Préhistoire Européenne, volume 13, 1998, p. 195 à 204.

USES OF ETHNOGRAPHY IN MODELLING PALAEOLITHIC SETTLEMENT : THE PAST, THE PRESENT AND THE FUTURE

Nena GALANIDOU*

I. INTRODUCTION

Palaeolithic archaeology has long maintained a close relationship with ethnographic research. Aspects of this relationship can be seen in the formation of general theory, in models and field methodologies, and in the development of the sub-discipline of ethnoarchaeology. An examination of the history of the relationship suggests that the way in which archaeologists have used ethnographic data has changed over time, along with the theoretical orientation of our research and the questions we address. In this paper I shall be discussing the ties between ethnography and spatial archaeology. More particularly, I shall be examining how ethnographic and ethnoarchaeological work on contemporary groups of hunter/gatherers and pastoralists has been used in the study of Palaeolithic settlement and how this use has been transformed over the years. I shall be discussing both the site and the regional level of analysis, exploring three themes : the use of ethnography as a source of analogues in interpreting the Palaeolithic record, the input of ethnoarchaeology into models and methods of spatial research, and the future of the entire relationship.

The study of human settlement patterns across an expanse of time as broad as that comprised in the term 'Palaeolithic' presents us with a wide range of theoretical and methodological challenges. The questions that we encounter in studying early hominid settlement in Africa[1] will not be the same as those raised by the Magdalenean settlement in southwestern France. Here I shall discuss only the record left behind by biologically and anatomically modern humans who subsisted by means of hunting and gathering. This sort of economy goes hand in hand with social relations based on kinship, small groups and various degrees of residential mobility. These characteristics have a direct impact upon settlement patterns. Archaeological sites associated with prehistoric hunter/gatherers are either in caves and rockshelters or in the open air. They typically consist of scatters of artefacts and food remains, often associated with structures such as hearths, post holes and windbreaks. In most cases they are palimpsests of material deposited during intermittent occupations and re-occupations of the same area. The continuum of findspots of this sort that represents Palaeolithic settlement to us is, of course, unlike the record of later periods in that it lacks the fundamental artefacts of study : buildings.

II. SETTLEMENT ARCHAEOLOGY: THE THEORETICAL BACKGROUND

Drawing a distribution map and examining the horizontal associations between artefacts in a site or between sites in a region is a practice almost as old as prehistoric archaeology itself. The sort of information that one hopes to extract from the resulting distributions, and the meaning that one assigns to it, will, however, depend on one's own theoretical approach, explicit or implicit, to the past.

During the early years of prehistoric archaeology, living groups of hunter/gatherers surviving in remote parts of the world were thought of as modern versions of prehistoric ones. They were therefore supposed to offer straightforward parallels

1. Here studies of the social and spatial behaviour of modern apes are as relevant as ethnoarchaeological work on modern foragers.

*University of Cambridge. Clare Hall. Herschel Rd. Cambridge UK-CB3 9AL. Angleterre

for use in interpreting the Palaeolithic record. Early users of ethnography as a source of analogues operated on the assumption that 'prehistoric equals primitive' and had a clear ideological agenda (WYLIE 1985, 66). The answers that they found to their own questions about the evolution of the society they were studying and its technology tended to reveal the superiority of modern 'civilised' nations.[2] As the history and variation through time of cultures were almost an obsession of those dealing with the prehistoric past, distribution maps were used as a means of exploring the extent and boundaries of cultural groups, their contacts, their possible migration routes, and the diffusion of innovations. In those days, any interest in the spatial dimension of the archaeological record was purely geographic.

As archaeologists began to take more interest in social behaviour, cultural processes and the contextual significance of finds, the value of examining settlement patterns came to be more widely appreciated, particularly since ethnographic data had appeared to suggest a correspondence between the socioeconomic organisation of groups and their settlement layout. From the 1960s onwards the purely geographic interest in settlement archaeology gave way to a more anthropological one, and efforts were concentrated upon using the spatial dimension of past behaviour to reconstruct its social or economic aspects (TRIGGER 1967).

The processualist approach, rather than looking for parallels with ethnography, sought in it principles underlying human behaviour (DAVIDSON 1981). What ensued was an explosion in ethnoarchaeological studies. The processualists saw in them the means to develop 'Middle Range Theory': cross-cultural models of social, economic or spatial behaviour to explain archaeological variability (BINFORD 1978, GOULD 1978). 'Independent' observations concerning contemporary use of space were expected to introduce rigour into the methods of analysis used and the explanations of settlement patterns derived, allowing statics (archaeological data) and dynamics (human behaviour) to be discussed systematically. Spatial patterns were seen as the result of adaptations by human groups to constraints imposed upon them by the landscape or by a camp location.

The adherents of 'contextual archaeology' have challenged the utility of cross-cultural models of human behaviour, suggesting that individual action should be contextualised. They have, moreover, questioned whether any cross-cultural observation can be truly 'independent', suggesting that every observer is affected by biases arising from his/her own background. The contextualist sees material culture and its spatial organisation not merely as a mirror of social relations, but as a means of expressing, negotiating and shaping them. According to this approach, spatial structure, as one of many active elements of social interaction, should be examined not alone, but in relation to other aspects of behaviour within the culture in question (HODDER 1986).

Though all these schools depart from different points and have different expectations of and agendas for 'settlement archaeology', they have one thing in common : each refers to extant systems of human behaviour in arguing its case.[3] As far as spatial archaeology is concerned, each theoretical camp has based its questions and units of analysis upon ethnographical observations, and has used these observations to refine its analytical techniques.

III. USES OF ETHNOGRAPHY: THE DISTANT PAST

We have already seen that early interpretations of Palaeolithic settlement patterns relied upon direct analogies with ethnographic data. Such analogies were thought to be valid as long as a contemporary society documented ethnographically and a past one recorded archaeologically had some shared attributes (for instance, mode of subsistence, degree of social development or degree of sophistication of technology).

2. For an excellent discussion of early uses of ethnographic analogy see Orme 1974.

3. The way in which the Nunamiut Eskimos of Alaska use space (Binford 1983) and the organisation of the Berber house discussed by Bourdieu (1973) are two cases that constantly appear in, respectively, processual and post-processual literature.

In 1966 Movius published a detailed account of the habitation structures (with radiocarbon dates) found in the Upper Palaeolithic layers at Abri Pataud in southwest France. His main aim was to explain the significance of hearths with regard to kinship organisation and size of community (MOVIUS 1966, 321). Movius recorded the shapes of the artefact distributions and the type, position and arrangement of the hearths in each layer. He argued that the differences in spatial structure observed between layers must be attributed to changes in the social formation of the groups that occupied the site.

Movius identified at least three types of social unit, ranging from small and simple to larger and more complex. According to his reconstruction, during the Aurignacian the site was used by an expanded nuclear family, to judge by the small oval distributions of finds in the vicinity of hearths. He believed the large hearths of the 'bonfire' type found during the Perigordian V and IV to have accommodated groups larger than a nuclear family. During the Perigordian VI the site was used by groups conforming to the lineage type of social organisation that corresponds to the ethnographically documented 'long-house' type. This was suggested by a long, narrow distribution of finds, with large hearths aligned along the shelter wall at two-metre intervals. Movius also postulated a change in cooking technology between the Late Aurignacian, when food was cooked over an open fire, and the Upper Perigordian, when hot river pebbles were dropped into containers to boil their contents.

Movius' explanatory scheme was one of linear evolution from simple to more complex forms of social organisation and technological development. His spatial data appeared to fit neatly into his scheme; a series of radiocarbon dates offered a 'scientifically' obtained temporal framework against which the change he observed could be described. Movius took it for granted that the site was used as a habitation camp. Using ethnographic analogy as an excuse, he left the correspondence between spatial and social structure inadequately explored (see GALANIDOU 1997, 7 for discussion). Omissions of this sort were fairly typical of early settlement archaeology. At the time, however, many had come to see studying archaeological types, chronologies and cultures as a dead end. The new approach, for all its flaws, had something new to offer.

The model of seasonal mobility that Eric Higgs proposed to account for the nature of regional settlement in northwest Greece during the Upper Palaeolithic was published at more or less the same time, but made different use of ethnographic analogy (HIGGS *et al.* 1967). Instead of using a hunter/gatherer group as his parallel, Higgs chose the Sarakatsani pastoralists, who came from the same part of the world as his Palaeolithic subjects. The Sarakatsani transhumance pattern involves the movement of people, households and livestock from lowland pastures to upland ones every summer, and movement in the opposite direction every winter. According to Higgs' model, the Palaeolithic people who followed the seasonal migration of the deer they hunted were doing much the same thing, moving between Asprochaliko, which Higgs saw as a winter base camp, and Kastritsa, a site at a higher elevation that he believed to be the summer camp. His argument was founded upon differences in altitude, topography, orientation, mean temperature and faunal assemblage composition between the two sites. According to Higgs, seasonal mobility was the response of the people who lived in Epirus to the local climatic and topographic conditions and to the unequal seasonal distribution of grazing resources across the landscape (ibid.). Modern transhumant movement and prehistoric seasonal mobility were two sides of a single coin; both were human adaptations to the ecological constraints that affected Epirus during prehistoric times just as they do today.

Numerous publications, assessing both the epistemological foundations of Higgs' argument and his archaeological evidence, have questioned the relevance of this analogy to the Palaeolithic record.[4] Most authors have expressed some scepticism as to whether or not transhumant pastoralism and hunting/gathering can be regarded as compatible economic specialisations. They have argued that the pattern of mobility of each society should be examined within its own historical and socio-economic context. They have also pointed out that Higgs

4. In this paper I shall not elaborate upon the fact that his conclusions were not adequately supported by the archaeological data; the issue has been adequately covered by Bailey *et al.* 1983.

overemphasised the ecological experience that was undoubtedly shared by present and past at the expense of a cultural experience that was unlikely to have revealed so much similarity (see BAILEY *et al.* 1983 and GREEN 1997).

While these are legitimate points, in my view the problem with Higgs' model of seasonal mobility was not that he used the behaviour of a modern pastoralist group to support a hypothesis concerning a prehistoric foraging group. His argument would have been no more convincing had he chosen hunter/gatherers instead of pastoralists. The problem was that he ignored the variations in mobility patterns that appear in the ethnographic record. He thus failed to take into account the differences in the ways in which individual hunter/gatherer or pastoralist groups move around the landscape, and the effects of these differences upon their settlement patterns. The reconstruction of settlement organisation into which he forced his archaeological data must therefore be regarded as biased. Careful consideration of the variation in mobility patterns found in the ethnographic record would suggest that Kastritsa and Asprochaliko could have had a number of possible roles within a settlement system. Rather than being complementary home-base camps used at different seasons, they might, for instance, both have been camps used at various times of year for different purposes, or by different social groups, or for different lengths of time. Despite its intuitive element, Higgs model, like Movius', made an important contribution to the archaeology of its time. By proposing residential mobility as the key to understanding regional settlement in Epirus, Higgs opened an important path for future research.

The last example brings us to the question of what an appropriate analogy is. According to some, the analogy is appropriate if a direct historical connection between the cultures compared can be demonstrated (see for example CLARK 1951). If we adopt this view, however, we will discover that arguments from analogy are relevant to very few parts of the world and to very few archaeological circumstances. If we look instead for structural similarities or differences in the ways in which humans adapt to various conditions (for example, the nature of the landscape of Epirus), then I see nothing wrong with making comparisons using information from the ethnographic, the historic or the sociological record. A research design of this sort has, of course, nothing to do with direct analogical reasoning. It is all about looking for the sort of contrasting or comparative material that can kick-start the inferential process.

IV. USES OF ETHNOGRAPHY: THE LIVING PAST

During the 1970s and 1980s the results of ethnoarchaeological research into some of the last surviving hunter/gatherer groups (the Nunamiut Eskimos of Alaska, the Bushmen of Africa and Australian aboriginals, for example) were used extensively in Palaeolithic spatial studies. The greatest asset of this research was that it was specifically designed with archaeological problems in mind and collected the sort of information that was of interest strictly to archaeologists.

Ethnoarchaeology examined the characteristics of hunter/gatherer spatial behaviour at the scales of lifetime territory, region or home range, and site, categories that had already been defined and discussed in the literature on animal behaviour. A group's home range includes anywhere that may be visited during an annual cycle, whereas a lifetime territory is a group's maximum area of contact, maintained through alliance networks (BINFORD 1983, 145). Little interest has been shown in Palaeolithic territories (but see GAMBLE 1982 and BINFORD 1983, 110-113), the vast majority of studies dealing with use of space within a region or a site.

Binford has proposed a forager/collector model that describes how hunter/gatherers organise their subsistence strategy and settlement in relation to available resources, and has outlined the implications of this model for archaeology (BINFORD 1980). According to his model, hunter/gatherers can be foragers, collectors or any combination of the two. At one end of the continuum he describes, pure foragers tend to be highly mobile and do not store food. They use residential base camps and other places associated with the extraction of resources. At the other end, pure collectors are more sedentary, make planned expeditions to extract resources and exhibit territoriality. In addition to base camps and resource extraction locations, collectors use field camps in which they stay on trips made for special purposes,

stations from which they observe game and gather information, and caches in which they store resources.

Wiessner has discussed the effects that social strategies such as sharing and storage of resources may be expected to have upon a group's residence pattern (1982). Societies pursuing a sharing strategy are expected to produce an 'open' settlement layout that expresses and reinforces the coherence of the community as a risk-pooling unit. Societies adopting a storage strategy are expected to produce either a widely spaced settlement pattern or one that incorporates closed-in areas for resource consumption and storage. This sort of arrangement would increase privacy and avert the conflict that might otherwise be caused by unequal possession of resources. Whitelaw's research has shown that spatial organisation at the level of community settlement lends itself to a fruitful exploration of various dimensions of hunter/gatherer social organisation (1991). Whitelaw has argued that community settlement patterns can be read in terms of kinship organisation. He has also shown that similar patterns in residential density and formalisation of settlement layout are observed in groups that live in similar ecological contexts.

Binford's account of site types whose content and location allow them to be assigned to a particular subsistence strategy was immediately useful in interpreting many Palaeolithic sites. Wiessner and Whitelaw have offered us important insights into the social and ecological factors that generate similar patterns of settlement layout. None of these contributions, however, has yet been integrated to any great depth into archaeological studies. This is in large measure due to the fact that, with some notable exceptions,[5] the open-air record left behind by prehistoric hunter/gatherers is fragmentary, and often unstratified or exhibiting the palimpsest effect. It thus does not lend itself to any consideration of settlement layout similar to those permitted by ethnographic data.

Archaeological studies of intra-site spatial organisation have more consistently attempted to take ethnoarchaeological information on board. The processual school's quest for universally applicable models required that space be studied using measurable constants and variables. Body size and mechanics were its chosen constants, while the variables that it saw as the key to understanding intra-site spatial organisation were season and duration of occupation and group size and demography. The school's adherents argued that since the human body has stayed the same since the early Upper Palaeolithic these variables, which govern human spatial arrangements now, must also have done so in the past (BINFORD 1983, 145). Concentric distributions of finds around hearths were explained as zones into which artefacts were dropped or tossed, the shape of these zones being determined by factors such as the size and weight of the object and the mechanics of the human body. Each site grid was supposed to be translatable into a plan of the areas in which various activities were performed. Since different categories of find related to different activities, it was presumed to be possible to identify these 'activity areas' by examining the archaeological remains that they contained. The aim of archaeological spatial analysis was thus to identify areas of different find composition and hence to map human activities in space (BINFORD 1978, 1983). This seemingly 'common sense' approach to spatial analysis was founded upon Binford's ethnoarchaeological research on the Nunamiut Eskimos. It was to dominate Palaeolithic space studies throughout the 1970s and 1980s.

Binford's own interpretation of Movius' data from Abri Pataud is an example of this approach in action. Binford uses a generalised model developed from observations concerning hunter/gatherer sleeping patterns, superimposing what he calls 'standard bed size' upon his site plans in order to map Abri Pataud's sleeping areas (BINFORD 1983, fig.93). He suggests that the oval distributions of finds and the linear hearth arrangement found in the early Aurignacian level must correspond to an arrangement of alternating single beds and hearths, a configuration typical of temporary hunting camps. The Perigordian VI layer, according to his approach, accommodated a temporary hunting camp and a small family camp (ibid. 161-163). Although Binford's argument appears better developed than Movius', at least where the character of the occupations is concerned, two similarities can be observed here : neither man supported his

5. For example, sites from the central Russian plain (Soffer 1985) or the Scandinavian Mesolithic (Grøn 1987a, b).

explanation by examining any other aspect of the material culture represented in these layers, and both arrived at an interpretation by means of the same process, that is, argument by analogy. Movius, however, preferred to find his analogy in the relevant ethnographically documented type of society, while Binford looked for a suitable cross-cultural model.

I have discussed elsewhere my reasons for thinking that the 'activity area' model and the variables that influence contemporary western society's use of space are not particularly helpful in studying Palaeolithic settlement (GALANIDOU 1997). Briefly, the ethnographic record clearly suggests, if nothing else, that each culture has its own set of rules and meanings regarding space. Differences in the social, symbolic or practical organisation of space result in different spatial patterns, which are always context specific. The size or orientation of a site may be a criterion for selecting a place to live in today, and 'standard bed size' may be relevant to buying bed linen, but would Palaeolithic people necessarily have seen things in the same way? Moreover, it is one thing to map the archaeological material in a site and quite another to map the activities that once took place there. It is not by any means clear that if we can do one we can also do the other.

Of course, it is not impossible to derive certain cross-cultural models of spatial behaviour. We know, for instance, that spatial arrangements have to do with the status, gender and cultural background of a site's occupants, and that physical space may be used to represent social distance. These observations are very general, however. One of the challenges of spatial archaeology is to find out whether or not they are relevant to individual sites. If we use cross-cultural models of the sort that the processualists propose, we must limit our interpretations to a few dimensions of behaviour whose material remains in every hunter/gatherer site are comparable. We will then be shutting our eyes to other important aspects of human behaviour that may give rise to spatial patterns. Activity area research is a good example of the limited applicability of cross-cultural models. The ethnographic record shows that segregation of activities in space is not a practice common to every hunter/gatherer base camp.[6] Many human groups prefer to segregate their activities in time instead. In those cases where spatial segregation of activities is observed, certain artefacts are often used in the performance of more than one activity. Finally, the areas in which activities are performed do not always overlap with the places in which their associated artefacts are discarded (GALANIDOU 1997).

The methodology of Palaeolithic settlement studies has benefited enormously from ethnoarchaeological research. The processual approach's insistence upon rigorous scientific methods demanded the development of analytical techniques appropriate to spatial pattern recognition. Ethnoarchaeology has offered us sets of spatial data relating to known behaviour against which the robustness of these techniques can be assessed (see, for example, GREGG *et al.* 1991). The resulting assessments have allowed us further to refine our graphical and quantitative techniques for spatial analysis.

V. USES OF ETHNOGRAPHY: THE FUTURE

The significance of ethnographic and ethnoarchaeological data to spatial archaeology has remained constant throughout the entire history of its development, but our ideas about how best to integrate this information into our research have changed. Today we are less dogmatic in our views, yet more exacting in our expectations of interpretation. Of past approaches, we can retain only those elements that can help us to develop better ways of studying patterns in space. Three parallel ways to a better understanding of Palaeolithic settlement seem to be opening up ahead of us : (1) re-interpreting existing ethnographic data while pursuing new agendas for ethnoarchaeology, (2) contextualising spatial analysis and integrating the various levels of spatial research, and (3) looking at Palaeolithic society in a completely new way.

6. The Alyawara and the Nunamiut segregate their activities in space, whereas the !Kung and the Hadza do not.

V.1. New readings and new agendas

No one would disagree that returning to our existing ethnographic, ethnohistoric and ethnoarchaeological data with new questions in mind is today more important than ever before. In the light of recent developments in social theory, a fresh review of the evidence should help us to develop new approaches to Palaeolithic settlement.

Some recent studies undertaken in this spirit have suggested that the type and arrangement of habitation features in a camp, the position of individuals around them, the patterns of refuse disposal and the spacing of activities in time and place are all characteristic of the lived experience of a group (GALANIDOU 1997, 31). Mobile people recreate and ensure comfort and familiarity in each location in which they set up camp, no matter whether this be a cave, a canopy under the stars or a hut, by following codes of spatial etiquette that are deeply embedded in their culture. Each individual becomes acquainted with these codes by means of 'action, memory, mimesis, repetition and interaction' as he or she acquires more and more physical experience of the world (GREEN 1997, 652). This experience cannot be separated from the cultural experience. It takes on a different form, however, in different contexts (domestic or public, gender groups), and at different life stages (childhood, adult, elderly).

Particular locales within the territory of a group are regarded as familiar places for hunting or gathering, places of mythical significance, or home not because of their mere geography, but because of the social experience of geography. The immediate advantage of straight geography is that it can be analysed as a series of attributes (climate, topography, resources), whereas the social experience is a more abstract notion. Nonetheless, the entire Palaeolithic record is nothing else but the imprint in time and space of the ways in which human or hominid societies have interwoven their experience with their landscape. Thus we can neither ignore the attributes of that landscape nor treat them as the main determinants of people's spatial adaptations. It is cultural identity that makes the difference here, and that is what we should be looking for. In opening up this topic, we are changing the agenda of Palaeolithic settlement archaeology so that spatial signatures are regarded as part of a group's physical-cultural experience and the way in which it has been interwoven with the landscape of a territory, region or site. Drawing concentric circles around sites (site catchment analysis) or hearths (drop and toss zones) is unlikely to be particularly useful to us here. Analytically, I envisage the appropriate process as an inductive one. We can begin simply by recording the patterns in each site, later gradually coming to see what they mean in their regional and broader geographic contexts.

It is surely essential that the ideas that I have sketched above should be developed into a systematic framework for Palaeolithic settlement research. New ethnoarchaeological studies would be valuable here. As it can be only a matter of time before the last hunter/gatherers merge with other rural or urban communities, it is a matter of urgency to collect as much new information as possible bearing upon the issues that we have discussed. Politis' work in the Nukak camps of Amazonia is a good example of how much can still be learned from an extant group of hunter/gatherers (1996).

V.2. Contextualisation and integration

A research design such as that proposed in the previous section begins with detailed studies of use of space at the level of a site. Overall spatial configuration is studied alongside patterns of refuse disposal and patterns of re-use of site furniture during successive occupations. Patterns of spatial distributions around hearths can be particularly informative, since hearths were the focal points of social life. All these patterns are considered not in isolation, but in relation to other aspects of a site's material culture such as technology, subsistence patterns, raw materials and style. One can then gradually move on to view these spatial patterns in the context of a region and from an inter-regional perspective. Revealing the interplay between different scales of spatial variation, and the various agencies that lie behind them, is perhaps the key to the future development of Palaeolithic settlement research. This may best be illustrated by means of an example.

Kastritsa and Klithi are two Upper Palaeolithic rockshelters in northwest Greece, fairly close to one another (HIGGS *et al.* 1967, BAILEY 1997). Kastritsa is a well preserved but poorly excavated site, whereas Klithi is a

poorly preserved but well excavated site. Neither lends itself to activity area oriented research, since each is a palimpsest. The palimpsest at Klithi was created by cultural and natural formation processes, while that at Kastritsa is the result of using coarse units of archaeological recovery. For reasons that have to do with the history of research in this area, we know a great deal about the environment and resources of each site's catchment. How much, though, do we know about the societies and the people who used these sites? In order to address this question, I compared the site structure of Kastritsa stratum 5, dated to19,900+370 bp, with that of Klithi, dated between 16,500 and 13,000 bp. My investigation showed that Kastritsa's hearths were either open or stone-lined and were kindled in different parts of the site, whereas Klithi's hearths were open and repeatedly set up in the same place (GALANIDOU 1997). Even if future excavations at Klithi reveal new hearth locations, the question that emerges is why the people who camped at Klithi should repeatedly have chosen to build their fires in the same place, whilst those who camped at Kastritsa did not always do so.

My review of ethnographic evidence concerning use of space in caves and rockshelters by hunter/gatherers and horticulturists (ibid.) has led me to propose three possible explanations of this pattern (GALANIDOU in press). The first is that this difference may simply be the result of different cultural traditions in the use of space. It is ethnographically documented that different foraging communities have different sets of rules about re-using hearths. This attribute of site structure therefore has a significant cultural element. It is possible that Klithi was lived in by members of a single cultural group who happily re-used the site's existing facilities every time they returned to the shelter. Kastritsa's occupants, according to this explanation, might have belonged to a group with different views about re-using hearths, or might not all have been from the same cultural background. It is thus possible that, despite their proximity to one another, these sites belonged not to a single group's home range but to the ranges of at least two. Another plausible explanation is that both sites were used by the same cultural group but for activities of different sorts, those carried on at Klithi requiring a single hearth complex whereas those at Kastritsa demanded multiple hearths. The third possible explanation is that this difference is a temporal pattern that has to do with a shift towards a more territorially organised settlement system. In other words, this pattern has emerged because the stratum that was examined at Kastritsa is of much earlier date than the Klithi occupation. The three explanations are not mutually exclusive.

I believed that our understanding of this difference could be improved by examining site structure in roughly contemporaneous sites from the Balkans. My comparative research proved to lend support to the third explanation. I observed that the occupants of Klithi and Badanj (WHALLON 1989) (the sites occupied during the late Upper Palaeolithic) showed a preference for re-using the same hearth during succeeding occupations, whereas the occupants of Kastritsa and Bacho Kiro (KOZLOWSKI 1984) (the sites used at earlier dates) did not consistently use any particular type of hearth in successive occupations, or locate their hearths in the same place. It is thus plausible that these spatial patterns could reveal a temporal difference in the social organisation of hunter/gatherer groups in southeast Europe: that regional settlement in the Balkans changed between the Early and the Late Upper Palaeolithic as human groups became more territorial.

V.3. New agenda for studying Palaeolithic society

The last of the paths that have recently opened up, and perhaps the most radical one, demands that we alter the entire theoretical framework within which we study Palaeolithic society (and hence its settlement). Gamble has proposed that we explore Palaeolithic society in terms of the individual, the creation of networks and the role of performance in social life (1998). In such a research context we might well, rather than rushing to inspect the few surviving hunter/gatherers, find modern society an equally useful arena in which to work out our units of analysis, and equally relevant to the themes of our new discussion. Gamble has used contemporary observations concerning industrial, urban societies and traditional rural communities to investigate the demographic size of various networks. His work indicates the direction that research would be likely to take if sociological instead of ethnographic research were to be used in modelling Palaeolithic settlement in the future.

REFERENCES

BAILEY G. (ed.), 1997,
Klithi : Palaeolithic Settlement and Quaternary Landscapes in Northwest Greece, Vol. 1 : Excavation and intra-site analysis at Klithi. Cambridge : MacDonald Institute for Archaeological Research.

BAILEY G, CARTER P., GAMBLE C.and HIGGS H., 1983,
Epirus revisited : seasonality and inter-site variation in the Upper Palaeolithic of north-west Greece. In *Hunter Gatherer Economy in Prehistory*, ed. G. Bailey. Cambridge : Cambridge University Press, pp. 64-78.

BINFORD L.R., 1978,
Dimensional analysis of behaviour and site structure : learning from an Eskimo hunting stand. *American Antiquity* 43, 330-361.

BINFORD L.R., 1980,
Willow smoke and dogs' tails : hunter-gatherer settlement systems and archaeological site formation. *American Antiquity* 45, 4-20.

BINFORD L.R., 1983,
In Pursuit of the Past. London : Thames and Hudson.

BOURDIEU P., 1973,
The Berber house. In *Rules and Meanings*, ed. M. Douglas. Harmondsworth : Penguin, pp. 98-110.

CLARK G., 1971,
Folk-culture and the study of European prehistory. In *Aspects of Archaeology*, ed. W.F. Grimes. London : Edwards, pp. 49-65.

DAVIDSON I., 1981,
Can we study prehistoric economy for fisher-gatherer-hunters? An historical approach to Cambridge 'Palaeoeconomy'. In *Economic Archaeology*, eds. A. Sheridan and G. Bailey. Oxford : British Archaeological Reports IS 96, pp. 17-33.

GALANIDOU N., 1997,
'Home is Where the Hearth is' : The Spatial Organisation of the Upper Palaeolithic Rockshelter Occupations at Klithi and Kastritsa in Northwest Greece. Oxford : British Archaeological Reports IS 687.

GALANIDOU N., in press,
Regional settlement and intra-site spatial patterns in Upper Palaeolithic Epirus. In *The Palaeolithic Archaeology of Greece and Adjacent Areas*, eds. G. Bailey, C. Perlès, E. Adam, E. Panagopoulou and C. Zachos. Athens : British School of Archaeology at Athens Monograph, 3, pp. 148-158.

GAMBLE C.S., 1982,
Interaction and alliance in palaeolithic society. *Man* 17, 92-107.

GAMBLE C.S., 1998,
Palaeolithic society and the release from proximity : a network approach to intimate relations. *World Archaeology* 29 (3), 426-440.

GOULD R. (ed.), 1978,
Explorations in Ethnoarchaeology. Albuquerque : University of New Mexico Press.

GREEN S.F., 1997,
Interweaving landscapes : the relevance of ethnographic data on rural groups in Epirus for Palaeolithic research. In *Klithi : Palaeolithic Settlement and Quaternary Landscapes in Northwest Greece, Vol. 2*, ed. G. Bailey. Cambridge : MacDonald Institute for Archaeological Research, pp. 637-652.

GREGG S.A., KINTIGH K.W. and WHALLON R., 1991,
Linking ethnoarchaeological interpretation and archaeological data : the sensitivity of spatial analytical methods to postdepositional disturbance. In *The Interpretation of Archaeological Spatial Patterning*, eds. E.M. Kroll and T.D. Price. N. York and London : Plenum Press, pp. 149-196.

GRØN O., 1987a,
Dwelling organization a key to the understanding of social structure in old stone age societies? An example from the Maglemose culture. In *Archaeologica Interregionalis* 8, eds. J.K. Kozlowski and S.K. Kozlowski. Warsaw and Krakow, pp. 63-83.

GRØN O., 1987b,
Seasonal variation in Maglemosian group size and structure : a new model. *Current Anthropology* 28 (3), 303-327.

HIGGS E.S., VITA-FINZI C., HARRIS C. and FAGG, A.E., 1967,
The Climate, Environment and Industries of Stone Age Greece : Part III. *Proceedings of the Prehistoric Society*, 333, 1-29.

HODDER I., 1986,
Reading the Past. Cambridge : Cambridge University Press.

KOZLOWSKI J.K., 1984,
Earliest Upper Paleolithic habitation structures from Bacho Kiro cave (layer 11). In *Upper Palaeolithic Settlement Patterns in Europe*, eds. H. Berke, J. Hahn and C.-J. Hahn. Tübingen:Archaeologica Venatoria 6, pp. 109-129.

MOVIUS H.L., 1966,
Hearths of the Upper Perigordian and Aurignacian horizons at the Abri Pataud, Les Eyzies (Dordogne), and their possible significance. *American Anthropologist* 68, 296-325.

ORME B., 1974,
Twentieth-century prehistorians and the idea of ethnographic parallels. *Man* N.S. 9, 199-212.

POLITIS G., 1996,
Moving to produce : Nukak mobility and settlement patterns in Amazonia. *World Archaeology* 27, 492-511.

SOFFER O., 1985,
The Upper Palaeolithic of the Central Russian Plain. Orlando : Academic Press.

TRIGGER B. G., 1967,
Settlement archaeology. Its goals and promise. *American Antiquity* 32, 149-160.

WHALLON R., 1989,
The Palaeolithic site of Badanj : recent excavations and results of analysis. *Glasnik Zemaljskog Muzeja* 44, 7-20.

WHITELAW T.M., 1991,
Some dimensions of variability in the social organisation of community space among foragers. In *Ethnoarchaeological Approaches to Mobile Campsites*, eds. C.S. Gamble and W.A. Boismier. Ethnoarchaeological Series 1. Ann Arbor : International Monographs in Prehistory, pp. 139-188.

WIESSNER P., 1982,
Beyond willow smoke and dogs' tails : a comment on Binford's analysis of hunter-gatherer settlement systems. *American Antiquity* 47, 171-177.

WYLIE A., 1985,
The reaction against analogy. In Advances in *Archaeological Method and Theory* 8, ed. M. Schiffer. London : Academic Press, pp. 63-111