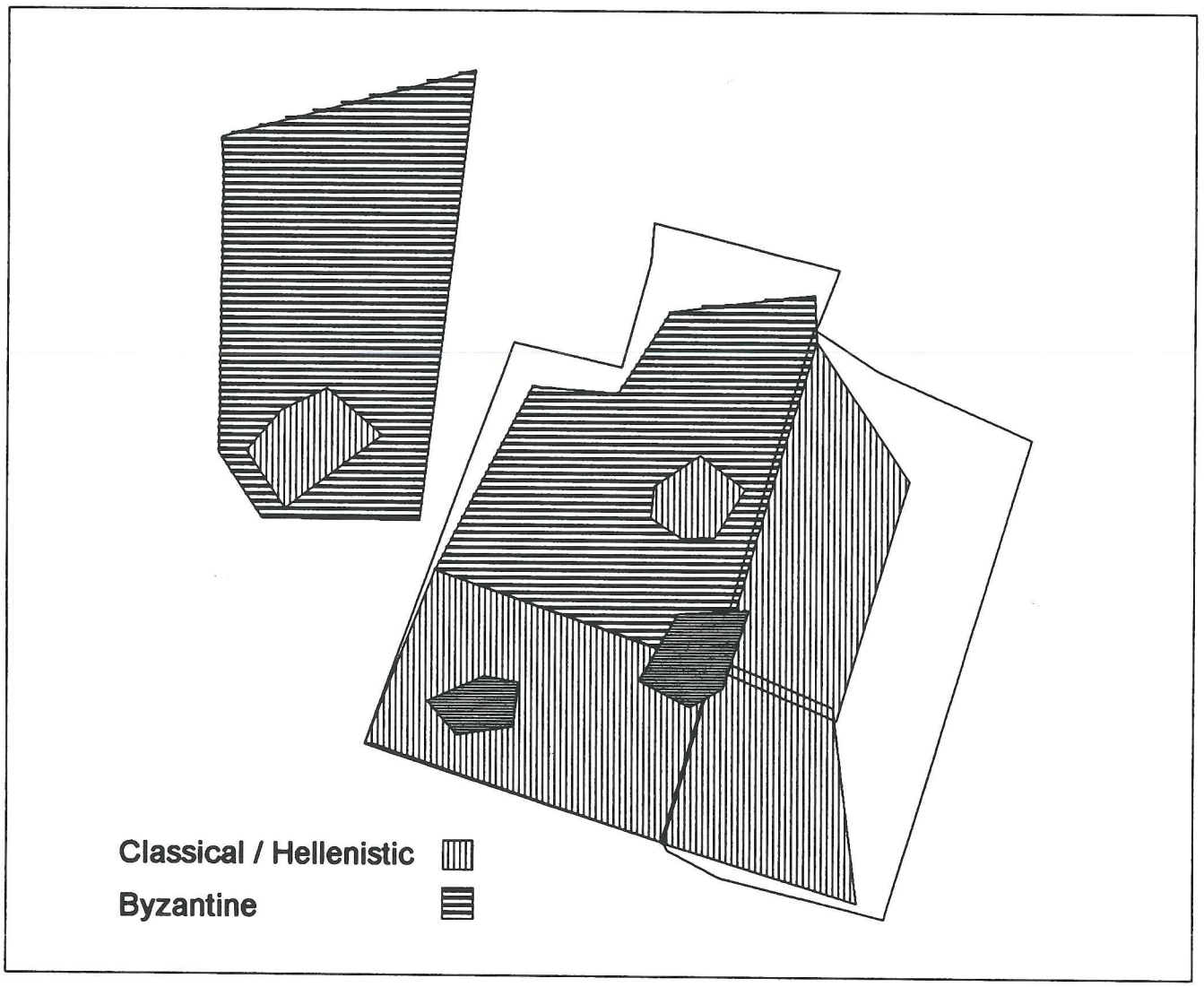

Fig. 9. Stratiké: Classical/ Hellenistic and Byzantine periods in site 084.

changes. A site can show religious continuity even if the religion changes over the centuries – the Hephaisteion in Athens has served, during its existence, both as a temple to Hephaestus and as Christian church. At Spathari, a middle Helladic settlement was discovered by the Stratiké-Survey (Fig. 10). From the Geometric to the Roman period this place was turned into a sanctuary. At Agios Georghios, another location in the Stratiké, there was a bath in Roman times, but in the mediaeval period a chapel was built on the site. In both cases the site as a whole was occupied continuously but it shows discontinuity of function. Discontinuity of function might also indicate a conscious break with older tradition, as does the relocation of churches in Late Antiquity away from public areas of Roman times. This relocation may indicate the political intention of the Church to underline its break, not only with the pagan tradition, but with the Roman Empire in general.[26]

Finally, continuity or discontinuity may apply not only to the material culture of a settlement, but also to the settlement's name. Stratos, for example, has changed from Stratos to Gerovigla and Sorovigli and back to Stratos again from Classical period to the modern.

Analysis of site function

A study of surface material concerns to the chronological and functional assessment of sites and should provide an interpretation of land use in a synchronic and diachronic perspective. The identification

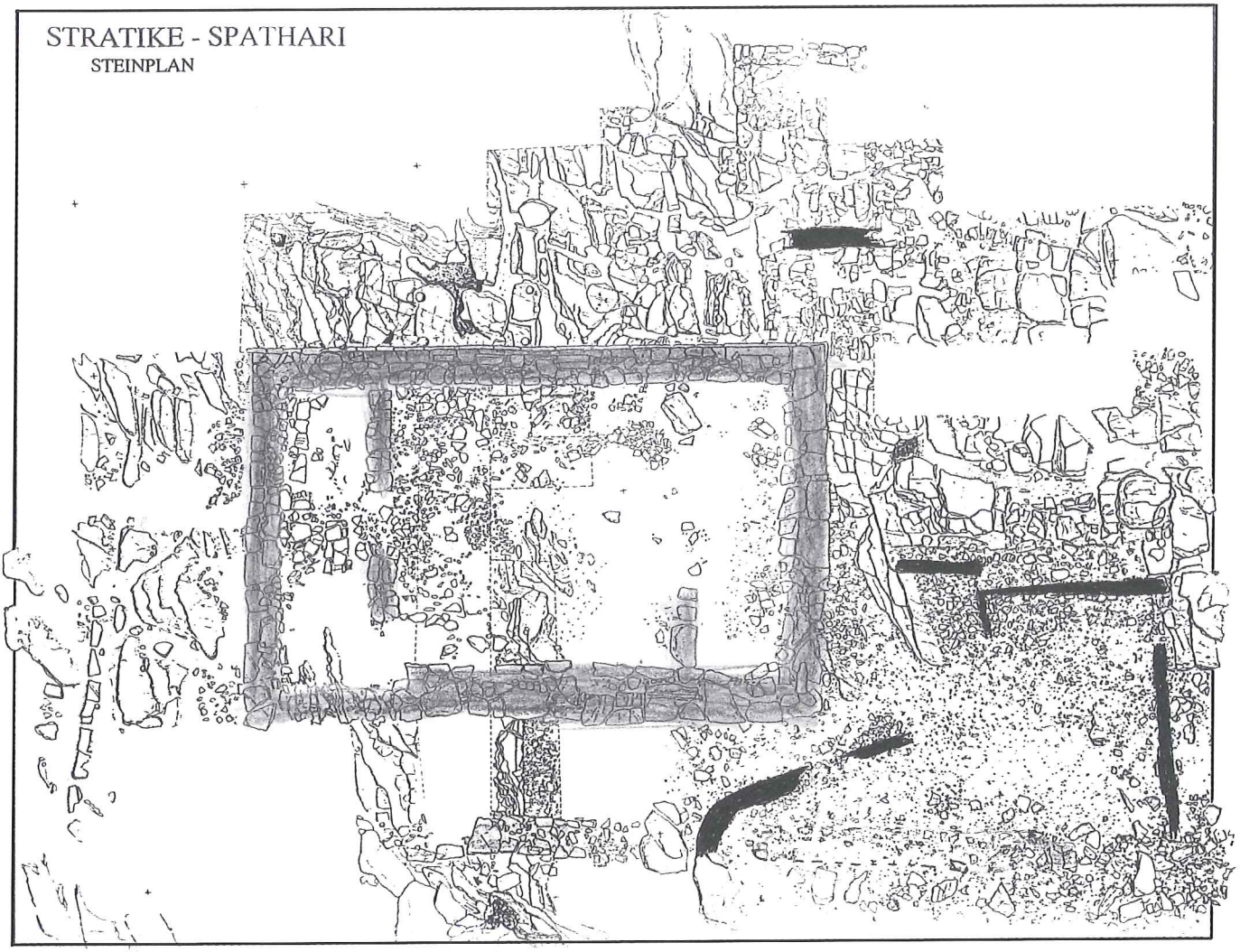

Fig. 10. Stratiké: Spathari – Middle Helladic period (black) and Archaic temple (grey).

of the sites is the basis for further discussions, especially the analysis of settlement patterns. Unless there are obvious hints of different use as in the case of graves, sites are mostly defined as settlements in these discussions. This identification is often *ex silentio*, since most sites have only pottery. These artefacts have lost their original context, which makes it more difficult to interpret them and makes the sites more difficult to evaluate. Definition *ex silentio* is particularly problematic for studies of the central place theory or size-rank-rule theory[27], because definition *ex silentio* does not consider the whole range of possibilities in land use.[28] For that purpose one needs a more sophisticated analysis. For the reconstruction of site use, the two main aspects to be considered are: its chronology and its function. The first step, of course, will be to date the sites.[29] For this, the one-phase sites are most important for establishing a regional chronology. Such places offer the possibility of dating previously undated sherds, since the material is more or less homogenous and is datable to one epoch. One can determine by comparing the shape and fabric of the datable sherds with the undatable ones if the same chronological period pertains for the undated pots.[30]

To assess the function of sites, a specific method of site-function-analysis has been developed during the SSSP (Lang, in press) This is based chiefly upon a detailed examination of pottery, since ceramics are the largest group of finds. Although this tool cannot be used to reconstruct each

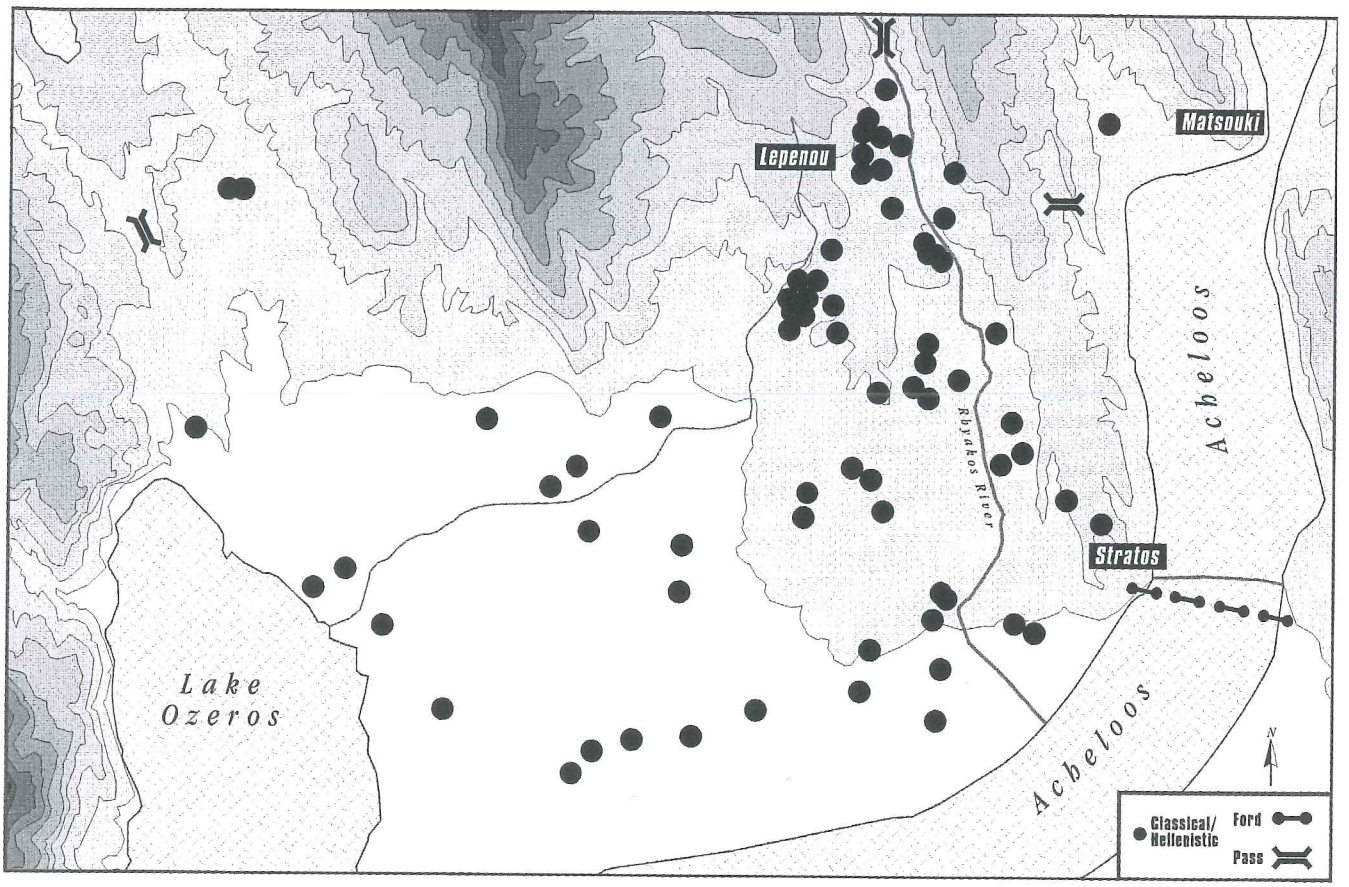

Fig. 11. Stratiké: distribution of Classical sites (scale 1: 500)

specific site function, at least three main categories of functions can be distinguished, concerning human living conditions and behaviour: living areas (like settlements, farmsteads, field shelters, industrial installations, etc.), religious structures, and cemeteries. Each of these categories yield a specific assemblage of material culture: e.g. vessels for food production, storage etc. in the living area; votive offerings in sanctuaries; and particular items might be put in graves if burial customs required it. This *site-function-analysis* assumes that sites with the same function produce a similar set of ceramics. Therefore the vessels at each site must be examined. Single pots – distinguished by periods – are grouped by shape (e.g. jugs, cups) and fabric (e.g. decorated, coarse). These groups and the composition of vessel assemblages at sites with a function explicitly defined by unambiguous indicators such as foundation walls constitute the references for further comparisons. In the next step the ceramics of sites with unknown function are compared with the reference-group. The more similar the assemblage the more likely it is that the sites had the same function.[31] This analogous-comparative model offers the opportunity to define the function of more sites – especially of those delivering only pottery – and helps to form a more detailed view of the area surveyed.

The interpretation and reconstruction of the political, socio-economic and cultural organisation of a landscape and of human behaviour within it could be made more precise by putting together all information available and considering the functions of individual sites. What might be gained through detailed site-function-analysis is illustrated in Figure 11. Here Classical/Hellenistic sites have been plotted by location. Dots are distributed over the whole map. In some places concentrations are visible, but what the single dot actually means is not recognisable. A discussion of this map could not be very detailed. In Figure 12 the sites whose func-

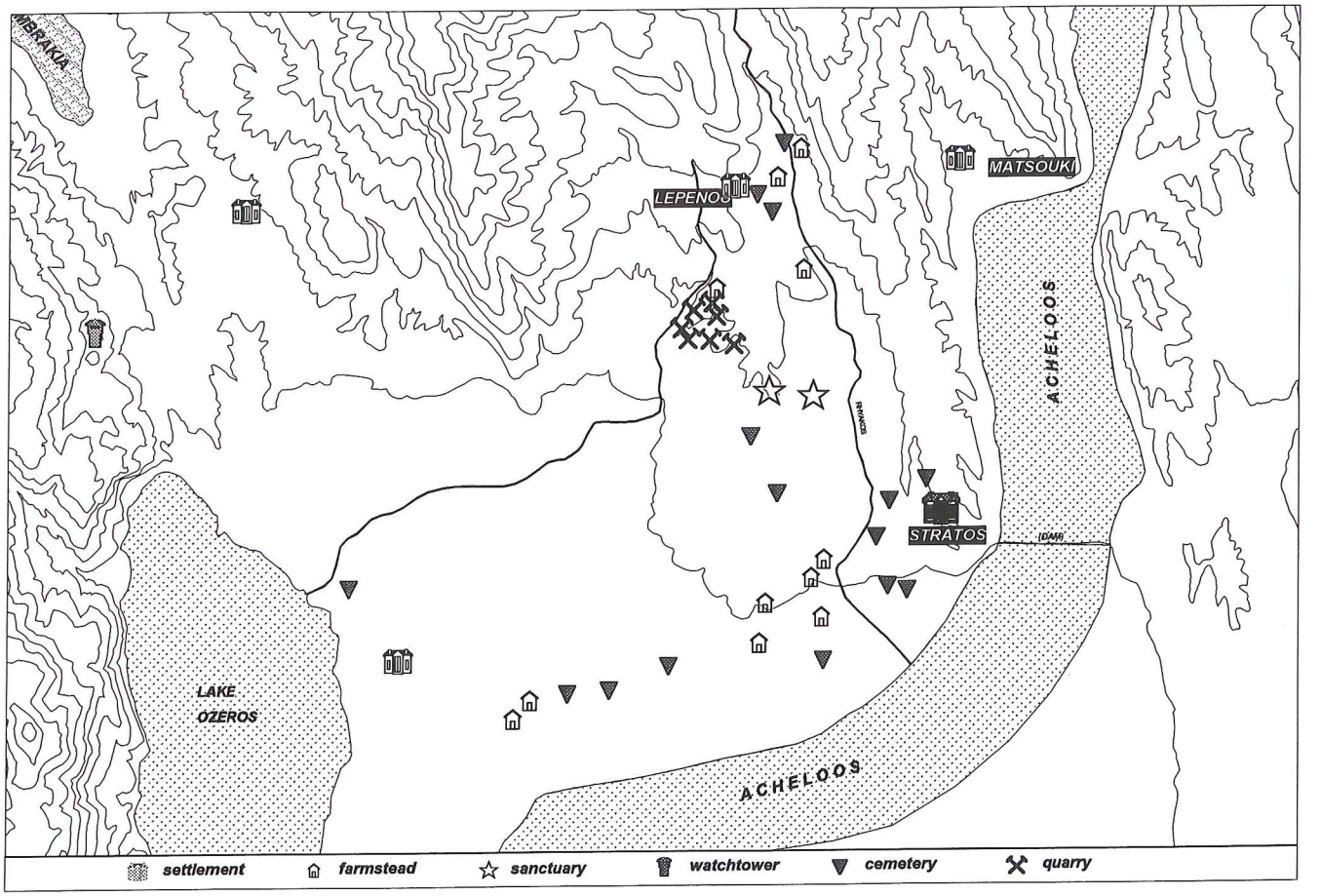

Fig. 12. Stratiké: distribution of Classical sites plotted by function (scale 1: 500)

tion are known are plotted again, this time by function. It is fairly obvious that an interpretation is now easier to give. The distribution of the settlements, sanctuaries and cemeteries and the interrelations are discernible. In this way the material topography offers to write the biography of a landscape more easily. Of course, I do not maintain that, with this, or any, method one can discover every secret of a landscape, but it can increase one's understanding of a region.

Notes

NOTE 1
For a more detailed description of the Stratiké Survey Project cf. P. Funke in this volume.

NOTE 2
For a long time the aspect 'space' was neglected in historical science and the aspect 'time' was not important in geographical science (Rapoport 1994: 465; Peet 1998: 158-160).

NOTE 3
Rapoport 1990, 9-20, Mahler 1998: 162ff.

NOTE 4
Mitchell 1994, 5-21.

NOTE 5
In the perception of nature the aspect of time is certainly meaningful, since the definition of 'nature' depends on contemporary experience. That is to say for the people who lived in this area 200 years ago, nature was certainly differently defined. I thank A. Möller reminding me of this problem. A reconstruction of this perception at a certain time would be essential for any analysis of the environment, even if I do not believe that we will able to reconstruct that perception for each time period.

NOTE 6
Clarkson 1998, 120.

NOTE 7
Braudel, 1993, 9.

NOTE 8
Strehlow 1970.

NOTE 9
Harvey 1996, 207-208.

NOTE 10
Rackham 1996, 16-43.

NOTE 11
Until the second century Stratos was the largest city in Acarnania.

NOTE 12
Cf. Lang 1994, 241-254, fig. 4-5, Strauch 1996, 104-108.

NOTE 13
Alcock 1993, Strauch 1996, 47-75.

NOTE 14
The spatial relation between graves and religious structures changed through time. While in the ancient Greek and pre-Christian Roman world cemeteries, without temples, were situated outside the settlement, the cemeteries of Christian societies were normally established around churches.

NOTE 15
Chang 1992, 65-89.

NOTE 16
Asher 1840, 46.

NOTE 17
Cf. the city map of Stratos: Heuzey (1846: 332) mentioned in the location of the ancient agora "cantonnement de Valacque"

NOTE 18
Cf. site 08850 in the Stratiké, where a sanctuary could be detected, since hundreds of terracotta were found on the surface. A following rescue excavation brought a bothros to light (Schwandner 1995: 783-784).

NOTE 19
In the literature – for instance, the bucolic poetry of Vergil – nature played a rôle too.

NOTE 20
Raeder 1990, 634, Alcock 1993, 6, Hall 1997, 132-134.

NOTE 21
As e.g. it is presented by Tilley 1994.

NOTE 22
Kardulias 1994, 10-17, Bintliff 1996, 246-255, Shipley 1996, 7-8.

NOTE 23
Schlanger 1992, 91-112, Kunow 1994, 338-352.

NOTE 24
Greenwood 1985, 521-544.

NOTE 25
In order to understand this shift in occupation, in the Stratiké Project, the single sites were divided into several sections and the finds from each section were collected and documented separately.

NOTE 26
Why and to what extent churches were built outside or inside settlements is much discussed. The intentional break is one theory, the other is that the church did not have real estate at its disposal within the settlement, where the governmental/municipal institution, still existed albeit on a lower level.

NOTE 27
Haggett, Cliff, Frey 1977, 111-115; 146-153, Peet 1998, 19-21.

NOTE 28
Lang, in press.

NOTE 29
Gregory – Kardulias 1990, 488.

NOTE 30
I have constructed a model for this purpose which cannot be described in detail here.

NOTE 31
A detailed explanation and the application of this model will be presented in the forthcoming Stratiké publication.

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