Buchbesprechung

Dimitri De Loecker, Beyond the site. The Saalian archaeological record at Maastricht-Belvédère (The Netherlands).

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Maastricht-Belvédère is a familiar name to Paleolithic archaeologists. Eleven sites and several minor findspots located in fine-grained fluviatile deposits on the left bank of the river Maas (Meuse) were excavated between 1981 and 1990 under the direction of Wil Roebroeks. The Quaternary deposits were exploited by a quarrying firm, so the excavations were conducted under considerable time pressure. Yet they have yielded important data on the archeological record of the late Middle Pleistocene and early Upper Pleistocene because the excavations were conducted as carefully and extensively as possible. Geological investigations and dating provided the framework and context for studies of human settlements and behavior based on technological and spatial analyses of occurrences found within a relatively small area (six hectares) in the same stratigraphic unit (Unit IV) and belonging to what appeared to be the same "cultural system". What started as a relatively small excavation project developed into a wide-ranging multidisciplinary research program well-conceived, well-carried out and promptly published.

All of the main Maastricht sites (sites A, B, C, E, F, G, H, J, K and N) are flint scatters in primary or semi-primary context as indicated by high frequencies of refitting, absence of dimensional sorting, the physical state of the artifacts and the fine-grained low-energy sediments deposited in the shallow waters of a meandering river; most occurrences were situated on the levees along the river channel. The archeological materials are found in levels of variable thickness, between 30 to 50 cm. Vertical dispersal of artifacts appears to be due to post-depositional factors: frost or alternate wetting and drying at Site C, earthworm activities at Sites F and J and some form of bioturbation at site K. With the exception of sites J and E, which are Weichselian in age, all other occurrences are dated to a warm-temperate period within the Saalian. TL dating of burnt flint artifacts and ESR dating of a sample of mollusks from the same stratigraphic unit (Unit IV) have yielded dates of 250 ± 20 ka and 220 ± 40 ka, indicating a correlation with OIS 7.

Sites A, D, F, H, K and N have not provided significant faunal remains because their sandy and clayey matrix was decalcified; however the fauna found in the stratigraphic subunit containing sites B, C and G clearly indicates interglacial conditions. On geological grounds it is believed that the time differences between the different subunits were not large and could be measured in hundreds, rather than thousands, of years. Thus the sites can be considered pene-contemporaneous in Pleistocene terms.

This book, which is above all a technological and spatial analysis based on lithic refitting of site K, one of the richest in flint artifacts, is a welcome addition to the significant body of publications on the archaeology of Maastricht-Belvédère (Roebroeks 1988; Roebroeks et al. 1992, 1997; a complete list of references is provided by De Loecker). The first chapter provides a historical overview of some of the major topics in archeology relevant to the Maastricht record: the concept of living floors, the home base model,

patterns of land use, site formation processes. The description of the geology, dating and paleoenvironments of the Maastricht site complex is provided in chapter 2. Chapter 3 presents a systematic typological and technological description of the flint artifacts, a reconstruction of all stages of the reduction sequences documented at the site, from collecting of raw material to the discard of tools and debitage, and a spatial analysis based on extensive refitting. It is followed by comparisons with the other eight sites in the same stratigraphic unit, for the purpose of exploring interassemblage variation and patterns in the production and transport of lithics (chapters 4 and 5).

A CD-ROM provided with the book contains 11 appendices: a detailed description of all metrical and qualitative attributes used in the classification of lithic artifacts followed by a site by site analysis of the assemblages from all major occurrences and from low-density or isolated findspots from small test pits and stratigraphic sections. This data base is the work of De Loecker and Nathan Schlanger; it provides much useful information available to other researchers for comparative purposes and is also a good resource for teaching lithic analysis to beginners. At times the desire to be as complete, systematic and informative as possible defeats simplicity; the information could have been presented in a more compact form without unnecessary reduplication of information in diagrams and tables covering the same series.

The general introduction (chapter 1) which provides a historical and methodological framework for the interpretation of lithics in behavioral terms is useful and well-written but somewhat incomplete and occasionally erroneous. The home base model of Glynn Isaac is ably summarized, but De Loecker is not aware of the debate between Henry Bunn and Lewis Binford on the interpretation of the Olduvai *Zinjanthropus* site. He attributes to Binford the microscopic analysis of cutmarks on herbivore bones from Olduvai and Koobi Fora, which had been in fact carried out by Bunn (1982; Bunn and Kroll 1986, 1988). Bunn's analysis of cutmarks and of frequencies of skeletal elements at those sites proved that Binford's arguments about Australopithecines doing marginal scavenging from carnivore kills were faulty and based on incomplete and preliminary data published in the Olduvai monograph. In presenting the contribution of refitting to the study of site formation processes and living floors interpretation the author omits any reference to the use of refitting in the investigation of the stratigraphic integrity of stratified sites. The use of the method of refitting stone artifacts or bones to test for stratigraphic associations and postdepositional disturbances at multilevel sites was first proposed by Cahen (1976) and myself (Villa 1976, 1982, 1983) and applied to sites such as Gombe, Meer, Hortus and Terra Amata. That kind of research showed that the stratigraphic integrity of some Lower and Middle Paleolithic sites in Western Europe had been overestimated and that models of habitation structures at sites such as Terra Amata, Lazaret and Lunel Viel (Le Grand 1994) were essentially a form of wishful thinking (Villa 2004).

More recently, lithic refitting, horizontal and vertical plots to check the disposition of materials, stratigraphic and technological analyses have been used by J.-G. Bordes (2002a, b, 2003) to test the validity of the apparent interstratification between Châtelperronian and Aurignacian levels at Roc de Combe and Le Piage (Lot, SW France). Stratigraphic sequences from these two sites were considered proof of the contemporaneity and coexistence of the two populations and in support of the acculturation model. Bordes' taphonomic analyses clearly indicated that at both sites interstratification reflects postdepositional events wrongly interpreted by the excavators. The data were thought to be

objective but their analysis by the excavators was dictated by a desire to substantiate preconceived conclusions.

These examples clearly show that the refitting method, used in combination with other lines of evidence, has become a key approach to the study of site formation processes. The potential of the method is realized only through an integrated approach that uses data from archaeological, taphonomic and geological observations. This is the principle that guided De Loecker in the investigation of site K.

Site K was excavated on an area of 370 square meters. Since the excavators had to work in front of commercial digging machines and under great time pressure, finds were collected in meter squares or in quarter of meter squares when possible; only an area of 27 square meters was excavated using three-dimensional recording. In spite of these difficulties the painstaking lithic analysis of De Loecker has yielded spectacular results.

The assemblage consists of more than 10,000 artifacts, including 137 formal tools and 91 cores; small flakes and flake fragments ≤ 2 cm form about two thirds of the assemblage. Refitting resulted in the conjoining of 34% of all artifacts ≥ 2 cm (1828 of 5318). Of the 321 identified refitted groups with variable numbers of conjoined elements, from two to 160, De Loecker selected 17 examples for detailed examination; for each group, stages in core reduction sequence are illustrated using color photos and three-dimensional cubes of fixed dimensions; the sequence of removals is represented using a Harris matrix.

The combined technological and spatial analysis (with horizontal and vertical distribution of all refitted elements) shows that:

- All stages of the reduction sequence are represented at the site, from the introduction of large flint nodules from the nearby gravels of the Maas river, to the decortication and removal of protruding parts, the splitting of the nodules into smaller blocks to be flaked as cores, the production of large flakes (blades are produced only occasionally), the selection of blanks for secondary modification as tools or for use of flakes as core blanks and to final discard. Flint blocks covered with cortex were used as hammers (or anvils); one of the two hammerstones was part of a refitted group.

- Core preparation was limited, as also indicated by the low frequencies of facetted butts. Knapping proceeded by producing a sequence of flakes from the same striking platform, using the negatives of the last removal to create a new striking platform, turning the core to produce another sequence of flakes, and so on. In their final shape cores are mostly rather thick and large discoidal cores. In some cases only one debitage surface was flaked centripetally from the core edge, removing flakes in a circular manner, occasionally producing ”by accident” Levallois flakes and resulting in flat discoid cores. However, the Levallois method, whether preferential or recurrent, was not used at the site, although small quantities of Levallois flakes made on ”exotic” flint occur at site K. In contrast, the Levallois recurrent method is documented at site C.

- Only a few of the larger blanks were selected from the produced debitage to be used as tools. A few implements entered the site as finished products and were discarded on the spot. In one case a resharpening flake was removed from a retouched tool brought to the site; the tool was subsequently transported away from the excavated area.

- In sum, site K provides sufficient evidence to indicate human transport of lithic artifacts to and from the excavated area. Although the flaking strategy was for the most part focused on activities to be performed on the spot, the strategy included some form of planning depth, as shown by the transported items.

- Most of the site K artifacts were dispersed over vertical distances of 30 to 40 cm, but refitting indicates that the lithic assemblage was originally concentrated in a single archaeological level. The very homogeneous reduction strategy documented at the site also suggests that the assemblage is the result of a single use of the location or a series of related episodes over a short time interval.

- The horizontal distribution of refitted artifacts shows that products of different technological stages are spatially clustered; the area indicates an organized use of space. The 61 burnt artifacts found at the site also overlap with the densest cluster of artifacts, although there is not enough evidence of a localized fireplace; only few scattered pieces of charcoal in poor state of preservation were found at the site.

The inter-assemblage comparisons with sites A to N and smaller findspots of the intra-Saalian period (chapter 4) indicate that large parts of the riverine landscape must have been littered with artifacts and bones. This "technological landscape" consisted of large and dense clusters of artifacts together with spots where the overall lithic distribution is low, consisting only of isolated pieces or small clusters of artifacts.

The final chapter of the book tackles the question of the meaning of spatial variation in artifact distribution on former landscapes and the diversity of Stone Age sites. The model that seemed most relevant for interpreting the Maastricht record in terms of the functional characteristics of the sites and settlement system was the "scatter between the patches" model developed by Glynn Isaac (1981) for the East-African Plio-Pleistocene landscape, here modified and adapted to the Maastricht record. The continuous artifact distribution in the former Maas river valley bottom - called "a veil of stones" by Roebroeks (Roebroeks et al. 1992) - has yielded assemblages with clear differences when compared with one another, not only in densities (high density patches vs. low-density scatters) but also in technological terms and internal site structure. The low-density occurrences (e.g. site G) consist of isolated or small groups of flakes, worn-out tools, very few cores and faunal remains. They are part of a larger horizontal continuum; several items were introduced while others were transported away. The high-density sites reflect two kinds of strategies with respect to raw material use, core reduction modes and typology. Some assemblages (e.g. site K) are made almost exclusively on local raw material, have a discoid technology, contain mainly denticulates, notches and side scrapers or morphologically less refined tool types and seem to reflect an expedient technology focused on activities to be performed on the spot. Other assemblages (e.g. site C) show a "curated" technology consisting of prepared cores and flakes (the Levallois method) and contain well-made scrapers and Mousterian points produced on "exotic" raw materials, transported between sites and discarded at some distance from their place of production. It is suggested that these transported tool kits were used in direct food procurement. These strategies were not mutually exclusive and were in fact part of the same system of landscape use by highly mobile and well-equipped foragers.

This book (that started as a Ph.D. thesis and developed into years of intensive research) is absolutely remarkable for the amount of time, energy and intelligence devo-

ted to extracting the maximum amount of information from a record of stone artifact production and discard in a segment of a former landscape. Together with previous publications of Roebroeks and colleagues it represents one of the most extensively analyzed and illustrated records of a major site complex from the Middle Pleistocene of Europe.

References

Bordes, J.-G. 2002a: Les interstratifications Châtelperronien/Aurignacien du Roc de Combe et du Piage (Lot, France). Analyse taphonomique des industries lithiques; implications archéologiques. Thèse de Doctorat, Université de Bordeaux 1.

Bordes, J.-G. 2002b: Châtelperronian/Aurignacian interstratification at Roc de Combe and Le Piage: lithic taphonomy and archaeological implications. Journal of Human Evolution 42: A7-8.

Bordes, J.-G. 2003: Châtelperronian/Aurignacian interstratifications at Roc-de-Combe and Le Piage (Lot, France): lithic taphonomy, stratigraphic re-evaluation and archaeological implications. In: F. d'Errico and J. Zilhão (eds.), The chronology of the Aurignacian and the transitional technocomplexes. Dating, stratigraphies, cultural implications. Trabalhos de Arqueologia 33. Lisboa: Instituto Português de Arqueologia, 223-244.

Bunn, H. T. 1982: Meat-eating and Human Evolution: Studies on the diet and subsistence patterns of Plio-Pleistocene hominids in East Africa. Ph.D. dissertation, University of California, Berkeley.

Bunn, H. T. and Kroll, E. M. 1986: Systematic butchery by Plio-Pleistocene hominids at Olduvai Gorge, Tanzania. Current Anthropology 27, 431-452.

Bunn, H. T. and Kroll, E. M. 1988: A reply to Binford. Current Anthropology 29, 123-149.

Cahen, D. 1976: Nouvelles fouilles à la pointe de La Gombe (ex-pointe de Kalina), Kinshasa, Zaire. L'Anthropologie 80, 574-602.

Isaac, G. L. 1981: Stone Age visiting cards: approaches to the study of early land use patterns. In: I. Hodder and G. L. Isaac (eds.), Patterns of the past: studies in honor of David Clarke. Cambridge: Cambridge University Press, 131-155.

Le Grand, Y. 1994: Approche méthodologique et technologique d'un site d'habitat du Pléistocène moyen. La grotte n.1 du Mas des Caves (Lunel-Viel, Hérault). Thèse de doctorat, Université de Aix-en-Provence.

Roebroeks, W. 1988: From find scatter to early hominid behaviour. A study of Middle Paleolithic riverside settlements at Maastricht-Belvédère (The Netherlands). Analecta Praehistorica Leidensia 21. Leiden: Leiden University Press.

Roebroeks, W., De Loecker, D., Hennekens, P., and van Ieperen, M. 1992: A "veil of stones": on the interpretation of an early Middle Paleolithic low density scatter at Maastricht-Belvédère (The Netherlands). Analecta Praehistorica Leidensia 25, 1-16.

Roebroeks, W., Kolen, J., van Poecke, M., and van Gijn, A. 1997: Site J: an early Weichselian (Middle Paleolithic) flint scatter at Maastricht-Belvédère. Paléo 9, 543-572.

Villa, P. 1976: Sols et niveaux d'habitat du Paléolithique inférieur en Europe et au Proche Orient. Quaternaria 19, 107-134.

Villa, P. 1982: Conjoinable pieces and site formation processes. American Antiquity 47, 276-290.

Villa, P. 1983: Terra Amata and the Middle Pleistocene archaeological record of Southern France. Berkeley and Los Angeles: University of California Press.

Villa, P. 2004: Taphonomy and stratigraphy in European prehistory. Before Farming online 2004/1, 1-20.

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