

that obsidian was being extracted by specialists and that access to this material had come under centralised political control.

The argument is persuasive, lucid and vigorous. Her case is well made and the methods that she advocates are eminently practical and could easily be applied to other lithic material; indeed, we have begun to use some of them with productive results at the Neolithic quarries in Cumbria. There is no doubt that this book is one of a select group which use stone artefacts to say something interesting. The case for more detailed documentation of quarry sites and their products is inescapable.

There are, of course, some problems with a study of this kind, but none is very important. Not all the ethnographic case studies which Torrence uses are documented in enough detail to suit her purposes, so that her approach must still be tested on more and better samples. It is also possible that surface samples from the Melos quarries do not reflect the complete range of processes that once took place there. It is conceivable that Torrence's results reflect only the last stages in a long period of use. Similarly, it would be good to learn more about the contexts in which the products of the Melos quarries eventually entered the archaeological record. Even if we can show that the obsidian was extracted and worked on a fairly ad hoc basis, it could have taken on very specific meanings at the other end of its distribution.

It would be all too easy to end on that note, for reviews are often written by people who have no conception of the sheer difficulty of the research which they are

criticising. Since my involvement in fieldwork at Great Langdale, I have come to recognise the immense problems of devising any methodology which can help archaeologists to come to terms with the complexities of early quarry sites. There is such an embarrassing profusion of material that there seems to be little way of making order out of chaos. To devise a methodology which puts that material to work needs imagination and perseverance in equal amounts. Undoubtedly, more work can be done with Melos obsidian, but Robin Torrence's study marks a quantum leap in our ability to carry this work out. On any reckoning it is a considerable achievement.

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CLIVE GAMBLE, The Palaeolithic Settlement of Europe. Cambridge University Press, Cambridge, 1986. pp471 (110 figs. and 91 tables). £40.00 and £15.00 ISBN 0-521-24514-1 and 0521-28764-2.

Reviewed by Anthony Sinclair

The interpretation of the palaeolithic period in recent years has changed dramatically. Out has gone the old emphasis upon the lithics. In has come a new concentration upon human groups adapting to their environment, developing new means of coping with risk-laden situations. This altered viewpoint can be traced directly to the influence of two schools of thought; that of Lewis Binford stressing the notion of adaptation, and that of Eric Higgs emphasising the importance of the economy.

To date though these schools of thought have dealt largely with developing theory. They have not yet attempted to interpret the vast

body of archaeological material that makes up the palaeolithic of Europe, and has been the domain of the French influenced culture-historical school.

The present work is a very deliberate attempt to set this issue to rights. It aims to show that an understanding of the European palaeolithic must be firmly rooted within the framework of a regional analysis, and encompasses the essential concept of a challenge between a group's adaptational skills and the changing environment of glacial Europe.

The whole work is structured by this principle. It begins with the history of palaeolithic studies to date and the approaches that these have taken. This first chapter shows the deficiencies of the culture-historical approach and so stresses the need to move over to an ecologically oriented approach backed up by a sound middle range theory linking the statics of the record and the dynamics of hunter-gatherer behaviour. The second chapter develops this by showing that hunter-gatherer groups are in fact regional systems in relation to the environment at three scales; spatial, demographic and social. Spatially they show a resource use strategy juggling the costs of environmental exploitation. Demographically they exhibit a three tier system of band organisation. Finally on the social level they interact through marriage networks, vital if a group is going to survive as a reproductive unit, and networks of information exchange. The archaeological implications of this are then spelled out, in terms of the approach to the material record and how it should be analysed.

With this introduction finished the book is away, and the relationships of hunter-gather groups and their changing environment in Europe is considered. It begins with a good summary of the environmental evidence. Gamble improves upon the norm here not only by describing the current ocean, pollen and sediment core work, but also by showing how the resources implied by this work will be spatially structured in different times.

The archaeological record is set out relative to four time periods and nine regions, decided upon on the basis of longitude, latitude and relief. Each region and time period is then described in terms of chronology, industrial groupings, geographical variation and human remains. The following three chapters then relate this record to the theoretical topics of space and subsistence, style and interaction and lastly society, sediments and settlement. The book is rounded off with a chapter on the palaeolithic settlement of Europe, or as Gamble nicely puts it "three models of what they did when they got to Europe".

In comparison to previous syntheses of this period, such as François Bordes' The Old Stone Age (1968), Gamble's work is noticeably different. The Old Stone Age concentrates on the evidence, particularly that of the lithics. The theoretical background is summarised in just 15 pages at the beginning. In contrast an account of the material record comprises little more than a quarter of The Palaeolithic Settlement of Europe. Furthermore, the faunal evidence now, where possible, takes pride of place.

Examples of this can be seen in the chapter on the evidence itself. In addition to the usual discussion of geographical variation there are added case studies for the southern and northern provinces for the period 20,000-10,000 BP. These studies are essentially faunal and economic in nature, being the work of Sturdy and Hahn in Germany, and Bailey, Clark, Freeman and Straus in Cantabria. The reason for this lies clearly in Gamble's dissatisfaction with the lithic evidence, formed as is within the framework of a "peoples and cultures" approach, and his greater understanding of faunal matters.

Herein lies a certain tension. Gamble's approach both relies and needs an economic (i.e. faunal) and regional data set. The record for Europe has, as he notes, been collected as sites and stones (as for example in H. de Lumley's *La Préhistoire Française* [1976]). Consequently his spatial, social and demographic analyses are limited in examples.

There are other tensions present. It seems at times unclear whether this is an introduction to palaeolithic theory, or a presentation of the evidence. It ends up being a bit of both, culminating in an illustration of the theory with the European evidence. Within this uneasy sandwich lies the filling of the archaeological record. The main conflict here is the essentially chronological nature of the subject matter (i.e. the changing nature of the adaptations and archaeological record through time) and the treatment of the theory in a synchronous manner. This creates an imbalance between the sections dealing with this historical aspect and those concerned with the identification of palaeolithic behaviour, which

have no chronological underpinnings. The book, therefore, does not flow as easily as Dennell's recent work on a similar theme which a chronological perspective (Dennell 1983), nor as well as Binford's which treats hunter-gatherer behaviour within a static time frame (Binford 1984).

As an introduction to current notions in the palaeolithic, the book is both clear and comprehensive, although the section on technology and typology is not as sharp as the rest. The glowing forward by Lewis Binford attests to this. As a synthesis of the European palaeolithic record it is at best an introduction. For instance, there is a conspicuous absence of any detailed treatment of the skeletal remains, which are so important to any discussion of this subject. Consequently major debates among palaeolithic archaeologists and in particular the effect of the 'appearance' of *Homo sapiens sapiens* go undiscussed in any detailed way. The sheer volume of material written about the European evidence, however, makes such an enterprise impossible. An excellent bibliography, though, does provide a good entry into this literature.

The book does highlight some future problems for palaeolithic archaeologists, as well as some inconsistencies within the current theoretical framework. At a general level the whole relationship between the social and economic aspects of a society, even a 'simple' one, is problematic within the social sciences. Leaving this aside though, the main problem seems to be the attitude towards material culture.

Besides fulfilling a basic

technical need, material culture is seen as a medium of information exchange. Social relationships and presumably environmental details are, therefore, the assumed content. The impression one receives is one in which freedom of information is almost 'constitutionally' observed. The notion of social strategy, as envisioned by Bourdieu (1977) and others, is rarely touched upon. Furthermore, there is little consideration of how this is likely to be seen in material culture, which after all makes up the record.

Current studies of style and art are particularly vulnerable to such a criticism. To use an example from the book, Gamble interprets the geometric similarity between Venus figurine design across Europe c. 27,000-24,000 BP suggesting that this possibly reflects an information network.

It is an interesting idea but falls foul of the criticism of being simple culture-history with the names of the terms changed around. There is no account of how these items would convey such information, nor of how information would be controlled and organised through these objects. Their geometrical similarity might in fact simply reflect an accurate observation of the geometricity of the human body. Palaeolithic art is known for its representational accuracy. If palaeolithic archaeologists do wish to study social processes a better understanding of the meaning of material culture is a prerequisite. At the moment it seems to play a merely illustrative role to the theory.

The Palaeolithic Settlement of Europe could be improved both

organisationally and theoretically. To its great credit the book is very well illustrated, as such a graphic approach needs, although a map of the 'regions' of Europe within the chapter on the record would have been helpful. Despite the problems of its layout, though, it is a good place to begin an appreciation of current ideas about the palaeolithic of Europe.

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- P. ALLSWORTH-JONES, *The Szeletian and the Transition from Middle to Upper Palaeolithic in Central Europe*. Clarendon Press, Oxford, 1986. 412pp (12 plates, 30 tables, 50 figs. and 9 maps). £55.00 (Hard) ISBN 0-19-813401-0.

Reviewed by Tim Reynolds

The Palaeolithic of Central Europe remains one of the least understood areas of Palaeolithic studies as a consequence of the restricted number of publications containing significant amounts of information. This is confounded still further by even fewer publications in Western European