

bereits Hugo Obermaier meinte, östlich des Rheins gäbe es keine Faustkeile, spricht E. Nicoud dauernd von einer *Movius Line*, von der ich bisher im Unterschied zu der ebenfalls nicht zutreffenden *Movius Line* im Fernen Osten kaum etwas gehört habe. Wenn man an die vielen Faustkeile von der Reutersruh und von Lenderscheid in Nordhessen denkt, kann man eigentlich nur folgern, daß die Autorin sich nicht auskennt. Dies gilt möglicherweise auch für die Bearbeitungstechnik der *pièces bifaciales*. Kein Wort über den entscheidenden Unterschied zwischen alternierender und gleichgerichteter Kantenbearbeitung der beidflächig retuschierten Formen, die zu zick-zackförmigen Kanten bzw. zu geraden Messerschneiden führten.

Während das Moustérien de tradition acheuléenne auch behandelt wird, obwohl es weder zeitlich noch geographisch geschweige denn kulturell mit dem Acheuléen zu tun hat, ist von den Keilmessergruppen Mitteleuropas überhaupt nicht die Rede. Selbst die Gleichsetzung *pièces bifaciales* = Acheuléen stimmt nicht, wie die nur einflächig bearbeiteten Faustkeile des 400 000 Jahre alten Waldelefantenplatzes Kärlich-Seeufer zeigen. Unklar bleibt, warum die für dieses Thema wichtigen Funde von Tautavel und Terra Amata nur kurz erwähnt und nicht analysiert werden.

So fragt man sich, warum dieses Buch geschrieben wurde. Vielleicht ein Mißverständnis, denn das Acheuléen im Sinne von Gabriel de Mortillet spielt in unseren Arbeiten heute kaum eine Rolle. Andere Fragestellungen zur Lebensweise der Menschen oder zur Chronologie sind weit wichtiger.

Bleibt zu hoffen, daß niemand auf die Idee kommt, nun auch das Moustérien im Sinne Mortillet's zu hinterfragen und Le Paradoxe Moustérien zu schreiben. Das würde ich dann sicher nicht lesen. Das dicke Buch ist nicht einfach zu lesen. Ich empfehle daher, den Aufsatz von Elisa Nicoud *What Does the Acheulean Consist of? The Example of Western Europe (MIS 16-9)* in den Mitteilungen der Gesellschaft für Urgeschichte 22, 2013, 41-60, mit den gleichen Informationen.

Functional Variability in the Late Upper Palaeolithic of North-Western Europe. A Traceological Approach.

Katsuhiko Sano, *Universitätsforschungen zur prähistorischen Archäologie* Vol. 219, Verlag Rudolf Habelt GMBH, Bonn, 2012, 243 pages, Softcover, 67.00 €;
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This is an impressive compendium of work culminating in an assessment of the functional role of three Magdalenian sites (Eyserheide, Bois Laiterie Cave, and Gönnersdorf) located in Belgium and Germany. This is a PhD dissertation as made explicit in the first line of the Introduction. As a result, it comes with all the strengths and weaknesses of a dissertation presented as an academic monograph. Following the brief introduction is, thankfully short, the obligatory history of traceology. The author prefers this term because he uses both high magnification (microwear analysis) and low magnification (use-wear analysis) for interpreting his archaeological assemblages. Microwear analysis tends to emphasize surface wear features, the incorrectly referred to "polishes" as well as striations and pitting, while use-wear analysis tends to target features of the fracture scarring assumed to have been caused by use. Today, magnifications differ little in the two techniques with microwear analysis often operating about 200-250x magnification and use-wear analysis operating up to about 120x magnification. Personally, I don't know any traceologist, whether they call themselves a use-wear analyst or a microwear analyst who doesn't use all wear traces visible to them.

The problem with a dissertation presented as a monograph is that it is usually dominated by much background and experimental work to demonstrate the abilities of the author rather than focussing on the study and interpretation of the archaeological assemblages. This dissertation does not disappoint. Half of the dissertation is given over to background, issues in traceology, and an extensive experimental regime. Don't get me wrong, the experimental section is exquisitely presented and contains some of the best photomicrographs of wear that I have ever seen. "Experimentation" deserves some explanation. These are not true experimental studies, where all but the experimental variable are controlled; like most archaeological "experiments" these are best referred to as replicative studies where the archaeologist "uses" a tool in a way as it may have been used in the past and then examines the resulting wear. As in most such studies, the author provides general descriptions of wear produced by working different kinds of material, but there is little attempt to present the variability within one category or the overlap that may exist across different uses. Within the experimental section are experiments where the author sawed very hard materials (bone and ivory in particular, but also antler and hardwoods). Sawing works if one is trying just to notch an item, but a flake cannot cut deeply. The reason is as simple as it is logical. A saw succeeds in cutting hard material because the teeth angle outward from the blade, thus the cut is wider than the saw blade. The cross-section of the lateral edge of a flake (blade) is triangular. Once it starts to penetrate the object the lateral edges rub against the sides of the cut and make further penetration very difficult. The edge can only cut if the tool can push the sides of the

cut outward, thus the more resistant is the material to flexing the more difficult it is to cut. The extensive wear presented in the photomicrographs is likely the result of the sides of the edge rubbing against the sides of the cut and not wear on the cutting edge itself. The burin solves this problem by ensuring that the cut or groove is wider than the penetrating portion of the tool.

The author also makes the same fallacy that so many others have made. Projectile points may show wear traces that indicate impact against an object. It is a major logical step to infer that a tool with impact damage is the result of a tool used as a projectile point for hunting. For example, wedges also show impact damage. While I am not suggesting that a tool that conforms morphologically to an arrow or spear head and has impact damage should be interpreted as a wedge, I do suggest that the inference on how the impact damage was produced must be supported by other evidence.

The monograph provides the reader with about 80 pages describing the wear and its interpretation at the three sites at the heart of this study. Confronted with poor preservation at one of the sites (Bois Laiterie Cave), the author creatively uses both low and high magnification approaches at all sites so that comparisons can be made. Of course, if there is poor preservation of surface wear features, should one still assume that the fracture damage is unaffected at the site?

The author provides a comparative assessment and his conclusions of the three sites in four pages. Given that this is what archaeologists really want to know, have we been cheated or misled into thinking that we would know much more about the functional variability in the Late Upper Palaeolithic rather than be given such a detailed presentation of the author's ability to do traceology? A monograph should be more than a published dissertation. The author should think carefully of his audience and ensure that contents are appropriately presented to ensure confidence in the method, but also that there is adequate interpretation of the archaeology.

This is an extremely high quality production of a dissertation. The layout, the paper, and the printing indicate the quality of the production—only the card cover somewhat undersells the contents of the volume. I was most impressed with the photomicrographs, although a lack of a scale within the figure may leave readers wondering if the publisher avoided resizing figures making the caption scales useless. I was particularly frustrated by the lack of an index, and for that matter, lack of a glossary. The author uses a few terms in ways that are not consistent with other researchers. Of note is "edge angle", which the author is probably referring to "edge spine angle", but this can only be confirmed with a definition. There are a few minor spelling errors, but these do not detract from the overall quality of the writing.

Lateglacial and Postglacial Pioneers in Northern Europe

Felix Riede and Miikka Tallaavaara (eds.), BAR S2599, Oxford, Archaeopress, 2014, 206 pages, paperback, £ 35.00, ISBN 978 1 4073 1231 6

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Exploration of unknown areas and an attempt to settle these hardly known patches, i.e. pioneering, is a driving force in the expansion of modern humans. Besides our own planet, this pioneer spirit brought humans to the moon and already motivated thousands to apply for a mission to colonise our neighbouring planet, Mars. Thus, this driver is a fascinating and still important subject to study. Many questions are related to this research such as: How did this driving force develop? What created this pioneer spirit initially? Who is a pioneer? What characteristics are necessary in order to be a pioneer? What triggers pioneering movements? How do these movements develop? What stops pioneers? In particular, this latter question can be studied by past human attempts to colonise inhospitable environments. As in Sergio Leone's 1968 classic western film (Once upon a time in the west), various obstinate human characters were presumably required for the settlement of desolate landscapes such as those present in Northern Europe after the retreat of the massive Weichselian ice sheets. In fact, an analysis concerning the human expansion into post-glacier environments in Northern Europe appears as a perfect archaeological case study to gain insights in this possibly adventure-seeking part of human nature that drives our species to repeatedly enter into the great unknown.

In a recently published B.A.R. volume, 14 contributions about these *Lateglacial and Postglacial Pioneers in Northern Europe* try to shed light on these characters, their origins, their motivations, and their tracks to the far north of Europe. 13 of these papers were originally presented in a session devoted to the same topic held at the EAA meeting 2011 in Oslo (Norway). They are supplemented by an introductory chapter written by the session organisers.

As with most proceedings, these contributions can usually represent only a foretaste of more in-depth research publications due to the limited space. However, the various authors made a good job presenting single stories of pioneers or more often early settlers who arranged themselves within their social and natural environments. The focus on Northern Europe has a slight imbalance towards eastern Fennoscandia but articles about western,