BOOK REVIEWS

STONE KNAPPING: THE NECESSARY CONDITIONS FOR A UNIQUELY HOMININ BEHAVIOUR. ROUX, V. & BRIL, B. (EDS.) 2005. MCDONALD INSTITUTE FOR ARCHAEOLOGICAL RESEARCH, UNIVERSITY OF CAMBRIDGE. ISBN 1-902937-34-1; ISSN 1363-1349. £35.00 (HB 355PP).

This is a substantial and very finely produced volume, but what of the content? As explained in the preface, the volume is the result of a workshop held in France in 2001, which itself was the culmination of a multi-disciplinary 4-year research programme based on exchange of ideas on “the question of technical skills among the early hominids”. Although a French-funded and French-originated project, a wide range of nationalities are represented in the participants, and the publication of the monograph in English will without doubt help in reaching a far wider part of the (predominantly English-speaking) academic community than would have been the case if there had been a politically-motivated insistence on publishing in the native funding language, which one sometimes fears (especially as an English reader with some ability in French but none in other languages!).

Not only are a wide range of nationalities involved, but a wide range of disciplines including archaeologists, psychologists, neurophysiologists, movement scientists and primatologists. Furthermore a range of theoretical positions are adopted both within and between these varied disciplines. This means that there will be something for almost everyone, but only a few of the papers are likely to be of importance to any one person. The great benefit of multi-disciplinary involvement is of course that one is exposed to developments and perspectives from outside one’s own discipline. This can often confirm that many disciplines have the same theoretical dichotomies and stumbling blocks; but sometimes there is an idea or a method that is usefully transferable. It is very hard to predict which of a wide number of varying papers will have the x-factor, and probably different papers will have different contributions for different disciplines. So this great diversity is without doubt a strength, even if one cannot remotely pinpoint which of these papers may prove to be the cross-disciplinary crock of gold.

The book includes 22 papers divided into three main sections: characterizing stone knapping in terms of technique and skills (11 papers); investigating the conditions that allow expression/development of these skills (seven papers); and a final section (four papers) “Actualising conditions for innovation in stone knapping”. Under the terms of reference explained in the introductory section, this concerns factors underlying the widespread development and adoption of material cultural change within a community, particularly, in most of these papers, the emergence of stone knapping in early hominins. The first two of these main sections are further sub-divided into sub-sections and even sub-sub-sections, again highlighting the diversity of content in the book. Nonetheless, the book ostensibly has a core unifying theme of “why do non-human primates not knap stone?”, so the big question is whether the range of contributions are successful and coherent in relation to this theme. Besides the fact that this seems a curiously covert approach to more directly palaeo-anthropological themes explicitly addressed in individual papers (such as: why hominins started knapping; what cognitive capabilities, if any, are implicit in different knapping approaches; what neural structures/arrangements underpin an ability to knap), I would love to answer “Yes” but unfortunately cannot. However, I see this not as a problem with the quality of the book, but an inevitable result of a futile attempt to reduce its great diversity of content to a single theme. The book might be better presented as a cornucopia around the broad area
of primate tool-manufacture, past and present, with excursions into archaeology, psychology, sociology and physiology.

On this basis, I like it. The papers are mostly of high quality, and several of them I find, as a Palaeolithic archaeologist, particularly interesting. Many of the papers, particularly Roux and Bril’s introductory chapter, provide a useful background to the theoretical diversity of the content, in particular the competing cognitive and ecological frameworks, one or other of which underpins (explicitly or otherwise) most contributions, and to some of the terminology around lithic tool manufacture and learning. Unfortunately it becomes apparent that the same words are used in different, and even directly contradictory, ways by different groups, such as the concept of “technique” in stone knapping, as discussed by Byrne (Chapter 11), whose paper usefully highlights the need for a translation of terminology as part of productive academic debate, so much of which seems to embrace an almost wilful misunderstanding of other’s terminology and thus making it impossible for differences of opinion to be sensibly discussed.

Other papers that caught my eye are those of Pelegrin (Chapter 2), Roche (Chapter 3), Holder (Chapter 14), Steele & Uomini (Chapter 15) and Stout (Chapter 22). The first three of these embody particular concerns of mine, besides exemplifying the contradictory theoretical approaches to (Palaeo)lithic interpretation and discussion of palaeo-cognition in the various contributions. Pelegrin and Roche are both highly experienced lithic practitioners, with decades of knapping experimentation and lithic study behind them. They present a coherent perspective on the interpretation of lithic remains, arguing that even the simplest and earliest flake/core knapping techniques (with due deference to Byrne, cf. above) demonstrate quite sophisticated cognitive capabilities, on a different plane from even the most advanced tool-making behaviour of other primates. There is a philosophical difficulty here, in how one can justify extrapolation from a present-day modern human lithic expert’s interpretation of intention and purpose to that of an early hominin. It is a difficulty I was hoping to find more explicitly addressed in the book, but it is one I am generally prepared to live with on the basis of the commonality between past and present of lithic fracture properties, and my own experience of the 1001 ways in which one can fail to knap even a simple flake as opposed to the single way in which a successful outcome can be obtained. On the other hand we have the glib comment of Holder that “generating a single sharp flake requires little or no skill or expertise”. Besides ignoring the wider issue that even apparently simple knapping behaviour cannot be considered in isolation, but only exists within the condition of a sophisticated socio-cultural landscape, this directly contradicts and ignores the experience of people who do know something about stone tools and their manufacture, for instance in this case Pelegrin and Roche in the same volume. This is a wider problem in Palaeolithic archaeology, and it really is high time that people who have little or no direct experience of, or expertise in, stone tool manufacturing avoided commenting on its difficulty, intentionality or otherwise (cf. Wenban-Smith 2004 and the “finished tool fallacy”), and deferred to those with actual experience.

On a happier note, the contributions of Steele & Uomini and Stout are both thought-provoking in different ways. The former contribution investigates the cognitive implications of handedness and, echoing some of Corbetta’s contribution (Chapter 13), argues for handedness as both linked to the development of hand-held tool-using and as a proxy for cognitive complexity of a distinctly human kind, as well as investigating possible archaeological signatures of handedness. What I particularly liked was the final willingness to “think the unthinkable” and acknowledge that this conclusion was based on a premise that the development of handedness and arrangements of brain hemisphere activity between left and
right did not \textit{precede} development of an advanced capacity for planning and executing tool-making; and that if it did, we were essentially back to the drawing board so far as linking handedness with cognitive ability. Finally, Stout’s paper provided an exemplary case study of how lithic manufacturing skill, learning and practice is never an isolated phenomenon, but is inevitably embedded within a functioning society; and, crucially, how this has implications for how we might interpret the presence of both apparently simple knapping practices in the archaeological record, and (\textit{cf.} Mithen 1994) also the development and persistence of ones requiring more skill, or more complex prior conditions. Overall, this is both a handsome book, and also a useful academic contribution to a range of disciplines.

\section*{References}


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