



CHANGE AND CONTINUITY IN A PREHISTORIC HUNTER-GATHERER SOCIETY.
A STUDY OF CULTURAL ADAPTATION IN LATE GLACIAL - EARLY
POSTGLACIAL SOUTHWESTERN GERMANY.

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The book consists of the following chapters:

- I Introduction
- II The Swabian Alb: A Presentation of the Physical Framework
- III The Archaeological Record
- IV Source Criticism
- V The Chronological Framework
- VI Analysis of Settlement Patterns and Resource Exploitation
- VII Summary and Discussion
- * Deutsche Zusammenfassung
- * Résumé Française
- * Appendices
- * Bibliography

This study concentrates on settlement patterns and resource exploitation on a regional (inter-site) level through time. The introductory chapter clarifies the scope of the study and the conceptual framework applied. All analyses and discussions are thus based on the presumption that cultural systems may change both due to internal, dynamic processes and through adaptation to their social and natural surroundings.

Core area of the study is a relatively small, naturally-defined area in Southwest Germany - the Swabian Alb. The presentation of the physical framework gives a general introduction to topography, geology, hydrology, climate, flora and fauna of the Late Glacial and Early Postglacial Swabian Alb.

A total of 77 archaeological sites have been included in the study. In the find-catalogue they are numbered in succession and briefly described with respect to their name, location (parish, county etc), category (cave, rock shelter, open air), retrieval, archaeological contents, dating and bibliography.

A thorough methodological evaluation of the quality and representativeness of the archaeological record, however, leads to the conclusion that neither the known late upper palaeolithic sites, nor the known early mesolithic sites constitute a random sample of the original occurrence of sites. Open air localities are largely missing and the general distribution of sites within the region is presumably distorted as well. It is argued that this distortion of the distributional pattern is caused partly by a geographical restriction of research interests and partly by a marked regional variation with respect to natural conditions influencing site preservation.

For source critical and methodological reasons it is furthermore argued that it is convenient and necessary to operate within a broad chronological framework; i.e. within a late upper palaeolithic unit comprising all late glacial (Magdalenian as well as Late Palaeolithic) sites, and within an early mesolithic unit comprising all early postglacial (Beuronian) sites, respectively. Clear differences between the late upper palaeolithic and the early mesolithic inventories are observable.

The typological development during the period in question thus appears, to a certain degree, to reflect a functional break in traditions of flint technology. This break, however, should be seen within the framework of a continuous development between three, in a transregional sense, genetically connected groups (Magdalenian *sensu lato*, the Late Palaeolithic and the Beuronian).

In the analytical chapter settlement patterns and resource exploitation are dealt with starting from analyses of site location, site catchment, settlement dynamics, subsistence economy, seasonality, raw material economy, mobility and communication. The conclusions from the individual analyses can be summarized as follows:

THE LOCAL TOPOGRAPHICAL SITUATION OF SETTLEMENTS

Multiple correspondence analysis is employed to investigate the co-variation of 55 caves and rock shelters with respect to their compass bearing, absolute height above sea level, relative height above the valley floor, local topography and local hydrography.

As a result four more or less clearly defined groups of sites can be distinguished. The groups are ascribed a strategic, functional significance but have no greater chronological importance. It can be concluded that late upper palaeolithic and early mesolithic hunter-gatherers generally seem to have had the same preferences with regard to the caves and rock shelters they chose to live in.

THE SITE CATCHMENT AREA - RELIEF AND VEGETATION

A total of seven general topographical features are recorded with respect to their relative share of the catchment area of the above mentioned 55 caves and rock shelters. Together with the general description of the past environmental conditions they form the basis for an assessment of the late glacial and early postglacial vegetation of each catchment area. A multiple correspondence analysis is employed to illustrate the clear regionality of the late glacial environment. During the Early Postglacial regional differences in vegetation appear to a certain extent to have become less pronounced. No co-variation between the local topographical and the (partly chronologically significant) regional groupings can be observed.

SETTLEMENT DYNAMICS

A clear lack of finds is observable in pollen zones II, III and partly IV which cannot simply be explained away by source critical reservations. An actual decrease in the

exploitation of caves and rock shelters during the period is probable whereas no general population decline can be established. Besides a marked decrease in the absolute number of settlement horizons a clear reduction in the average size of the utilized space is observable through time. The mesolithic inventories of cores and artefacts is correspondingly small in general while the palaeolithic inventories can be divided into a large group of small inventories and a smaller group of large ones. It hereby appears possible to postulate a partial reduction in the extent of settlements (measured either in duration of occupation or in number of inhabitants) from the Late Upper Palaeolithic to the Early Mesolithic.

SUBSISTENCE

The same sizes of game animals are preferred throughout the period in question. There is no sign of an increased significance of small game animals during the Early Mesolithic just as there is no documentation for an increase in the importance of fishing.

It can be concluded that these prehistoric hunters were, to a great degree, opportunists and that late upper palaeolithic groups were not necessarily any more specialized than mesolithic groups. The reduction in the number of different animal species and changes in their mutual, relative dominance is due to natural physical circumstances during the period in question. The behavioural differences of the available game animals during the Late Glacial and Early Postglacial however, as far as the Alb area proper is concerned, were differences of degree and it was not necessary to make significant changes in existing hunting strategies. The subsistence-economical differences between late upper palaeolithic and early mesolithic hunter-gatherers can hereby be reduced to a general difference of degree where the place of the individual resource in the economic system was simply taken over by other resources with the basic structure remaining the same. Mesolithic subsistence economy is, in all respects, a direct continuation of palaeolithic subsistence economy.

SEASONALITY

There is an indication in the late glacial material of a certain polarization between northeast and southwest. A probable

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interpretation postulates short migrations between (spring and) summer settlements in the Swabian Alb, respectively the Alb valleys, and autumn and winter settlements in the surrounding lowland areas or possibly in the Alb highlands. A variant of this model, however, admits the possibility that individual groups may have been able to remain within relatively limited parts of the region throughout the year. The early mesolithic seasonal datings offer a more diffuse picture which does not incline towards any particular model of interpretation.

RAW MATERIAL ECONOMY

Within the study area there is a marked tendency to use raw materials of local or (in the Federsee area) at least regional origin during the entire period in question. It is also probable, though not definitively documented, that during the Early Mesolithic local types of chert were subjected to heat treatment before final processing to tools.

MOBILITY AND COMMUNICATION

A clear continuity can be seen between late upper palaeolithic and early mesolithic exploitation patterns both in connection with lithic raw materials and ornamental molluscs. To a certain extent, this continuity is also supposed to be true of the character of the exploitation, i.e. the active or passive mobility patterns which are the basis for the occurrence of individual pieces in the inventories. Local and regional deposits of flint and fossilized molluscs are exploited actively through the mobility of the individual groups. Long distance connections to the Mediterranean and Atlantic, for example, can be seen as evidence of communication (barter transactions). Medium distance connections to, among other places, the Mainzer basin can be seen both as an expression of personal mobility and of communication or direct contact respectively, where the latter, however, appears most probable.

In the concluding summary and discussion it is found that there is a clear cultural continuity between late upper palaeolithic and early mesolithic hunter-gatherer groups within the study area both with regard to technology,

settlement patterns and, not least, subsistence economy. At the same time, however, there are significant differences in connection with demographic conditions and the exploitation patterns of the regional area during the period in question.

Several results of the analyses (especially with regard to settlement dynamics, subsistence economy and mobility) can, with a high degree of probability, be interpreted as evidence of a flexible settlement structure with periodical aggregation camps during the Late Upper Palaeolithic, followed by a more stable structure during the Early Mesolithic. At the same time there is a clear tendency in the Late Upper Palaeolithic towards a polarization between the southwestern part of the area which manifests itself as a centre for the assumed aggregation camps and the Northeast which offers a more varied spectrum of sites.

During the Early Mesolithic these regional differences are no longer in evidence.

The observed changes in the regionality structure can, up to a point, be interpreted as a consequence of natural physical development. Late glacial climatic conditions in the Southwest made, at least periodically, a more extensive settlement possible (probably both with regard to the number of people and to the duration of occupation) whereas during the Postglacial we might generally expect a greater residential mobility and a smaller, but more stable group size for the social unit.

Presented in this way the eco-deterministic model of interpretation appears self-evident. It is important, however, to remember that the large late glacial localities in the Southwest only constitute a part of the late upper palaeolithic settlement pattern. There is no indication that the existence of periodical aggregations should have been generally vital for social and cultural reproduction of prehistoric hunter-gatherer societies.

The analyses have shown that there is a cause and effect relationship between natural physical development during the Late Glacial and Early Postglacial and contemporary cultural

changes in hunter-gatherer societies. At the same time it has also been shown that the influence of the physical environment is only a part of the larger picture. Recalling the initial presumption that cultural systems may change both due to internal, dynamic processes and through adaptation to their social and natural

surroundings, it is finally concluded that if we wish to maintain a significant division between palaeolithic and mesolithic hunter-gatherers we should, as far as possible, try to replace the current, geochronological definition with a technological or possibly a sociocultural one.