

UPPER PALEOLITHIC HUNTER-GATHERERS IN EUROPE - STUDIES OF SUBSISTENCE  
PRACTICES AND SETTLEMENT SYSTEMS 1986 - 1990

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I. INTRODUCTION

The last decade has seen a considerable growth of interest in reconstructing the adaptations of hunter-gatherers who occupied late Pleistocene Europe between some 40,000 and 10,000 years ago and left behind archaeological inventories assigned to various Upper Paleolithic cultures and technocomplexes. This is especially noticeable in the publications of the last five years where it has been expressed in research foci on reconstructing past subsistence practices and settlement systems. The shift from research on the behavior of the diagnostic artifacts through time and across space to attempts to reconstruct the behavior of their makers can be traced to a coalescence of interests of three disparate yet related archaeological schools of thought - the processual archaeology of North America, the analytic and economic archaeology originating from Great Britain, and ecologically oriented Scandinavian archaeology with deep roots going back to Worsaae (Trigger 1989).

It should be acknowledged at the onset, however, that interests in past subsistence practices and the implication of these for settlement systems are clearly far from new to European Upper Paleolithic archaeology as Bouchud (1966) work in the 1950ies and that of Lartet and Christy (1877) more than a hundred years ago amply demonstrate. What is new about the work being done today, however, is that it does not represent exceptions but rather the growing trend in Upper Paleolithic research. The growth of this trend has been made

possible by a number of factors that include both shifts in the paradigms employed and the increasing control of time and culture histories in the different regions of the European continent necessary prior to asking questions about human behavior.

Research directed to reconstructing past subsistence practices and settlement systems necessarily segments the analytic universe differently than do other approaches. It address questions about the behavior of hunter-gatherer groups over a concrete period of time (e.g. the annual cycle) and in specific regions. This necessarily brings a shift in attention from a site to a region, and from issues stylistic and typological to questions economic and ecological.

The period between 1986 and 1990 saw this interest in Upper Paleolithic adaptations expressed in a number of dissertations subsequently published or about to be published in monograph form (e.g. Boyle 1990; Gordon 1988; Tay-Pike 1989) as well as in a number of national and international conferences on comparing and contrasting Middle and Upper Paleolithic adaptations (Mellars and Stringer 1989, Mellars 1990), and on examining adaptations either in concrete regions (e.g. Dibble and Montet-White 1988; Otte 1987,1988; Soffer 1987b), or during specific periods of Upper Paleolithic time (e.g. Soffer and Gamble 1990, Hoffeecker and Wolf 1988; Straus 1986). Interests in subsistence practices and settlement systems also figured prominently in exhaustive site reports (e.g. Altuna et al. in press; Straus and Clark 1986), regional culture histories (e.g. Gonzalez-Saint 1989), and in synthetic works dealing either with specific time periods (Kozlowski 1986; Otte 1988; Zalizniak 1989) or with Paleolithic Europe in general (Gamble 1986).

The ensuing discussion represents a selective rather than an exhaustive treatment of the pertinent literature and focuses on identifying research directions taken, problems encountered, and questions raised in need of future research.

## II. RECONSTRUCTING SUBSISTENCE PRACTICES AND SETTLEMENT SYSTEMS

Questions about past adaptations necessarily emanate from cultural ecology which sees all human groups, past and present, as parts of an ecosystem in which they adapt to the given environment, both natural and social. This adaptation, however, is and necessarily always was, not to the environment as is, but rather as perceived by the people involved. Research on these questions for the Upper Paleolithic period, as for other periods, has concentrated on the first half of the equation - namely, on adaptations to the natural environment, as this opens one, the easier of the two, entrees into the past cultural systems.

### A. Subsistence Practices

Since adaptation is about obtaining matter, energy, and information from the environment, as well as about reproduction, behaviors associated with the acquisition of matter and energy - subsistence practices - are of prime interest. Given that first, all environments can be successfully exploited in a number of ways, and second, that what people exploits is the perceived environment, research on past subsistence practices can follow many trajectories. For example, it can be based on either "etic" predictive modeling where the parameters of the natural environment are established and optimal or satisfactory exploitation strategies predicted, which can be then tested against the archaeological record, or on "emic" or descriptive modeling, which begins with the archaeological record and, contextualizing it within a specific environmental given, reconstruct what was hunted and gathered, when, where, and why (Jochim 1981; Soffer 1985).

While predictive models of Upper Paleolithic subsistence practices, which by necessity have to be predicated on accurate control of all pertinent environmental variables, have to date had only tentative applications (e.g. Deeben 1988; Steward and Jochim 1986), the descriptive ones have figured prominently in the literature. This has been done either directly - such as by reconstructing Upper Paleolithic diets through bone chemistry analysis (Hayden

et al. 1987) or indirectly, through the study of the pertinent inventories. Among the latter approaches those dealing with the faunal remains have been the most prevalent, while those investigating botanical inventories remain are still conspicuous by their absence. Some of the archaeozoological approaches have centered around the study of the exploitation of a specific species through time (ibex by Straus 1987; deer by Sturdy and Webly 1988; reindeer by Gordon 1988; and red deer by Tay-Pike 1989), while others have dealt with all of the skeletal remains recovered. Two related approaches can be detected in the treatment of the faunal remains - Boyle's (1990) zoogeographic one and the archaeozoological one of Altuna (1986), Altuna et al. (in press), Chase (1987), Clark (1987), Leonova and Min'kov (1987), Simek and Snyder (1988) and Straus (1987, 1990b). While these studies dealt with exploitation of wild resources, cyclically resurfacing issues of animal control and possible domestication during the Upper Paleolithic have been reconsidered by White (1989 with comments). Furthermore, the reconstruction of subsistence practices through the study of faunal remains have also necessarily dealt with questions of the season or seasons of exploitation, and thus with the timing and the duration of occupation of the sites (Albrecht and Berke 1989; Clottes 1987; Gordon 1988; Julien 1987; Rozoy 1987; Straus 1987; Tay-Pike 1989; Tay-Pike and White 1989).

Finally, since organic remains are conspicuously absent from many Upper Paleolithic sites, some research attention has been paid to yet another indirect method of reconstructing subsistence practices and the season of occupation of sites - namely, through edgewear and edge residue studies (Donahue 1986; Moss 1988; Zalizniak 1989).

#### B. Settlement Systems

In as much as resources used by Upper Paleolithic groups were not homogeneously distributed across the landscape, their exploitation necessitated movements of people across the landscape. Ethnographic analogies suggest that these movements can occur in different configurations

(e.g. of entire co-residential units or of special task groups), and generate a number of functionally different yet complimentary site types which are all a part of one settlement system (Binford 1983a,b; Jochim 1981).

The last five years have witnessed a number of studies addressing the question of mobility during the Upper Paleolithic as well as the documentation of disparate settlement patterns across Europe. These not only differed from region to region, but also within specific regions show change through time. Extant studies addressing these issues have focused on delimiting different site types in the archaeological record and relating them functionally to each other. This is only possible, however, when the relative synchrony of utilization is established - something which has been often assumed but rarely unequivocally demonstrated. An exception to this has been the work of Scheer (1986) who has successfully refitted lithics from Gravettian sites but in doing so raised a crucial issue of equifinality which I will address below.

A number of methods have been used to investigate Upper Paleolithic settlement systems. Given the sparseness and ambiguity of the data on hand, the most persuasive of them have used multiple lines of evidence including the study of the raw material economies, technomorphologies and tool use, as well as through the reconstruction of subsistence practices and the implications of these for the settlement of regions (Altuna et al. in press; Andersen 1988; Arts 1988; Bosinski 1988; Gordon 1988; Hahn 1987; Julien 1987; Julien et al. 1988; Harrold 1988; Krotova 1990; Merlet 1990; Weniger 1987 a, b; Zalizniak 1990). Insights into Upper Paleolithic settlement patterns have also come from the study of the organization of space at the sites (Audouze 1987; Julien et al 1988), as well as from a consideration of the land use patterns as revealed by the location of the sites (Straus in press; White 1987).

### III. OVERVIEW OF THE RESEARCH

A cursory look at the references in this chapter reveals a number of patterns in the research done to date. First, it is a patchy list dominated by attention to just some chronological subdivisions of Upper Paleolithic time, and just some regions of late Pleistocene Europe. A chronological look shows some emphasis on contrasting Upper to Middle Paleolithic adaptations, with some researchers finding significant differences between them while others finding none (e.g. Chase 1987,1989; Clark 1987; Harrold 1988, Soffer 1989, Straus 1990a).

Some attention has also been paid in the last five years to the continuity and discontinuity in the pertinent cultural practices under discussion within Upper Paleolithic Europe. Some scholars, working with materials from Spain and adjacent regions of southwestern France, have concluded that dramatic differences can be monitored between the Early Upper Paleolithic (before the last glacial maximum at 20,000 to 18,00 B. P.) and the Late Upper Paleolithic (Clark 1987; Straus 1990a, in press). The extra-regional significance of these differences, however, vanishes when the record of Upper Paleolithic Europe is considered as a whole because many parts of Central and Eastern Europe reveal great continuity through time (Kozłowski 1986, 1990; Soffer 1985, 1989, 1990). This contrast in the records points to great diversity in Upper Paleolithic subsistence practices and settlement systems on a continental scale and advances a caveat for attempts to extrapolate global or epochal conclusions about mean or typical adaptations during any period of the Upper Paleolithic.

Given this regional disparity in how Upper Paleolithic hunter-gatherers obtained their matter and energy and how they occupied landscapes, it becomes crucial that future attention be directed to researching these topics in the many regions of Europe not covered by current work. As can be seen from the bibliography, a lion's share of research attention has been paid to sites in

Western Europe (most notably France and Spain - these entries account for 57% of all publications in the references) while data from the remaining parts of the continent (90% of the European landmass) are discussed in only 43% of the entries. The regional breakdown is as follows: (France: Audouze 1987; Bouchud 1966; Boyle 1990; Chase 1987, 1989; Clottes 1987; Gordon 1988; Harrold 1988; Hayden et al. 1987; Julien 1987; Julien et al. 1988; Merlet 1990; Rigaud and Simek 1987, 1990; Rozoy 1987, 1988; Simek and Snyder 1988; Tay-Pike 1989; Tay-Pike and White 1989; White 1987, 1989; Spain: Altuna 1986, Altuna et al. in press; Clark 1987; ;Gonzalez-Sainz, 1989; Straus 1986, 1987, 1988, 1990a, b, 1991, in press ; Straus and Clark 1986; Straus and Heller 1988; Portugal: Zilhao 1990; The Netherlands: Arts 1988; Deeben 1988; Moss 1988; Scandinavia: Andersen 1988; Italy: Bietti 1986; Bietti and Stiner 1988; Donahue 1986; Greece : Bailey and Gamble 1990; Germany: Albrecht and Berke, 1988; Bosinski 1988; Hahn 1987; Scheer, 1986; Steward and Jochim 1986; Weniger 1987a, b, 1990; Central and Eastern Europe : Kozlowski 1986; Central Europe: Kozlowski 1990; Kubusiewicz et al. 1987; Eastern Europe: Krotova 1990; Leonova and Min'kov; Soffer 1987a, 1989; 1990; Zalizniak 1989, 1990).

A similar disparity can be observed in the research on human adaptations during the different periods of the Upper Paleolithic. Some attention has been paid to the Early Upper Paleolithic ( Harrold 1988, Straus 1990a, Straus and Heller 1988 ), some to cultural practices around the last glacial maximum (Bailey and Gamble 1990; Kozlowski 1990; Rigaud and Simek 1990; Soffer 1990; Straus 1990, in press; Weniger 1990; Zilhao 1990), but the majority of time and effort has been clearly devoted to studies of subsistence practices and settlement systems during the Late and Terminal Paleolithic (Albrecht and Berke 1988; Altuna 1986; Altuna et al in press, Andersen 1988; Arts 1988; Audouze 1987; Bosinski 1988; Clottes 1987; Deeben 1988; Gonzalez-Sainz; Gordon

1988; Hayden et al. 1987; Julien 1987; Julien et al. 1988; Krotova 1990; Kubusiewicz et al. 1987; Leonova and Min'kov 1987; Merlet 1990; Moss 1988; Otte 1988; Rozoy 1987; Rozoy 1988; Steward and Jochim 1986; Straus 1986; 1988, 1991; Straus and Clark 1986... Weniger 1987a, 1987b; Zalizniak 1989, 1990).

*The disparate coverage of the different regions and time periods clearly suggest that if we want to understand Upper Paleolithic adaptations in all of their diversities, our future efforts have to be directed to those time periods and regions poorly represented in the literature on hand.*

Finally, it is equally significant that the overwhelming majority of the cited references outline and document different subsistence practices and settlement systems without examining in depth the reasons why different groups of hunter-gatherers employed the ones described. When explanations are offered, they tend to invoke some configurations in the natural environment, such as the structure of the resource base or the etology of the exploited taxa. Only a handful of scholars have addressed the broader more theoretical issues involved in human behavior which generated the specific solutions seen in the particular subsistence practices and settlement systems (e.g. Bietti 1988; Gamble 1986; Whallon 1989).

#### IV. PROBLEMS IN NEED OF OUR RESEARCH ATTENTION

Research on the adaptation of Upper Paleolithic hunter-gatherers in Europe considered in this chapter also points to a number of problems that need to be addressed before further progress can be made in this direction. Questions about subsistence practices and settlement systems necessarily shift research attention from a site specific to a region specific focus and this indeed is what most of the scholars have done. In cases which deal with specific sites, we see them contextualized within a regional framework (e.g. Altuna et al. in press; Leonova and Min'kov 1987; Rozoy 1987, 1988; Straus 1988; Straus and



Clark 1986). Such a shift from a site to a region, however, raises the question of scale - specifically, how an appropriate region is to be delimited and defined (Brown 1987). Regions considered in the work done between 1986 and 1990 range greatly in size (e.g. compare Kubusiewicz et al. 1987 to Kozłowski 1986) and use a disparate set of criteria ranging from geographically to politically defined spatial units (e.g. from river basins to nation states). Since the areas that needs to be considered depend on the questions asked, there clearly can be no pre-set catholic formulas to delimit regional research universes (Binford 1983a,b; Brown 1987; Soffer 1985). In spite of this, however, it well may be that the spatial scales we have used traditionally to investigate issues Upper Paleolithic (e.g. southwestern France), are simply too small for investigating hunter-gatherer adaptations (Brown 1987).

A second problem concerns the incomplete, disturbed, and biased nature of the archaeological record available at present for the reconstruction of past adaptations. These issues are address by Rigaud and Simek (1987) and Conkey (1987), who point out that the data we have were first and foremost collected with very different questions in mind than those we are now asking of them, and underscore that various taphonomic and post-depositional processes must be controlled before working with the records as they are and assuming that they accurately represent the full range of past human behavior.

Another major problem evident in the research is the issue of the contemporaneity of occupation not only of the different parts of one site, but of the different sites in a region - something which clearly must be established before we can proceed to classify a site functionally or, in the case of a number of sites, consider a them as parts of real past settlement systems. Scheer's (1986) groundbreaking refitting of lithics from nearby German Gravettian sites brings a note of pessimism and suggests that this

method also does not offer clear cut and unambiguous solutions to the problem of contemporaneity of occupation. She underscores the inherent ambiguity behind conjoinables - do they reflect seasonal mobility? do they reflect sequential occupation? do they reflect accidental picking up of a previously knapped piece, its curation, and subsequent reuse elsewhere? or do they reflect gift-giving or exchange?

This ambiguity looms large on many other fronts of research into past subsistence practices and settlement systems as well. Clottes' (1987) work, for example, points to multi-seasonal occupations of even the smallest sites in the Pyrenees. How this evidence is to be interpreted remains ambiguous. Bosinski (1988) argues that the Rhineland sites with evidence for multi-seasonal occupation indicate occupation by different groups in different seasons rather than a year around sedentism by one group. Julien (1987), on the other hand, indicates that ambiguity in the faunal data do not permit us to decide if the Magdalenian sites in the Paris Basin were continuously occupied during one long summer season or reflect a number of shorter return visits during warm weather months. While it is likely that refinement in our analytic methods, such as through enormously time consuming refitting of osteological remains, for example (something currently being done by J. Enloe for the Magdalenian sites in the Paris Basin), may permit us to resolve some of these ambiguities, I strongly suspect that others will remain unresolvable, and that we will have to seriously consider the impact of equifinality on our reconstructions of the Upper Paleolithic past.

Finally, while ethnoarchaeologically based middle-range research has offered us a number of material behavioral correlates which give us an entree into Upper Paleolithic adaptations, the danger of superimposing ethnographically derived models of behavior onto the archaeological record

remains everpresent ( Brown 1987; Conkey 1987). Fitting the data to the models not only gives us "just so stories" but also eliminates the potential range of variability we are interested in discovering and documenting. Confirming the present may be reassuring but it eliminates the value of the past.

## V. SOME CONCLUSIONS

First, the shift of research interests from the artifact to what Brown (1987) has termed "the Indian behind the artifact"(or, in this case, the "pre-European behind the artifact") evident in the research reported here is bringing subtle changes into our viewing of the past. The changes involve moving from focusing on the prehistory of peoples and places to focusing on cultural practices taking place in arenas whose borders have no congruence with those of contemporary Europe. If, as Brown (1987) suggests, southwestern France indeed is too small a region for the study of Upper Paleolithic hunter-gatherer adaptations, and research on these questions has to incorporate areas which today are found in adjacent nations (e.g. Belgium, Spain, Italy), then a good deal of future research on subsistence practices and settlement systems will clearly have to involve international collaboration to a much greater extent than done heretofore.

Second, it is clear from the approaches taken in subsistence and settlement system studies to date that there is no single methodology for this and that nor should there be. Rather, most promising results are offered through multidirectional approaches that use as many sources of information as possible for their reconstructions.

Third, the emergent picture of Upper Paleolithic lifeways in Europe is striking in its regional and diachronic diversity . This will only increase as neglected areas and time periods receive their share of future research attention.

Fourth, in as much as research into the subsistence practices and settlement systems does ensue from anthropologically oriented processual questions, it is perhaps a bit ironic to note that such research is beginning to raise long forgotten issues assigned to traditional culture historic approaches - specifically, questions about past inter-regional interactions and demographic shifts subsumed under the term "migration - diffusion". Regionally based research has led a number of scholars to raise questions about depopulation, the role of regional refugia, and queries about colonization and re-colonization (Gamble 1986; Gamble and Soffer 1990; Jochim 1987; Kozlowski 1986, 1990; Otte 1990; Soffer 1987, 1990; Straus in press). Since large scale demographic shifts have played an important role in European history, we should not be surprised to discover their impact on Upper Paleolithic prehistory as well.

Finally, as promising as subsistence and settlement system studies are for revealing much about Upper Paleolithic adaptations, they will clearly not yield a complete multi-dimensional picture of prehistoric lifeways. They permit us to begin exploring just one component of past cultural practices - one related to people/land relationships. Having gained an entre into the past thusly, it remains for us to explore the second component - people/people relationships - replete with individual actors and social dynamics, for these also shaped the final outcome : the Upper Paleolithic past which we want to understand.

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