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Book Review: Technology and Experimentation in Archaeology by Sara Cura et al.

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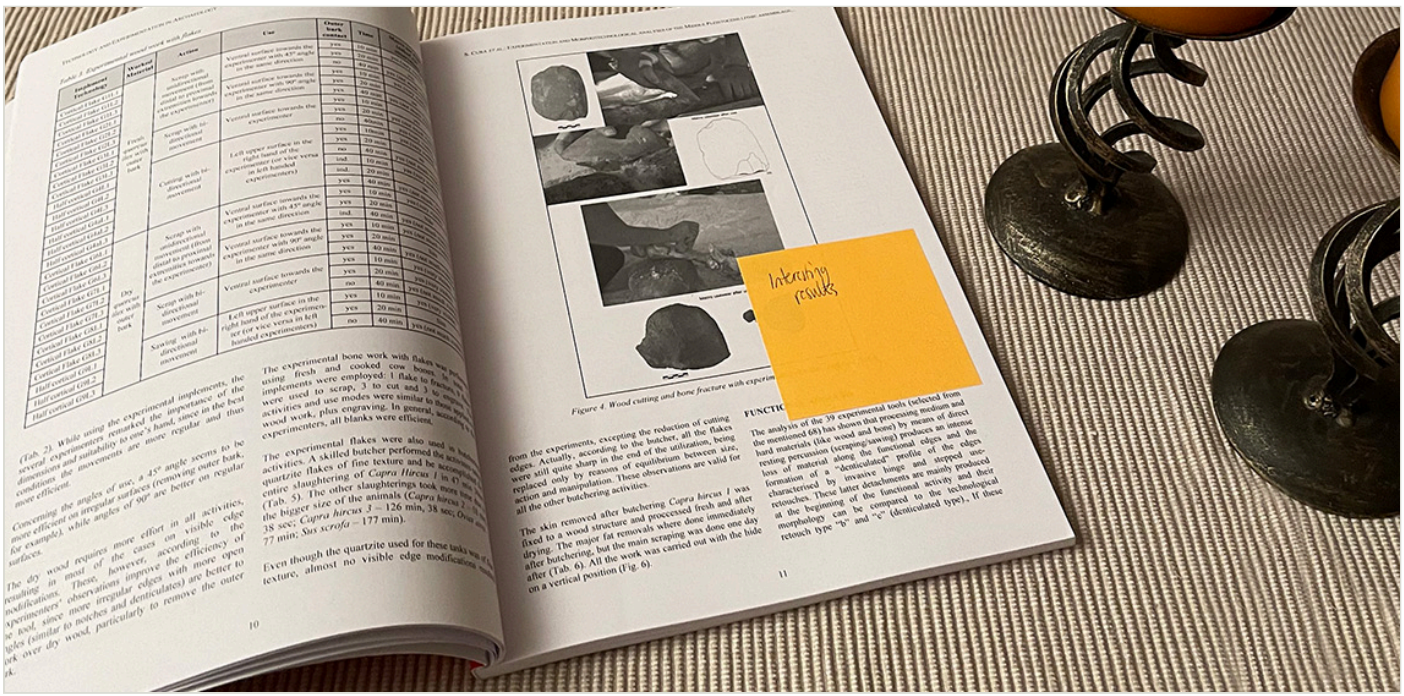

Are *chaîne opératoire*, technology, and experimental protocols and methodology keywords to your research interests? *Technology and Experimentation in Archaeology* provides international perspectives and excellent case studies on those very subjects.

> The paper collection includes different approaches to experiments as well as experimental work in different stages.

Technology and Experimentation in Archaeology contains papers from two sessions at the UISPP congress in Florianópolos, Brazil, 4-10 September 2011: Session 27 *Opportunistic flaking and complex procedures* and Session 42 *Technology and experimentation*. Unfortunately, there is very little information in the book on these two sessions. The introductory paper at the start of the book is only approximately 1-page long and includes a general description of experimental archaeology and technology and a short reference to session 42. However, I feel that a more comprehensive preface with a detailed introduction to the two sessions would have been beneficial to the reader. Key terms used, as well as a summary of important points in the discussions during the sessions, are among the points which, if introduced in a preface, would have given readers an insight into the wider context of the papers.

This conference proceeding contains 12 papers, four of which do not include experimental approaches but cover lithic techno-complexes (three papers) and the interface between contemporary art and archaeology (one paper). The latter paper deviates significantly from the topics of the other papers but is an interesting read with perspectives on space, connections and contexts. The three papers focusing on lithics are complementary to the eight experimental studies presented, as *chaîne opératoire* and technology are central concepts in the book. The three lithic studies are, furthermore, well presented with productive discussions. Nevertheless, I shall focus on the experimental papers for this review for the EXARC journal.

An international perspective is presented in *Technology and Experimentation in Archaeology*, which contains studies from the Balkans, Portugal, Italy, Brazil, and Chile. Different materials (lithics, fauna, wood, shell, ceramics) and archaeological periods are also included in this paper collection. Cross-cultural comparisons add further diversity to the papers; for example, Cerezer points to technological parallels between earthenware from southern Brazil and Iberian ceramics in the paper “Ceramic technology: Fragments of an Experimental Process”. The range of studies presented points to the variance in experimental archaeology today, while also showing how methods and approaches are applicable in different contexts. The international perspective is, to this reader, one of the major assets of this collection.

All the experimental papers in this conference proceeding are written in English with abstracts in both English and French. The use of two languages underlines the international applicability of the book. Some of the papers, however, would have benefited from language revisions and a more thorough proofreading.

Reproducibility and methodology are important key words to publishing experimental archaeology (see, for example, the EXARC Journal themed collection on publishing experimental archaeology at https://exarc.net/journal/how-publish-experimental-archaeology). The research in *Technology and Experimentation in Archaeology* is, generally, well presented and it is easy to understand the background of the studies, the steps of the experiments and how results were produced. One example is Cura *et al.* and their study on use-wear on Middle Pleistocene lithics from the site Ribeira Ponte da Pedra in central Portugal. Information on the provenance and texture of raw material, working angles, and time used to work with the experimental samples are provided, in addition to references to further descriptions of the experiments. Similarly, Gurova *et al.* describes the procurement of raw materials and tools, the people involved in the different stages of prehistoric bead production and drilling, and the time involved in experimental processing. Tables are well designed with important information and data and table captions with descriptive information. The reader thus gets a good idea of required resources for the experiments and can make informed decisions on materials, time and labour if planning similar experimental work.

The paper collection includes different approaches to experiments as well as experimental work in different stages. Santander, for example, presents experiments to understand bone technology and final results (polish observations) leading to re-evaluations of previous interpretations. In contrast, Costa *et al.* describes preliminary experimental protocols, discuss their applicability, and points to challenges and areas of improvement in future experiments. Publishing protocols or experiments that are still a work in progress encourages discussions with, and feedback from, other researchers which could potentially lead to unexpected insights and further improvements. It could also help others design and perform their experiments without replicating errors, and it is encouraging to see incomplete protocols in the same collection as finished experiments with final results. As a unit, then, this book provides a good introduction to different stages in the experimental process.

There is, however, room for improvement to the figures in the book. There are only black and white illustrations and some figures are unclear, perhaps due to low resolution; others are difficult to understand due to the lack of colour. For example, the details of Figure 1 in Grimaldi's personal reflections on flintknapping skills are difficult to understand, which might be caused by the format or resolution of the original file. Printing in colour often involves additional fees and might not be possible for all projects, but publishers occasionally provide electronic copies in colour. There are, unfortunately, no electronic copies of the book available and thus no colour versions of the figures. Furthermore, several of the figures lack a descriptive caption that could have helped interpreting the figure. Two examples are figures 4 and 5 in de Souza and Limas' experimental study on Brazilian polished artifacts. The text of the paper describes 'relatively discreet' changes in artifacts after different working activities,

but the figure captions only refer to the name of the photographer. A short sentence describing the photos would have been beneficial.

I originally read *Technology and Experimentation in Archaeology* from start to finish and enjoyed the range of experiments presented. Subsequently, I went back and read some of the papers again, or I consulted experimental protocols to compare them to other papers or my own work. The technological discussions and *chaîne opératoire* approach in the book also provided food for thought. I personally enjoyed the book and would have spent the £27 to buy it.

Book information:

Cura, Sara, Cerezer, Jedson, Gurova, Maria, Santander, B., Oosterbeek, L. & Cristóvão, Jorge (eds.), 2014, *Technology and Experimentation in Archaeology*. Union Internationale des Sciences Préhistoriques et Protohistoriques, International Union of Prehistoric and Protohistoric Sciences. Proceedings of the XVI world congress (Florianópolis, 4-10 September 2011), Actes du XVI Congrés Mondial (Florianópolis, 4-10 Septembre 2011). VOL. 10 Actes des session 27 et 42. Proceedings of session 27 and 42. BAR International Series 2657. ISBN 9781407312996. 109 pages, 59 figures (black and white).

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