HUNTING CAMPS IN PREHISTORY
Current Archaeological Approaches

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Article outline

WHERE ARE THE HUNTING CAMPS?
A Discussion based on Lateglacial Sites in the Paris Basin

Pierre BODU, Monique OLIVE, Boris VALENTIN
Olivier BIGNON-LAU, Grégory DEBOUT

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Abstract
With its numerous, well preserved Lateglacial sites, the Paris Basin contributes useful elements to discussions of the notion of “hunting camps” in Prehistory. Several extensively excavated, and sometimes well preserved, stratified sites allow us to address questions concerning the settlement durations and site functions in greater depth than is possible in other contexts. Drawing on examples of Magdalenian and Azilian sites, we discuss the evolution and limits of interpretations of prehistoric occupations. It appears that regardless of the definition retained or its degree of strictness, the functional category of a “hunting camp” does not apply to the Lateglacial sites currently known in the Paris Basin. A broader interrogation, incorporating the Belloisian sites of the very end of the Lateglacial period and beginning of the Holocene, further demonstrates the difficulty of identifying this type of site.

Keywords
Paris Basin, Magdalenian, Azilian, Belloisian, settlement, paleoethnology.

1 - Introduction

As the organizers of this colloquium stated in their introduction, the term “hunting camp” is still not precisely defined and this approximation leads to interrogations concerning the archaeological situations to which it may apply. Everyone agrees that this type of site corresponds to short-term occupations and specialized activities, but beyond this minimal consensus, the term is used rather loosely. The presentations in this colloquium have clearly shown this and some even questioned the validity of the use of the term (W. Müller, presentation). This semantic imprecision is hardly surprising given that the functional and temporal parameters that we must evaluate are strongly influenced by extremely variable taphonomic contexts. For example, the degree of resolution that we can expect to attain in site interpretations differs depending on whether we work on the Early or Final Paleolithic, on cave sites or open-air sites, in contexts that allow the preservation of faunal remains or not, etc. In addition to this methodological difficulty, there is another more theoretical one, which consists of knowing how to define a hunting camp in the world of nomadic hunter-gatherers? We will further discuss this issue after presenting some archaeological examples that we know well.
The Paris Basin, with its numerous Lateglacial sites, is a region well adapted to this discussion (figure 1). The Magdalenian is the period with the most sites, of course, but the Azilian can also contribute to the debate, notably through the large stratified site of Le Closeau, which allows long-term comparisons (figure 2). We believe there is yet another reason, in this case methodological, to use the Paris Basin as an example in discussions of the notion of hunting camps: the continuity of research in this region allows us to observe the evolution of hypotheses in function of the progression of excavations, and thus their limits.

Figure 1 - The main Lateglacial sites in the Paris Basin.

Figure 2 - The main technical traditions in the Paris Basin and their position in the climatic chronology constructed based on the GRIP core (Greenland) (after Valentin, 2008, fig. 6).
Finally, to broaden our diachronic comparisons, we thought it useful to add Belloisian sites to our discussion, as an epilogue. These sites are dated to around a thousand years later and were presented separately during the colloquium. Awaiting the results of the paleoethnographic studies of one of these sites (Donnemarie-Dontilly), this conclusive discussion remains speculative, since it is mostly based on the distribution of lithic productions on a territorial scale. As preliminary as it may be, this element reinforces the feeling that throughout the long duration of the Lateglacial period, the hunting camp, however it is defined, is a category of sites that continues to elude us.

2 - A region well adapted to research on site function

The advantages of this region for our knowledge of Lateglacial occupations are well known: it has numerous and often well preserved sites, even if the conditions are variable, and a history of research focusing on a paleoethnographic approach, which is enriched by extensive excavations conducted over many years.

2.1 - Variable taphonomic contexts

Using a few examples of Magdalenian and Azilian sites in the Paris Basin, we will first discuss the taphonomic contexts that differ for each site. These differences obviously influence the precision of the interpretations that can be made of them (table 1).

<table>
<thead>
<tr>
<th>Occupations</th>
<th>Chronology</th>
<th>Stratigraphic resolution</th>
<th>Faunal preservation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Étiolles - locus 1 (several levels)</td>
<td>Magdalenian</td>
<td>good</td>
<td>bad</td>
</tr>
<tr>
<td>Étiolles - locus 2 (several levels)</td>
<td>Magdalenian</td>
<td>good</td>
<td>good</td>
</tr>
<tr>
<td>Marolles - Le Grand Canton</td>
<td>Magdalenian</td>
<td>« palimpsest »</td>
<td>medium</td>
</tr>
<tr>
<td>Verberie</td>
<td>Magdalenian</td>
<td></td>
<td>good</td>
</tr>
<tr>
<td>Pincevent - IV0</td>
<td>Magdalenian</td>
<td>bioturbation</td>
<td>medium</td>
</tr>
<tr>
<td>Pincevent - IV20</td>
<td>Magdalenian</td>
<td></td>
<td>good</td>
</tr>
<tr>
<td>Le Closeau - upper level</td>
<td>Early Azilian</td>
<td>good</td>
<td>bad</td>
</tr>
<tr>
<td>Le Closeau - lower level</td>
<td>Late Azilian</td>
<td>good</td>
<td>good</td>
</tr>
</tbody>
</table>

The ability to isolate occupation floors resulting from a single occupation event is essential in order to determine their function. We thus avoid the “accumulation” effect that gives an “averaged” perception of the activities that took place and makes it difficult to evaluate the temporal factor. In the Paris Basin, sites such as Pincevent (Seine-et-Marne) and Étiolles (Essonne) have a long stratigraphy (Orliac, 1996) in which distinct archaeological levels corresponding to successive Magdalenian occupations have been identified (figure 3). This is unfortunately not the case at all sites. For example, Le Grand Canton at Marolles-sur-Seine (Seine-et-Marne) consists of a vast spread of artifacts resulting from successive occupations that are difficult to distinguish from each other (Julien et al., 1999) (figure 4).
Figure 3 - The succession of occupation floors at Pincevent (Seine-et-Marne) (after Orliac, 1996, CAD: G. Debout; photographs: Centre archéologique de Pincevent).

Figure 4 - Sector 2 at Le Grand Canton at Marolles-sur-Seine (Seine-et-Marne) (CAD: D. Molez, P. Pihuit in Julien, Rieu, 1999; photograph: P. Bodu).
The preservation of faunal remains is another example of the variability of taphonomic contexts (Bignon, 2008b; Poplin, 1994). This variability exists between different sites, between different levels or sectors of the same site, or even between several units within the same level. We can thus distinguish different degrees of preservation, ranging from unfavorable contexts with no, or almost no preserved fauna (locus 1 of Étiolles, the upper level of Le Closeau), to slightly more favorable contexts (level IVO of Pincevent in which the fauna is rich but modified), to good (locus 2 of Étiolles) or very good preservation contexts (Verberie [Oise], levels IV30 and IV20 of Pincevent).

2.2 - Extensive excavations that reveal camps

Another advantage of open-air sites is that it is possible to realize extensive excavations. This advantage is essential because the spatial fragmentation of activities observed in many occupations indicates that this factor is necessary in order to understand a site. Without this dimension, there is a high risk of making truncated or even totally erroneous interpretations.

The examples of Pincevent, Étiolles and Verberie illustrate how interpretations can evolve as the excavation is progressively extended, and how a perception of occupation units is transformed into one of a camp (Bodu, 1994; Bodu et al., 2006a-b; Julien and Karlin, 2002; Olive, 1992; Olive and Pigeot, 1992; Olive et al., 2000) (figures 5, 6). The synchrony of the ensemble is demonstrated by flint and other stone refits, and even by matched pairs of bone remains (Enloe 1991). This extension is accompanied by a reflection on the function of these units, leading to distinctions of occupation units relative to annex units (Bodu, 1994).

2.3 - Residential “family-oriented” sites

At the sites where we were able to realize many refits between flint objects, we have observed non productive flaking sequences with stigmata indicating awkwardness on the part of the knapper. These sequences were first described for the U5 dwelling at Étiolles by N. Pigeot (Pigeot, 1987) and then for the sites of Pincevent and Verberie (Ploux, 1989; Karlin et al., 1990; Audouze, 2006). They were interpreted as being the work of apprentices with varying levels of knowledge and technical skill, leading to the conclusion that children, and thus family units, were present at the site.

The interpretation of these occupations as residential sites is supported by the diversity of the toolkits (burins, becs, borers, scrapers, retouched blades, etc.) and usewear analyses showing that multiple activities linked to the preparation of hunting expeditions and diverse animal resource processing tasks (butchery, hide working, osseous material working) were carried out at the site.

3 - Changing hunting strategies in different levels: the example of Pincevent

Now that these precautions have been laid out, we can focus on the diversity of scenarios observed in our Lateglacial examples, a diversity that is not easy to correlate with the strict opposition between “hunting camp” and “residential camp”. Contrasting site functions could evidently have existed during the Lateglacial in the Paris Basin, but our work shows that we must be very cautious when we address these notions.
A first example, drawn from studies realized at Pincevent, shows that within the three meter thick stratigraphy of this site, composed of around fifteen occupation levels, hunting strategies changed. Several levels (IV40-30, IV20, and habitation no. 1) have a faunal assemblage dominated by reindeer, while others (level IV21.3 and the last occupation level of Pincevent, IV0) have an assemblage that is more balanced between reindeer and horse (David, 1994; Bignon, 2008a) (figure 7). These changes were sometimes associated with changes in site organization.

3.1 - A reindeer hunting camp occupied in the fall: level IV20

Let us consider the case of level IV20, excavated over nearly 4500 m² (Bodu, 1994; Julien, Karlin, 2002). All of the studies of this level confirm that the fifteen features discovered in a single flood level are contemporary with each other. There are domestic units in which most of the activities occurred, as well as annex units that seem to have been associated with a specific technical function, such as certain isolated knapping spots, zones in which hunting weapons were made and maintained, etc. We should mention that some of these small units, which were excavated independently of each other, could easily be interpreted as what we commonly refer to as “hunting camps”, resembling “snapshots” of activities that left very few remains. When we integrated these units into a broader context, we rejected this hypothesis. Level IV20 is in fact a true residential camp in which several units are associated in the context of a collective reindeer hunting episode during the fall migration. Several family “units”, judging by the different levels of technical skill observed in the flint knapping, came together during a few weeks to one month to hunt and process more than 76 reindeer, apparently in anticipation of the difficult winter season (Enloe, 1991; David, 1994).
3.2 - A long-term occupation or several discontinuous occupations: level IV0

Around fifteen years ago, when level IV0 was discovered, representing the last passage of Magdalenians at Pincevent, a new occupation strategy was encountered (Bodu et al. 2006b; Julien, 2006). In terms of spatial organization, there was nothing new relative to the earlier levels, except maybe the amplitude of the occupation, shown by a quantity of knapped flint around a hearth that was much greater than anything encountered in the other levels, and by the great abundance of stones totaling nearly 900 kg. This artifact density is very different from that in level IV20. Another surprising element is the mixed nature of the faunal assemblage, with a roughly equal quantity of reindeer and horse remains (Bodu et al. 2006b; Julien, 2006). Finally, and just as extraordinary for Pincevent, seasonality indicators provide evidence for a long-term use of the same occupation during fall and winter, as well as spring to a lesser degree (figure 8). The traditional scheme associated with Pincevent suddenly became more complicated, passing from collective, specialized and seasonal reindeer hunting in association with a large camp, to several complementary reindeer and horse hunting episodes conducted from fall to spring. This latter scenario can be interpreted as a long-term occupation, traversing several seasons in a continuous or discontinuous manner. We should also emphasize that in this case there was a more intensive use of the space than the seasonal camp of IV20, which does not correspond to the notion of a hunting “camp” or “stop”. This contrast is reinforced by a second occupation unit that is just a large, recently discovered in level IV0 in proximity to the first unit, with some “exchanges” taking place between these units.

Figure 8 - Distribution of the seasonality indicators in unit T125 of level IV0 at Pincevent (Seine-et-Marne) (after Debout, Bignon, Enloe, 2006, p. 178).
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4 - Another example: the Early Azilian of Le Closeau

These inquiries into the nature and functions of occupations can be extended into the Azilian with the data contributed by the site of Le Closeau at Rueil-Malmaison, excavated over nearly 28,000 m² (Bodu, 1998, 2000a). The Early Azilian is represented here by two large occupations and five small loci with less diverse activities (figure 9). The permanence of the two large loci, 4 and 46, is demonstrated in particular by the use of several hundred kilograms of stones, mostly to delimit and support a superstructure. These features appear to be similar to those found in the Magdalenian, within which numerous activities were realized, as is indicated by the diversity of the lithic tools (table 2), the results of usewear analysis and the existence of refuse zones (Bodu, 1998; Bodu and Mevel, 2008; Christensen, 1998). Another possible similarity between the Early Azilian of Le Closeau and the Magdalenian is the presence of refits linking several units of this level and showing that the loci were not isolated, but rather belonged to a larger group (Bodu et al., 2006a).

Tableau 2 - Tools in the loci representative of the Azilian levels of Le Closeau (Upper level: Late Azilian; Intermediary level: Intermediary Azilian; Lower level: Early Azilian).

<table>
<thead>
<tr>
<th>Le Closeau - Levels</th>
<th>Upper level, locus 1</th>
<th>Intermediary level, locus 14</th>
<th>Lower level, locus 46</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total flint</td>
<td>1680</td>
<td>3366</td>
<td>2309</td>
</tr>
<tr>
<td>Total tools</td>
<td>60</td>
<td>130</td>
<td>200</td>
</tr>
<tr>
<td>Scrapers</td>
<td>32</td>
<td>15</td>
<td>49</td>
</tr>
<tr>
<td>Borers</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Burins</td>
<td>2</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Truncations</td>
<td>0</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>Macrooliths</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Backed bladelets</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Backed points</td>
<td>16</td>
<td>70</td>
<td>27</td>
</tr>
<tr>
<td>Backed blades</td>
<td>3</td>
<td>24</td>
<td>0</td>
</tr>
<tr>
<td>Retouched blades</td>
<td>0</td>
<td>0</td>
<td>116</td>
</tr>
<tr>
<td>Bipolar flakes</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mixed tools</td>
<td>0</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>
This image is nonetheless still too simplistic and the comparison too rapid if we take into account the quantities of artifacts found in the two large units and the seasonality data. For the lithic materials, these quantities seem low in comparison to what was found in the Magdalenian occupations (2300 flints for locus 46 of Le Closeau versus 12,000 flints in units V105-T112 of section 36 at Pincevent, and 13,000 for unit W11 within the circle of plaques at Étiolles). The seasonality data, obtained from horses only, indicate a succession of occupations in fall, end of winter, beginning of spring, and much less frequently in summer (figure 10) (Bignon, Bodu, 2006). Though horse is the dominant species, is it represented by a MNIc of only 12 individuals for a long occupation duration. It was thus proposed that they were associated with individual hunting strategies, which were in any case more targeted than the mass kills known for the Magdalenian in the region. Each occupation in fact corresponded to a limited number of hunted animals (Bodu et al., 2006a). All of these elements indicate a succession of “hunting camps”, according to the common definition. An element that does not support this hypothesis, however, is the intensive structuration of the site, the diversity of activities realized around the central hearth and the evidence suggesting that this was a more complete camp site. In this case, the hunting strategies would have led the human groups to periodically reoccupy the same place for a certain amount of time. They probably reused the same hearth zone, which was cleaned, as is indicated by the large refuse zones on the periphery of the occupation.

**Figure 10** - Inventory of the seasonality indicators of locus 46 at Le Closeau (Hauts-de-Seine) after the lower and upper dental elements of hunted horses (MNI = 12) (Winter = December to February; Spring = March to May; summer = June to August; Fall = September to November) [A: CAD: G. Debout; B: after O. Bignon, P. Bodu, 2006; O. Bignon, 2008a].
5 - Another later example: the Late Azilian of Le Closeau

The response to the question that we asked in the beginning – where are the hunting camps? – might still be found at Le Closeau, but in the Late Azilian levels rather than the earlier ones (Bodu, 1998; Bodu et al., 2006a). Here we find dozens of small loci containing few lithic objects, expedient flaking sequences mostly oriented toward the production of backed points and a nearly complete absence of other tool types (figure 11). The faunal remains found in these loci, though they are few, confirm that hunting activities took place. Taken separately, each of these loci could be considered as a hunting camp. But once again, this is only if we do not consider the possibility that these highly specialized loci were complementary to zones in which hides were worked (represented by a few loci where end-scrappers are abundant), or with the only locus out of the 50 that were excavated that yielded thick borers (table 2).

We must admit that this relationship between loci is not yet demonstrated since only a few refits have been found between them. Furthermore, the site of Rekem in Belgium, studied by M. De Bie and J. Caspar (2000) and interpreted as a vast Late Azilian camp site, shows that we must be cautious as long as the search for links between the loci has not been more systematically pursued.

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Figure 11 - The Late Azilian loci at Le Closeau (Hauts-de-Seine): a – backed points and debitage concentration (drawing: P. Alix, photo: P. Bodu); b – specialized activity locus (DAO: N. Gomez, I. Pasquier; drawings: P. Alix in Bodu, 1998).
6 - A few elements of discussion on the notion of a “hunting camp”

As we recalled in the introduction, the definition of a “hunting camp” remains unclear in the archaeological literature. Moreover, the frequent addition of qualifying adjectives to describe this type of site (e.g. “simple”, “complex”, “regular” and “brief”) accentuates the ambiguity of the term. Where do we draw the line between a short stay that would characterize a hunting camp and a longer stay? Or between more or less specialized activities carried out at the site?

The data of the Paris Basin allow us to discuss the pertinence of this term and the meaning that we attribute to it through the introduction of criteria other than those relative to the duration and function of the occupation, such as the composition of social groups (Pigeot, 1987; Ploux, 1989). For this we will draw upon the work of L.R. Binford (1980) on hunter-gatherer mobility patterns and exploitation strategies within a territory.

6.1 - A broad definition of a hunting camp: the residential base camp

If we define a hunting camp very broadly, as including residential camps occupied by family groups and yielding evidence of hunting activities practiced near the site (the “residential base camp” of Binford), nearly all the sites in the Paris Basin enter into this category. This mainly residential function is the one currently attributed to the best preserved and most studied Magdalenian sites, regardless of the intensity of hunting activities and whether they were focused on one species (reindeer) or two (reindeer and horse) (Olive et al., 2000; Bignon, 2008a). The duration of these camps was probably variable, lasting from several weeks to several months, and the activities were somewhat diverse (mostly in situ carcass processing, bone material working, hide working, etc.). Since the dominance of this site type suggests a residential mobility strategy (Audouze, 2006, 2007), it is not certain that the notion of a “hunting camp”, in the enlarged sense, is still valid.

6.2 - A restrictive definition of a hunting camp: specialized expeditions by a few hunters

If we strictly define a hunting camp as being associated with brief expeditions by a few hunters making no durable features at the site and performing highly specialized activities linked to hunting, in a context of logistic mobility (the “hunting stands” and “processing sites” of Binford), there is no clear evidence for this site type in the Paris Basin. There nonetheless remains the Late Azilian site of Le Closeau, with its numerous backed point manufacturing zones, for which this hypothesis has not been fully rejected. However, lacking refits and due to the poor preservation of its fauna, this hypothesis is not yet confirmed.

6.3 - An intermediary definition of a hunting camp: the hunter’s camp

If we choose an intermediary definition, corresponding to short term, camp sites with features occupied by hunters (the “field camp” or “hunting camp” of Binford), there is one occupation that could fit into this category: the Early Azilian occupation at Le Closeau, for which the residential base camp/hunter’s camp alternative remains open. The evidence currently leans toward the former interpretation, but lacking comparable sites in the Paris Basin, the choice is difficult.

In our current state of knowledge, we see that the category of “hunting camp” is not easily applicable to the known sites in the Paris Basin, whatever the definition used. In its broadest sense, the term does not appear to be useful because if everything can be defined as a hunting
WHERE ARE THE HUNTING CAMPS?

camp, there is no point in maintaining the category. No site corresponds with certitude to the strictest definitions of a hunting camp, implying the presence of only part of the group, but this incertitude is perhaps linked to the current state of research on sites. For the moment, we cannot exclude the hypothesis that there existed, especially during the Late Azilian, poorly visible occupations associated with the brief passage of a few hunters. Furthermore, it is perhaps because of their poor visibility that this site type is so difficult to identify, and even more so because to be identifiable, they must be associated with very specific taphonomic and research conditions.

7 - Epilogue: the Belloisian (ca 9500 cal. BC)

After the Late Azilian of Le Closeau, the Paris Basin yields almost no archaeological traces for a period of approximately one thousand years, which represents nearly all of the Late Dryas (Bodu, 2000b). Does this reflect a true desertion, or a taphonomic bias? The reasons for this penury are not clear for the moment, and are beyond the subject of this paper. Nonetheless, numerous, though still poorly understood, discoveries attributed to the period surrounding 9500 cal. BC (see Valentin, 2008, chapter 5 for the most recent summary and for the bibliography) can contribute elements to the question that interests us here.

Around fifty occupations from this period, located in a zone centered in the Paris Basin and mostly situated between the Thames and Somme, and Loire and Rhine rivers, have yielded “Belloisian” industries (also known as “Long-Blade assemblages”). It has been shown that the refined productions of beautiful blades in the 10th millennium (figure 12) are associated with a strong technical trend that included the Ahrensbourgian, Swiderian, and probably the Laborian. What is much less clear is the function of Belloisian sites since very few of them have been excavated. In addition, in the geographic zone concerned, we have difficulty recognizing true sites with diverse activities (cf. residential sites). The Belloisian sites that have been excavated were first interpreted as flint knapping workshops from which the blades were generally exported. This is indicated, for example, by the many pieces missing from refitted blocks (figure 13). Many recent analyses now lead us to reject this hypothesis of a strict workshop function and to reevaluate the role of hunting activities at these sites. We cannot go as far as to imagine them as hunting camps, however, especially since the fauna is rarely preserved (Chevallier, 2009). For the moment, therefore, we have no hunting camps in the strict sense, but camps that are much more closely linked to hunting than was previously thought. Fauna is present at Hangest II.1 (Somme), a small Belloisian locus excavated by J.-P. Fagnart, which yielded aurochs and cervid remains. At this site, we also observe “the manufacturing of middle-sized blades abandoned at the production site after use. There does not seem to have been any exportation, as was observed at the site of Belloy” (Fagnart 1997: 187). The author supposes that this immediate use could be associated with butchery activities, which is clearly shown by a usewear analysis of objects from the neighboring site of Flixecourt. In the end, and without going further into a discussion that is presented in more detail elsewhere (Valentin, op. cit.), we now perceive a gradation between the different Belloisian sites, starting with Hangest – with a rather small lithic tool production for immediate use – to Donnemarie-Dontilly (Seine-et-Marne) and Belloy-sur-Somme – with numerous exports and several technical performances indicating the presence of skilled knappers (figure 13). At Belloy, however, one of the rare sites where the fauna is preserved, animal processing was rather frequent in at least one sector. Though the remains are poorly preserved (consisting mostly of teeth), five horses were nonetheless identified, representing 700 kg (!) of food products (Fagnart, op. cit.: 101; Chevallier, 2009). At Donnemarie, indirect indicators in the form of well-made blades and end-scrapers on the periphery of the knapping stations, also suggest activities directly linked to animal processing,
Figure 12 - The type of blades appreciated at Belloisian sites (after Valentin, 2008, fig. 45): 1 and 2, two specimens imported already made to Donnemarie-Dontilly (Seine-et-Marne) (after drawings by D. Molez in Valentin, 1995, Annex, p. 194); 3, another blade imported to Flixecourt (Somme) (after drawing by S. Lancelot in Fagnart, 1997, p. 173, fig. 139).

Figure 13 - The skillful exploitation of a large Eocene flint volume at Donnemarie-Dontilly (Seine-et-Marne); the large refit blades finish the core preparation by regularizing the debitage surfaces; they were considered as by-products and were left in place, while the shorter, more regular blades were selected (photograph: P. Bodu and B. Valentin).
in addition to flint knapping (figure 14) (Bodu et al., 1997). The verification of this hypothesis through a usewear analysis is one of the objectives of the paleoethnographic study in progress.

Between these two extremes – Hangest on one hand, and Belloy and Donnemarie on the other – quite a few sites can be inserted, such as those of Acquigny in Normandy (Biard, 2003), where the exportation of blades appears to have been limited and the objectives in terms of productivity were not very ambitious. What must also be clear here is the appearance of these exported blades. They are long and regular with cutting edges which are fully preserved, in other words, they are knives (figure 12). And these blades, rather than ending up in large quantities at the rare residential sites, seem to have been dispersed. We therefore imagine that they could have been transported to locations that were complementary to the residential sites, such as kill sites near the knapping locations, thus satisfying the need for tools to cut the animals into transportable portions.

Consequently, the preliminary economic model that we propose to test for this transitional period between the Pleistocene and Holocene consists of infrequent aggregation episodes – represented by a few sites with diverse activities, such as Les Blanchères (Yvelines) – and numerous episodes of dispersion (figure 15, model 2). For these dispersion episodes, there would have been a gradation from sites where many blades were manufactured to sites where initial butchery activities were dominant. This model of frequent dispersion must of course be verified by paleoethnographic analyses that are much more detailed as those that we are realizing at Donnemarie-Dontilly. At present, the major handicap in these studies is the rarity of sites with preserved fauna.
(Chevallier, 2009). Consequently, and unfortunately, our only data on hunting practices during this period are heterogeneous and dispersed. Nonetheless, we already know that this period of rapid change between the Late Dryas and the Preboreal – in barely 50 years time! – was characterized by very pronounced seasonal and inter-annual climatic variations (for a nearby geographic zone, see Renssen 2001). We can thus predict that such conditions resulted in significant fluctuations in animal resources. The preliminary model that we wish to explore, involving rare aggregations and frequent dispersions, can already be partly explained by this context of low resource predictability.

Figure 15 - From the workshop/residential site (model 1) to a draft of another system of complementarity (model 2) during the Pleistocene-Holocene transition (after Valentin, 2008, fig. 60; labels after R. Humbert and G. Tosello).
According to this model, many Belloisian sites would constitute a sort of intermediary hunting camp near both the kill sites and the flint raw material sources. At these camps, diverse quantities of cutting tools would have been manufactured in association with one or two hunting episodes conducted nearby. Furthermore, it is possible that this manufacturing of knives was partly integrated into the activity of hunting, corresponding, for example, to the practices observed at the Nanamiut Eskimo “hunting stands” described by L. Binford (1978). In fact, it seems that knives in the Belloisian context, at Hangest, for example, sometimes satisfied very occasional needs. In other cases, however, such as at Belloy and Donnemarie, a larger stock of blades appears to have been prepared (for larger-scale hunting, or for more numerous hunting episodes?).

At least for now, in the Belloisian we do not find the very specialized hunting camps that we have difficulty identifying in the Magdalenian, and even in the Azilian (at least in its earliest phase). But for the Belloisian, it is perhaps only a matter of time or of research strategy. The prediction in our preliminary model of the existence of sites, which remain to be discovered, that are mainly devoted to hunting and the initial cutting up of carcasses is partly based on the existence of this type of site during the same period in a very similar technical and economic context: the Ahrensbourgian of Schleswig, which is well known for having yielded one of the few identifiable prehistoric “kill sites”, that of Stellmoor (see for example, Bratlund, 1966). We recently wrote that: “We have seen (…) that the economies of the Magdalenian in our region appear to be far from the logistic ideal-type (…)”; before adding that: “time will tell if the economies of the Pleistocene-Holocene transition are those that most closely resemble them…” (Valentin, 2008: 210).

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Bibliographic references


Binford L. R., 1980 - Willow smoke and dogs’tails: hunter-gatherer settlement systems and archaeological site formation, American Antiquity, 45, 4-20.


