

Fitting Rocks: Lithic Refitting Examined

Utsav A. Schurmans and Marc De Bie (eds.)

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This volume presents the proceedings of a symposium, "Fitting Rocks, the Big Puzzle revisited," held in 2001 at the XIVth UISPP congress in Liège, Belgium. The reviewer recalls the Liège symposium as being both very well organized and very well attended and it is accordingly enjoyable to see the final proceedings. Included in the volume are an "Introduction" and eight papers. One paper is in French, the rest in English. Only the English papers are considered in this review.

As stated in the rather summary type of "Introduction," the volume features most, but not all of the original papers. Thus, by comparison with the original "Big Puzzle" symposium and proceedings (Cziesla et al. 1990), the present volume may seem rather meagre. Nonetheless, I believe that the editors have succeeded in bringing together "an interesting diversity of approaches to the use of lithic refitting in archaeological research" (Introduction, p. 1).

The initial, and in various respects introductory, chapter by Utsav A. Schurmans on "Refitting in the Old and New Worlds" presents the background and a broad historical overview of lithic refitting followed by a comparative review of the use of refitting in France and the USA. The review is based on papers from selected journals and Schurmans wisely presents these as "good polar representations of what really amounts to a continuum in the practice and application of lithic refitting research" (p. 7). It is quite interesting reading although I find it difficult to agree with some of the conclusions drawn. For example, it is stated, with respect to the typical New World refitting approach, that "... (bifacial) technologies cannot be refitted using production sequence refits, but rather must be refitted primarily by fitting tiny resharpening flakes onto the bifaces, before potential larger flakes can be fit onto these tools" (p. 17). From a rather thorough experience in refitting a series of Danish Early Bronze Age settlement inventories with primarily bifacial production sequences, I have come to a quite different conclusion. In these Bronze Age inventories formal tools are few, but well made, and there is ample evidence that scrapers and knives made on flakes belong to the same conceptual framework—and sometimes even to the same primary production sequence—as the bifacially worked asymmetrical sickles. More to my liking, Schurmans also questions the fact that "Some archaeologists (*les technologies*) have argued that technological sequences can be reconstructed without recourse to refitting" (p. 10). Like Schurmans, I have my doubts that this approach (also often referred to as mental refitting) is truly satisfactory. The

truth is that there is a wide variety of approaches to modern lithic analysis and none of these (including refitting, attribute analysis, microwear studies, distribution analysis, etc.) can stand alone.

This point is explicitly highlighted in the paper by Marc De Bie on "Benefiting from Refitting in Intra-Site Analysis." The extensive refitting of flint from the site of Rekem serves as a textbook example of the possibilities and equally the interpretational limitations of the approach. De Bie rightly states that refitting must be embedded in an extensive research program also involving use wear analysis, attribute analysis, distribution patterns, etc. This is a must read paper to students and beginners in refitting, with many a good point. The burins from Rekem, for instance, are a state of the art example with respect to understanding the dynamic use-lives of specific tool-types. Let this be a lesson to colleagues still believing in the analytical potential of subtype frequencies in late Paleolithic inventories.

The paper by Nick Ashton on "Refitting and Technology in the British Lower Palaeolithic" is brief, but nonetheless serves to illustrate the potential in refitting, especially with respect to technological issues. The examples presented highlight results obtained with respect to understanding core and flake working in the assemblages in question. Further research potential may be seen in applying refitting more extensively to biface manufacture. So far this has been done at Boxgrove only.

Francisco Almeida presents the case of "Refitting at Lapa do Anecrial." This is a very interesting Upper Paleolithic cave site in the Portuguese Estremadura. The stratigraphy spans the Gravettian-Solutrean transition. Almeida deals in details with the late Gravettian (Layer 2) which represents a small, short term occupation (living floor) with excellent post-depositional conditions that have ensured *in situ* preservation of artifacts and faunal remains. More than 51% (92% by weight) of the lithic assemblage has been refitted, thus enabling a detailed understanding of reduction sequences and raw material exploitation strategies. Bladelet production clearly was the main purpose of lithic reduction at Lapa do Anecrial. By way of refitting and micro-wear analysis it is also documented that the so-called "carinated tools" were in fact bladelet and small flake cores (p. 59f). And, most importantly, this observation holds for flint as well as quartz. Thus the "quartz reconstructions ... show a pattern completely identical to the one seen in the flint" (p. 67). The unique circumstances for preservation at Lapa do Anecrial have provided another textbook-example

of the potential uses of refitting that include not just the technological observations mentioned, but also a preliminary spatial analysis indicating the presence of no less than three active flint knappers—one of which was an experienced quartz knapper.

The Abric Romaní, in the far northeast of the Iberian Peninsula, presents a very different situation. This spacious rockshelter comprises an almost 20m thick stratigraphic sequence including several Middle Paleolithic archaeological levels. The paper by Manuel Vaquero, Gema Chacón, and José M. Rando on “The Interpretive Potential of Lithic Refits in a Middle Paleolithic Site” addresses the evidence of refitting from the Romaní rockshelter with respect to Neanderthal intra-site spatial behavior. The focus is on the definition of spatial units, e.g., activities related to the numerous hearths, and the explicitly stated purpose is to challenge the belief held by some scholars that Neanderthal spatial behavior may be considered “structurally different, that is, simpler than those of anatomically modern humans” (p. 75). This objective is surely commendable, but the evidence presented by the Romaní rockshelter analyses are not entirely convincing in this respect, and in the concluding remarks the authors accordingly tone down the discussion to a matter of pointing out the complexity of these issues in order to illustrate “the wide range of questions that can be solved through the spatial use of refitting data” (p. 87). In my point of view, the discussion of intra- and inter-site mobility of certain kinds of Middle Paleolithic artifact types is the most interesting contribution made by this paper.

In my memory of the Liège symposium, the presentation by Philip Van Peer stands out as one of the most inspiring, and I have accordingly been looking forward to reading his paper on “Refitting of lithic reduction sequences, formal classification systems, and Middle Palaeolithic individuals at work.” I am happy to note that this chapter is particularly well-written and in many ways a must read paper to anybody interested in refitting. Van Peer succeeds in presenting refitting as a method capable of transforming a static archaeological record into a dynamic picture of the past. Behavior comes alive. Admittedly, the paper would have profited from a selection of artifact illustrations, e.g., for elucidating the description of sequence progress, pattern generation, and momentum analysis (p. 92ff). This specific approach seems inspired from the diacritical method, although the refitting part obviously adds to it an extra dimension of time. As such the approach is clearly superior to the traditional diacritical method. The paper features a discussion of the purpose and nature of classification with specific reference to the Levallois concept and raises fundamental issues with respect to the emic relevance of “Levallois as a system of core reduction” (p. 98). From this general discussion follows a more detailed study of specific reduction sequences from two Middle Paleolithic sites in the Upper Egyptian Nile valley. The conclusion acknowledges the presumption that the inventories in question quite likely reflect a (Late Nubian) complex that may be characterized as a “complex phenomenon in terms of social organisation, relying on the principle of labour and special-

isation” (p. 102). At Taramsa, the Levallois method is connected with the activities of anatomically modern humans (Vermeersch et al. 1998), however, many non-Paleolithic specialists would probably tend to associate the Levallois method with Neanderthals. In relation to the objective of the previous paper (Vaquero et al.), and notwithstanding the emic-etic discussion of types, it would in fact be quite interesting to see a comparative analysis detailing possible differences in the Levallois concept applied by those two types of hominids.

The concluding chapter in the volume is by Peter Hiscock on “Australian Point and Core Reduction Viewed Through Refitting.” This commendable paper emphasizes the importance of studying process rather than static discard products. To this end, even the phantoms, or factual target flakes, receive special attention. Obviously, this is only possible through refitting. Clearly this is a well researched paper, and, like Van Peer, Hiscock is genuinely interested in improving the refitting method. The quantitative approach applied is well illustrated in the paper and the results convincing. Hiscock has examined the reduction sequences at two greywacke quarries. From a raw material point of view, greywacke is clearly inferior to flint/chert and the exploitation is accordingly problematic. Nonetheless, it is found that target flakes as well as cores were exported from the quarry sites. When cores are transported, it is further noticed that the exploitation strategy changes. Refitting of greywacke artifacts at two sites situated at some distance from the quarries confirm that the cores transported were exploited much more intensively before being discarded.

From a scientific point of view the content of the volume is generally satisfactory—some papers even recommendable reading. The layout and technical quality, however, is quite a different matter. As an experienced editor I am surprised and discontented to see the almost complete lack of professionalism. Chapter headings are characterized by a varied and rarely correct use of capitalization. Apparently, they were neither proofread nor checked against the texts. For example, Vaquero et al. consistently write Palaeolithic throughout the paper and it is accordingly erroneous to write Paleolithic in the heading. Alas, this error is somewhat concealed by the fact that, throughout this paper, both page headings (left and right) refer to the names of the authors, whereas all other papers give the author(s) name(s) on the left page and the title heading on the right page. Following the chapter headings, author’s names are variably marked in bold or not, in one case a combination has been preferred (p. 45). Figure captions are usually set apart from the main text by italics, but, of course, this is not consistent (p. 100). Again the lack of proofreading is noticeable. Thus, the caption for Schurmans Figure 7 (p. 15) refers to blue and red bars on a black-and-white illustration. By carefully examining the text, the alert reader will find the secret revealed: blue is white and red is black! Another point of annoyance concerns the use of footnotes in Schurmans’ paper. I would prefer endnotes (which, inevitably, are used in the paper by Van Peer), especially as the footnotes are set with the exact same font as the main text. This is disturbing to the reader.

Considering the quite small number of chapters, this total lack of consistency is very unprofessional.

Refitting of lithic artifacts is a unique method. When two pieces go *CLICK* —this is it! There is no other match possible. In archaeology this is probably our best example of “scientific proof,” but, in the end, the interpretation of the *CLICK* depends on the fundamental questions asked by the researcher and the overall methodology applied. The present collection of papers serves to stress that refitting is an analytical method that cannot stand alone. As rightly stated by De Bie, it is indeed imperative that refitting is employed as part of a complete research program, involving also use wear analysis, attribute analysis, distribution patterns, contextual analysis, etc. Refitting is invaluable in the

study of the technological working process or the life cycle of an object. When duly combined with other analytical methods, it may indeed help us transform a static archaeological record into a dynamic picture of the past.

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