The Mousterian in Mediterranean France: A Regional, Integrative and Comparative Perspective

Carolyn Szmidt

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The Mousterian in Mediterranean France is a classic regional synthesis compiling data from 237 Mousterian lithic assemblages and 32 faunal assemblages from a total of 79 individual sites located in southern France and dated from 35,000 to 118,000 years ago using various methods. This research stems from C. Szmidt's Ph.D. dissertation at the University of Cambridge in 2001. The main objectives of her analysis were to identify Neandertal behavioral patterns at a regional scale, to explain the observed variability between assemblages using regional environmental particularities, and to compare these regional patterns against the Mousterian record from the *classic* region of southwestern France. The author thus gathered a large volume of data from published (monographs, articles) and unpublished (site reports) sources in order to tackle the broader topic of the internal variability of the Mousterian lithic industry by testing the five main models (Bordes 1981; Binford 1973; Binford and Binford 1966; Dibble 1998; Dibble and Rolland 1992; Mellars 1992; Kuhn 1992) put forward to explain this variability. In recent years, other topics such as the Middle-to-Upper Paleolithic transition have somewhat eclipsed Mousterian variability, which remains a fundamental research topic not only for our understanding of Neandertal adaptive strategies but also to enhance our ability to identify the factors affecting lithic variability in general. Because of this, archaeologists should welcome this book whose premise may well trigger a renewed interest in issues related to lithic assemblage variability in the light of underestimated datasets.

In many ways, *The Mousterian in Mediterranean France* is reminiscent of some of the regional syntheses produced in the 1990s (e.g., Mellars 1996). The initial goal of the study was to gather a large volume of data in order to formulate regional generalizations on behavioral trends of the Mediterranean Mousterian based on the relationships between specific variables and indices extracted from both lithic and faunal assemblages. The author hypothesized that regional factors related to specific resources availability and spatial distribution may best explain some key-aspects of lithic variability between assemblages and between regions. Regional studies also tend to narrow the array of factors contributing to this variability thus theoretically permitting a more acute identification of these factors through the testing of targeted hypotheses. The principal challenge of regional syntheses is to create and maintain data control procedures to insure the consistency of the datasets initially collected by different archaeologists working within different research paradigms. As acknowledged by the author, such regional approaches thus require the analysis of archaeological assemblages recovered using outdated and/or highly selective types of field data collection methods. Compounded by the fact that many old collections have been altered by various curation techniques and repeated analyses, many collections are better viewed as biased samples whose level of reliability and consistency should be critically assessed on a collection-to-collection basis. This crucial step was undertaken to an extent in the present study, leading Szmidt to exclude many assemblages based on well-defined criteria (excavation date, excavation surface, assemblage size…). The overall count of the studied assemblages could be misleading since only half (118 assemblages) of the initial 237 assemblages are composed of more than 50 lithic artifacts. Throughout the study, and fully acknowledged by the author, sample size is the main issue.

The lithic analysis (Chapters 3, 4, and 5) focuses on testing the five main models of Mousterian variability. Binford's functional model (Binford 1973; Binford and Binford 1966) is quickly dismissed with arguments previously used by other authors stressing the lack of correlation between the discrete Mousterian facies and technological criteria. Dibble's reduction model (Dibble 1988) also is found not to hold well with data from Mediterranean Mousterian assemblages. Szmidt's critique, however, is limited to plotting the association between reduced types (convergent and transverse scrapers) and proxies of reduction intensity (core to flake ratio). Considering the overall quality of the collections being used for this demonstration (relative absence of cores and unretouched flakes due to previous artifact selection), new analyses would be required to confirm this result. Similarly, in the absence of any systematic lithic raw material data, the relationship between scarcity of lithic raw material, reduction intensity, and site occupation intensity is difficult to evaluate despite Szmidt's effort to incorporate some qualitative raw material data from a limited number of sites. For that same reason, Kuhn's model (Kuhn 1992) is not tested.

Faunal assemblages are another main source of information (Chapters 6 and 7). The main objectives of the faunal analysis are to identify the main species represented in the 32 study samples and their relative abundance (using NISP and MNI) and to isolate specific patterns of association between variables from the lithic analysis directly connected to hypotheses and assumptions contained in the classic models of Mousterian variability under scrutiny here, including faunal specialization and correlations between Mousterian

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facies and main hunted species. The same problems highlighted for the lithic analysis are clearly more significant when dealing with faunal samples. Faunal analyses were not available for all the studied sites due to poor preservation conditions. Furthermore, since Szmidt did not conduct any new faunal analyses, she relies again on the type of data available from published and unpublished sources. In this case, she gathers qualitative (presence/absence and main species dominance) and some quantitative data using common faunal indices (mainly MNI and NISP) with all the methodological problems associated with such methodology. If new analyses may have been more profitable, the use of standard indices tends to ensure some level of consistency especially since the objectives are not to extract specific behavioral information but to evaluate the validity of previously observed correlations. The remaining issue with this method is its inability to identify taphonomic processes (artifact size sorting, differential preservation) that may have affected the representation of certain species, their identification, and their relative abundance. Some published data (spatial distribution and orientation of bone fragments) could have been used to further evaluate taphonomic processes. The only taphonomic process evaluated by Szmidt is the identification of carnivore activity and its intensity using high carnivore NISP, the ratio between large carnivore NISP and ungulate NISP, and the ratio between ungulate abundance and lithic artifact abundance as proxies following a method developed by Stiner (1994).

One of the most striking results of the faunal analysis (Chapter 7) is the fact that reindeer is one of the least represented ungulate species while horse (dominant in almost half of the assemblages) and red deer (up to 86% in certain assemblages) tend to dominate most of the studied assemblages. Geographical patterns also were observed with the highest frequencies of reindeer all located west of the Rhône Valley, while all the other species were found all across the region. Overall, the horse is the most common large species in Mediterranean France, and especially along the Rhône valley; the ibex tends to dominate the Provence region, while red deer is slightly more prevalent west of the Rhône valley. These patterns are not supported by large sample sizes and new analyses would be required to confirm them. Regarding faunal specialization, Szmidt concludes that the southern French Mousterian sites exhibit significantly less specialized hunting patterns than the southwestern ones. However, Szmidt surprisingly defines specialization here as the dominant species representing 50% or more of the entire assemblage (p. 124), while specialized sites are commonly defined by assemblages with one species representing well over 80% of the entire assemblage (Grayson and Delpech 2002 contra Mellars 2000). To explain such lack of specialization, the author favors environmental conditions and faunal distribution patterns, as well as the apparent flexibility of the Mediterranean Mousterian groups.

The main purpose of Chapter 8 is to compare the observed variability of the lithic and faunal datasets. The relative proportion of scrapers tends to decrease when bovid frequency increases, whereas it increases when reindeer frequency increases. For the other large species (ibex, horse, and red deer), the patterns, however, seem much more confusing. By removing samples potentially biased (small excavation surface, selective field data collection) and/or affected by taphonomic processes (carnivore action only), Szmidt reduces the number of faunal assemblages to 17. However, the correlation between scraper frequency and main species still hold. Similarly, the positive relationship between the relative proportion of denticulates and the frequency of horse remains identified in southwestern France (at Combe Grenal, Pech de l'Azé II), although never fully demonstrated, does not hold in Mediterranean France, but the overall small number (n=4) of Denticulate assemblages does not make this demonstration very compelling. For the relationship between Levallois Index and the main ungulate frequencies, it appears that open environment species (horse, ibex) tend to be associated with higher Levallois Index than the ones associated with forested environment species (red deer). Szmidt hypothesizes that this could be explained by lithic raw material availability suggesting that the Levallois Index is higher in regions with abundant lithic raw materials. The low visibility of chert outcrops in forested regions may explain the association of forested environment species (red deer) and the high Levallois Index. Similarly, the high blade index (ILam) tends to be associated with a high frequency of reindeer. Once again, the small number of assemblages with high reindeer frequency (n=5) renders the demonstration rather weak. According to Szmidt, these patterns refute Binford's functional model on the basis that this model would require a specific scraper Index (IRess) to be strictly correlated with a specific fauna/retouched pieces ratio. These patterns almost systematically contrast with the ones identified in southwestern France. This study thus brings interesting points to the debate. However, Szmidt only provides a limited number of original hypotheses which would contribute to further explain these patterns and to trigger new studies. If a critical reevaluation of the published models concerning Mousterian variability is productive in itself, the reader would welcome the addition of new hypotheses and models.

In Chapter 9, to test Mellars' chronological model (i.e., Mellars 1969, 1996), Szmidt compiled the dates available for some of the sites studied (n=18). Particular attention was given to the Charentian assemblages typically correlated with the harsh climatic conditions of OIS 4 (ca. 75–60,000 BP) in southwestern France, to the progression of certain indices (Denticulate, Blade, and Group III indices) expected to be the highest during the late Mousterian in Mediterranean France and to the successive Ferrassie-Quina when these two facies are present at the same site as previously identified by Mellars (1969, 1992; with also a decrease of the Levallois Index from the Ferrassie to the Quina facies and within these two facies). Here again, sample size is a critical problem. There are no dated sites for the Typical Mousterian and only one Denticulate Mousterian site was available in the studied region. For the Charentian Mousterian, Szmidt concludes that it shows a much wider chronological spread than in southwestern France. Overall, most of the chronological patterns identified are based on a very small sample size and they should be taken with much caution, as emphasized by the author.

The main problem associated with any regional synthesis, based on the literature rather than new original analyses, is that the computed data is necessarily inconsistent. For instance, Szmidt (p. 33) seems to assume that typological analyses are somehow consistent between different observers. I would cautiously hypothesize that type-lists produced by different archaeologists inject a serious dose of additional variability to the mix. Assuming this is not the case, technological analyses, and analyses using the *chaîne opératoire* approach, are clearly not objective descriptions of lithic assemblages. Since most of the indices used for the demonstration are technologically-based, this study should be replicated using new analyses of assemblages rather than data from published reports and monographs. Szmidt concludes that none of the classic models that attempted to explain Mousterian variability can fully account for the variability observed in Mediterranean France. She further hypothesizes that this is, in fact, surprising since Mediterranean France is not very different from western France in terms of environmental conditions.

As emphasized by Szmidt in her conclusion, raw material analysis is clearly lacking in this study. The analysis of lithic raw materials in southwestern France has demonstrated its ability not only to identify mobility patterns and group movements but also to explain some of the variability observed in Mousterian lithic assemblages. The proposed tests of the main Mousterian variability models would have been much more convincing with the addition of lithic raw material data. The availability, location, and morphology of the lithic raw materials cannot be underestimated as crucial factors explaining or at least reflecting specific behavioral patterns directly related to resource exploitation strategies.

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