

Denise de Sonneville-Bordes 1919–2008

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29 December 1919 – 21 May 2008

Denise de Sonneville Bordes, a woman of many talents who exercised a great deal of influence on the development of Paleolithic studies, died May 21, 2008. She will be remembered most especially for the role she played in the 1950's and 1960's in imposing the systematic analysis of lithic assemblages and putting into question prevalent views of culture change during the Upper Paleolithic. Her work paralleled that of her husband, François Bordes, who focused on the earlier periods of the Lower and Middle Paleolithic. Together they collaborated on field projects, introduced research methods that were new to the field, and co-authored a number of publications. In fact, it is difficult to separate their achievements. The strong personality of François Bordes and his reputation among the many students he attracted have too often overshadowed the accomplishments of his wife who was a strong, imaginative, often brilliant, scholar in her own right.

Denise de Sonneville was born in Bordeaux, December 29, 1919, to two noted artists who belonged to old, well-established families of the region. She completed her lycée education obtaining the *baccalauréat* in 1939 and in 1942 she entered the prestigious Ecole Normale Supérieure de Sevres, which, at the time, was the best, most selective, college for women in France. She remained at the Ecole Normale Supérieure during the troubled years of World War II, graduating in 1946 with a *License classique*, additional *certificats* in Geography and Ethnology, and a *Diplôme d'Etudes Supérieures* in History. More importantly, perhaps, she met some of the best scholars of the time, who came to give lectures and seminars at the school—Lucien Febvre, the historian founder of the Annales School had a marked influence

on her views. She then taught high school between 1946 and 1952 and received a teaching award which permitted her to visit several countries in Africa.

She married François Bordes (FB) in 1943. This was the beginning of a strong, if sometimes stormy partnership, which lasted until his death. Soon after the end of WWII, while teaching high school and raising children, she accompanied FB into the field and the lab. She became more involved in Paleolithic studies and began to develop her own research objectives, focusing on the Upper Paleolithic. The extensive collections recovered by Denis and Elie Peyrony in the 1930s, and stored at the Les Eyzies Museum, provided a large database that she used to undertake the reevaluation of assemblage variability in the Upper Paleolithic. Sponsored by Henri Breuil, Jean Piveteau, and Raymond Vaufray, she obtained a research position at the *Centre National de la Recherche Scientifique* in 1952. She then was able to concentrate all her energies on the monumental task of sorting, counting, and describing materials recovered from Perigord sites in France. This work led to a major reinterpretation of Upper Paleolithic phases which she presented as a *These de Doctorat es Science* in 1956. As the project was nearing completion, she began one major excavation at the shelter of Caminade, which contained a sequence of Mousterian and Early Upper Paleolithic layers. That project ran between 1955 and 1961.

It is now somewhat difficult to imagine the state of lithic studies in the early 1950s, when artifact recovery in the field was highly selective and only the most characteristic pieces were taken into consideration in assemblage descriptions and classifications. The *liste typologique du Paléolithique su-*

périeur which she elaborated in collaboration with Jean Perrot (*Bulletin de la Société Préhistorique Française* 1953, 1954–56) adapted the principles and objectives set forth by François Bordes for the Middle Paleolithic. The greater complexity and much greater degree of variability exhibited by Upper Paleolithic assemblages required a somewhat different treatment—she elaborated on that point in a major article published in 1954 in *L'Anthropologie: Esquisse d'une évolution typologique du Paléolithique supérieur en Périgord, défense et illustration de la méthode statistique*. Between 1952 and 1956, the office she shared with FB at the *Institut de Paléontologie Humaine* was the center of discussions focused on the analysis and interpretation of Paleolithic assemblages—discussions that lasted until evening. Many scholars and students of the time came to present their findings and discuss their views and interpretations. The results of these impromptu seminars were to transform prehistoric research. It was the privilege of young students to observe, listen, and occasionally participate in the debates.

In 1956, FB was named to the professorship at the University of Bordeaux where he started a new chapter in his research career. There, Denise continued to work; in 1960, she published *Le Paleolithique supérieur du Périgord*, the dissertation she completed in 1956. The typological method she had so successfully developed and applied became widely used. Jean Combier's *Le Paléolithique de l'Ardèche* (1966), is one of the regional studies undertaken by students of the Bordeaux Institute following the model set by *Le Paleolithique supérieur du Périgord*. Ph. Smith's *Le Solutréen en France* (1966) is another notable example of the effective application of the typological method. Denise Bordes herself extended her research to other regions in Europe—*Le Paléolithique supérieur en Belgique* (*L'Anthropologie* 1961) and *Le Paléolithique supérieur en Espagne Cantabrique* (*L'Anthropologie* 1962).

She took charge of the publication program of the Institute and organized a number of international meetings. She also was interested in communicating with a wider audience and published two popular books, which reached a vast public and contributed in spreading her views of the prehistoric past and her understanding of prehistory as a field of research—*L'Âge de la Pierre* (que sais-je, 1961) and *La Préhistoire Moderne* (Fanlac 1962).

The 1950s and 1960s were the most productive period of her long professional career, which was almost entirely devoted to the development, application, interpretation, and defense of the typological method (*méthode statistique*). The principles on which the method was based are well-known and need not be detailed here. But the notion of

including all modified artifacts in the description and of providing counts was entirely new at the time. And so was the rigorous definition of types based on morphological features including selection of blanks and style and placement of retouch. Her approach was pragmatic rather than theoretical and based on a solid and wide knowledge of museum collections. Her selection of criteria for type definition was built on experience rather than mathematical tests of probability and there was no arguing with her on the point that empirical first-hand knowledge is superior to statistics. She was quick to express her impatience with attribute lists, pointing out with some justice that attribute analysis in most instances reproduced the types she had defined. She more reluctantly admitted that it could do other things as well.

Her major objective was to promote comparisons between series of assemblages in order to recognize the recurring associations of tools characteristic of a cultural phase. The cumulative graphs were a convenient, user-friendly, graphic device, that FB and she judged to be more effective than simple histograms. Again, it is difficult to imagine today a research lab without computers, limited to using slow, cranky calculating machines and graph paper. Legitimate objections notwithstanding, cumulative graphs “worked” as she used to say. They indeed served to illustrate the ordering of stone tool assemblages and rendered obvious the clusters of artifacts which define Upper Paleolithic stages in the Périgord. She was able to demonstrate, among other things, the weakness of Peyrony's argument for two parallel technologies during the early phases of the Upper Paleolithic. When applied to series from other regions, the graphs illustrated obvious differences as well as similarities which raised issues of interregional variability.

Denise Bordes used and applied the method as far as it could go. The advances of computer technology have since enabled more complex analyses of artifact attributes, supplanting the use of type lists and rendering cumulative graphs obsolete. And research emphasis has shifted from typology to the study of reduction sequence, raw material use, and many other aspects of lithic technology. For those who are familiar with it, the type list remains a language, a convenient way of communicating, and an initial way of evaluating an assemblage. Despite its limitations, the massive data collected in her thesis remain an excellent tool for students wanting to evaluate and understand the variability in Upper Paleolithic lithic assemblages. And it remains true that, when Denise de Sonneville-Bordes' work came out in the 1950s, it was a gigantic step forward in the development of Upper Paleolithic research.