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HUNTING CAMPS IN PREHISTORY

Current Archaeological Approaches



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## Article outline

# FROM THE ETHNOGRAPHIC MODELLING OF NOMADIC BEHAVIOURS TO ARCHAEOLOGICAL SITE FUNCTIONS:

## Determining Attribution Criteria

Félicie FOUGÈRE

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## FROM THE ETHNOGRAPHIC MODELLING OF NOMADIC BEHAVIOURS TO ARCHAEOLOGICAL SITE FUNCTIONS:

### Determining Attribution Criteria

Félicie FOUGÈRE

#### Abstract

*Based on a study of the camp types of three populations of nomadic hunter-gatherers, we have defined three categories of habitation which are differentiated on an essentially sociological basis, but which may also reflect an economic organisation that changes throughout the year. The “hunting camp” is one of the occupation types that composes the division of the residential group, and has a specific economic role (base camp provisioning). Archaeology, which essentially attributes functions to sites on the basis of the remains of economic activities, may attempt to reconstruct the sociological composition of sites. However, the necessarily incomplete aspect of archaeological data requires us to compare information from several sites close in space and time in order to determine site function and mobility type. The modelling of camp types based on comparative ethnographic data allows us to clarify the relationships between site function and mobility type; when applied to the Magdalenian sites of the Paris Basin, it helps to support the interpretations made by researchers.*

#### Keywords

*Logistic mobility, residential mobility, site function, residential camp, aggregation camp, logistic expeditions, ethnoarchaeological modeling, nomadic hunter-gatherers, Magdalenian, Paris Basin, resource distribution, spatial analysis.*

## 1 - Introduction

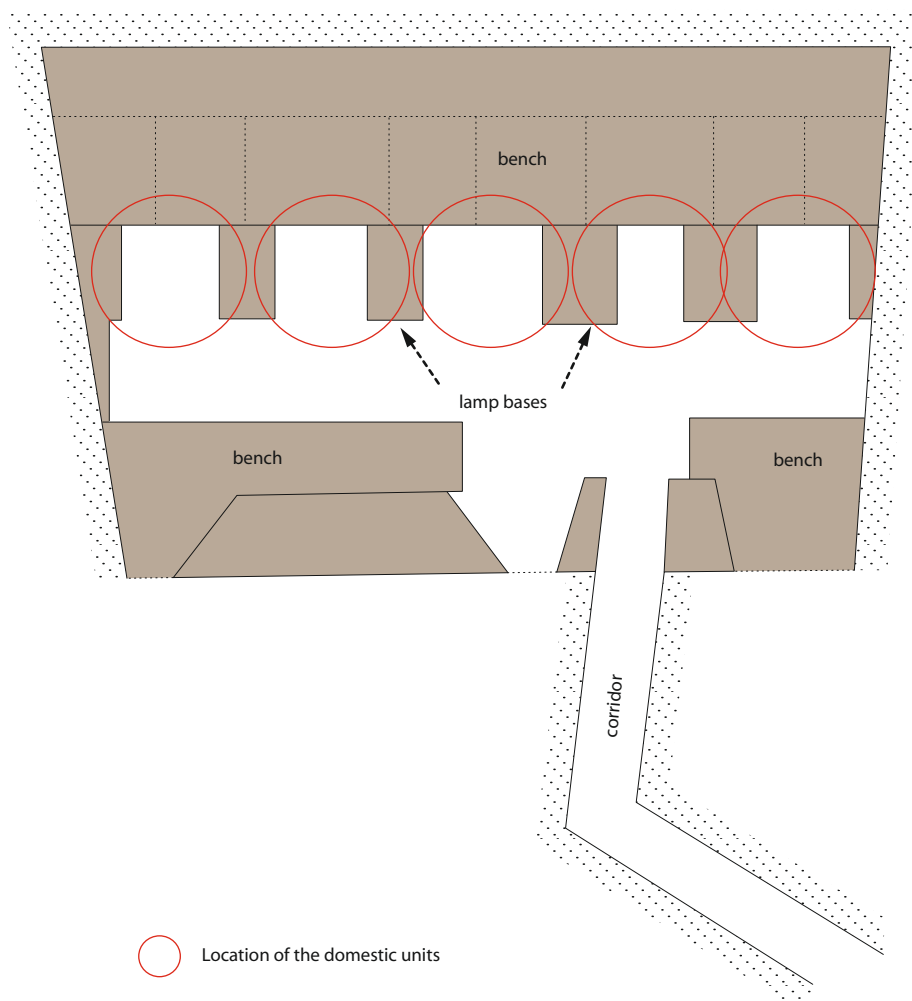
Is it possible to decompose the annual cycle of a nomadic population into occupation categories referring both to the economic activities and the specific composition of the occupying group? To attempt to answer this first question, we have selected three populations of nomadic hunter-gatherers living in different environments and practising equally distinct types of mobility. Our second query relates to the archaeological perception that we might have of these nomadic populations, from both a theoretical point of view and based on the example of the Magdalenian sites of the Paris Basin. The goal of this integration of ethnological modelling and archaeological research is to clarify the criteria used to attribute site function and to contribute to interpretations of mobility strategies.

## 2 - Decomposition of the annual cycle of three ethnographic cases

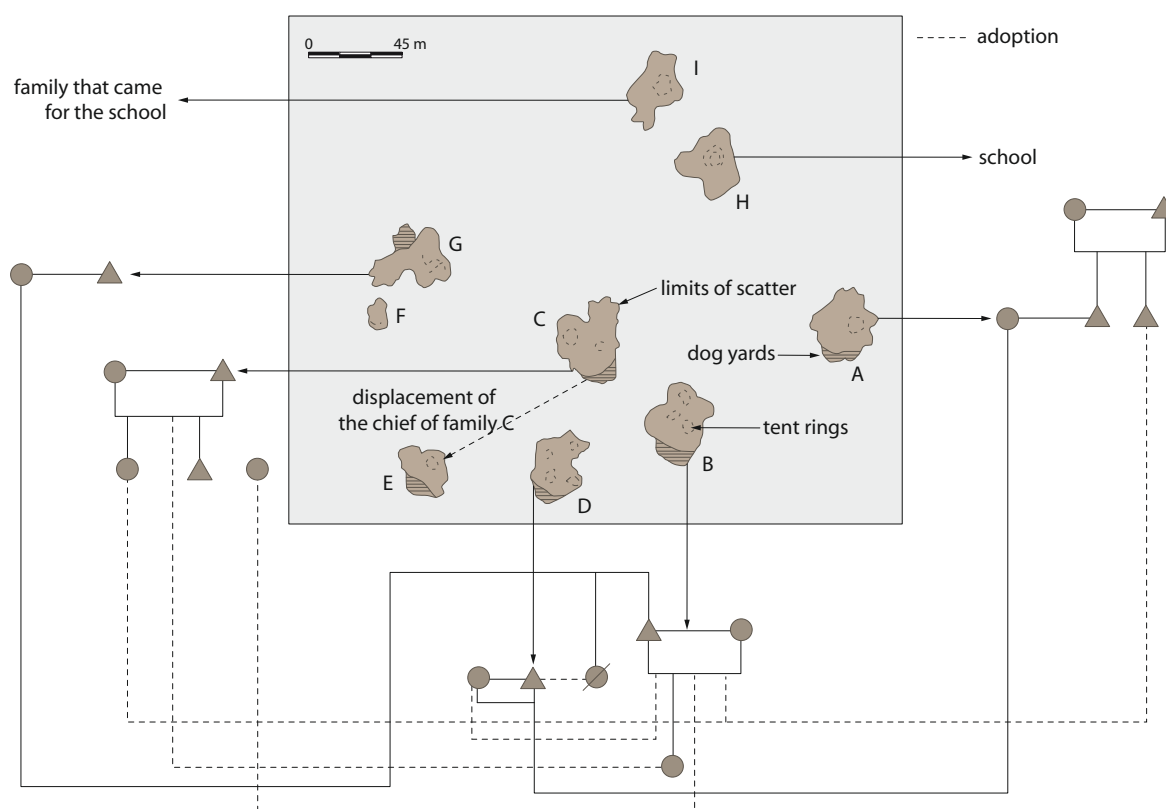
### 2.1 - The residential group

The residential group occupies a residential camp from which resource procurement activities occur and within which the treatment and consumption of these resources is carried out. The residential group is composed of domestic units occupying a distinct shelter (Aka huts) or sharing a divided part of a shared space (the Ammassalimiut winter house, [figure 1](#)) (Mauss, Beuchat, 1906; Gessain, 1969; Bahuchet, 1985; Thomas, 1991). The members of a domestic unit have relationships of blood or alliance with the members of other domestic units sharing the same camp ([figure 2a-b](#)). The residential group is thus composed of interlinking domestic units.

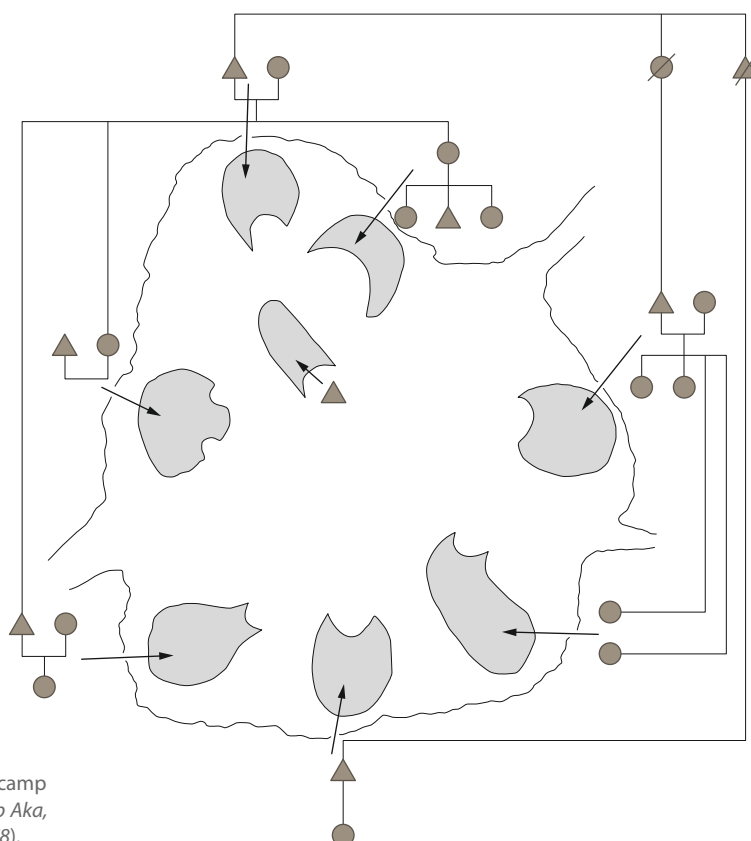
Among the Aka, the nomadic residential group sets up its camps from March to the end of June, from August to the end of September, and in November and December ([figure 3a](#)) (Bahuchet, 1985). The Ammassalimiut residential group is nomadic in summer and sedentary in winter ([figure 3b](#)) (Gessain, 1969); that of the Nunamiut is also sedentary in winter, as they are nomadic in the spring ([figure 3c](#)) (Binford, 1991).



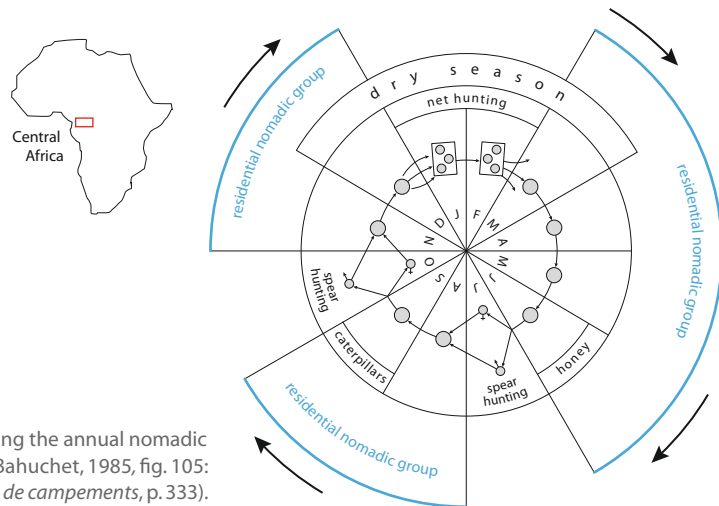
**Figure 1** - Locations of the domestic units within the winter house of the Ammassalimiuts (after Mauss, Beuchat, 1906, fig. 2: *Plan de la maison d'Angmagssalik*).



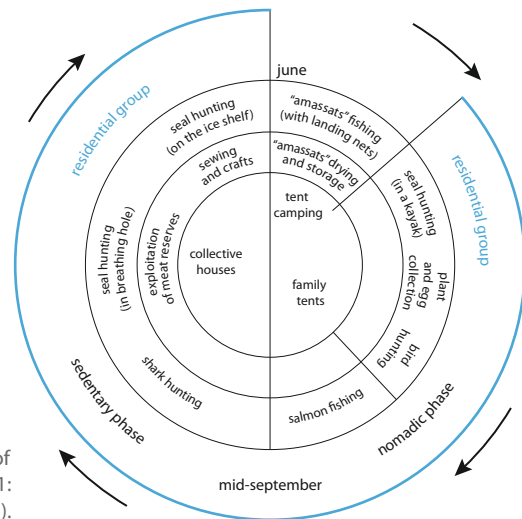
**Figure 2a** - Family relations within the Schoolteacher site  
(after L.R. Binford, 1991, Fig. 4: Schoolteacher site – Tulugak Lake, Alaska, p. 33).



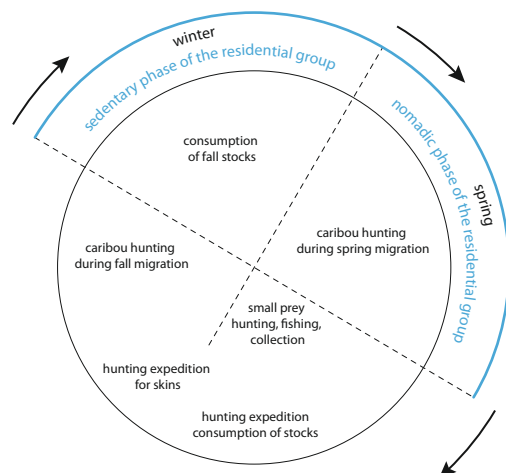
**Figure 2b** - Family relations within an Aka camp  
(after Bahuchet, 1985, fig. 12: Exemple de camp Aka, groupe de Ngata, rivière Akanga, septembre 1978).



**Figure 3a** - Base camp during the annual nomadic cycle of the Akas (after S. Bahuchet, 1985, fig. 105: *Cycle annuel des mouvements de campements*, p. 333).



**Figure 3b** - Base camp during the annual nomadic cycle of the Ammassalimiuts (after P.-Y. Demars et al., 2007, fig. 1: *Cycle annuel des Eskimos d'Ammassalik*, p. 101).

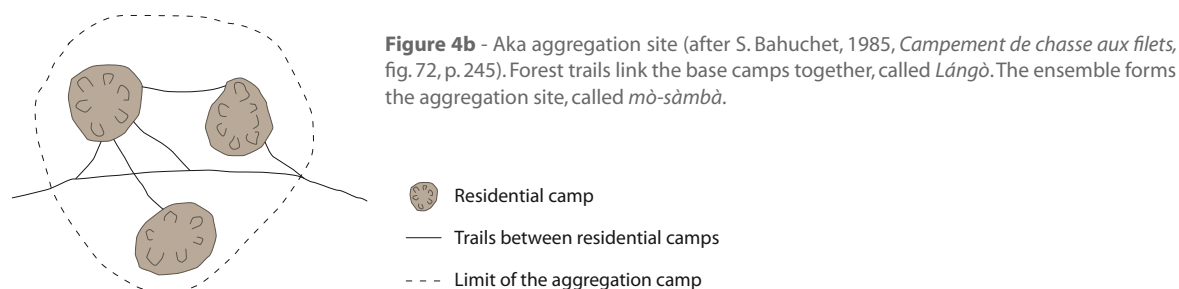
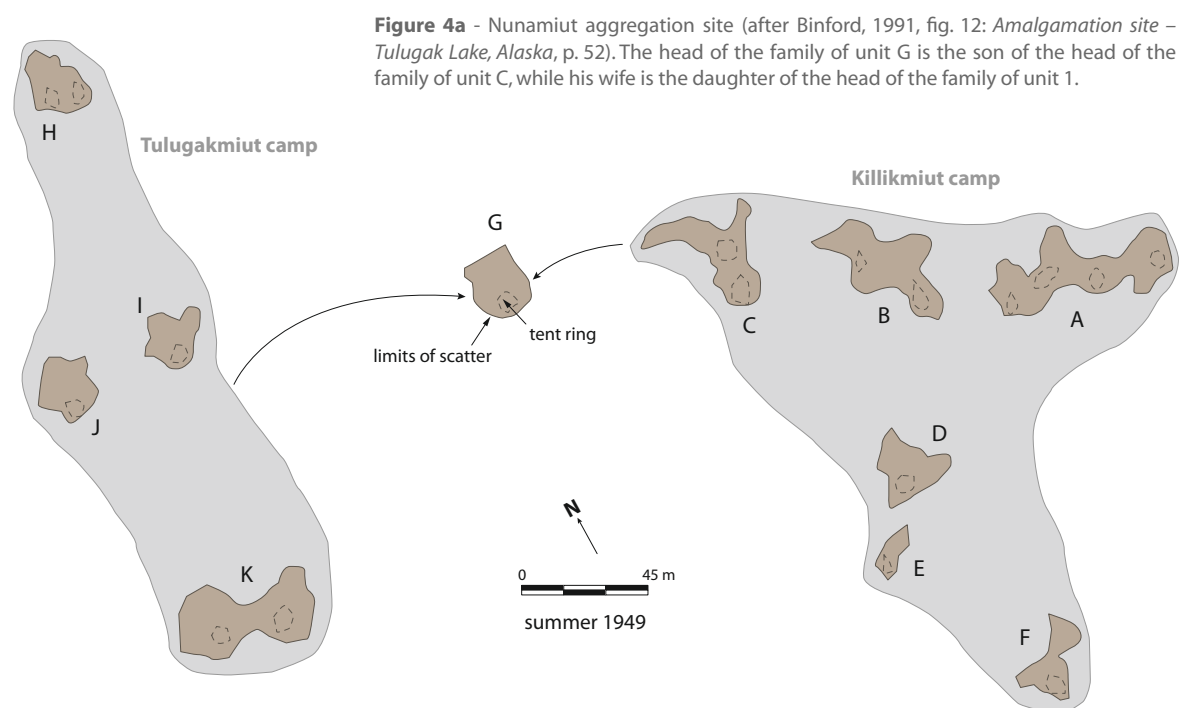


**Figure 3c** - Base camp during the annual nomadic cycle of the Nunamiuts (after Binford, 1980, 1982, 1991).

It seems that the sedentary nature of the residential group is linked to the exploitation of a principal resource which is irregular in space and time but localised (Newell, 1997). This is the case in winter for the Ammassalimiut, who hunt seals around their breathing holes and for the Nunamiut who consume caribou stocks. The nomadic phase of the residential group appears to be linked to the exploitation of resources that are regularly distributed through space (ubiquitous), regardless of whether they are otherwise regular or irregular in time (this phenomenon being compensated for by the seasonal succession of resources). This is the case in the Aka hunt for monkey, bush pig and porcupine, and for the Ammassalimiut springtime hunt for seal (Fougère, 2011).

## 2.2 - Aggregation of residential groups

During aggregation, residential groups become the units comprising the aggregation camp. The links between residential groups can be materialised by the installation of a domestic unit halfway between the groups (Nunamiut, [figure 4a](#)) or the creation of forest paths (Aka, [figure 4b](#)).





The aggregation exceeds the sum of the units composed by the residential groups because it is also constituted of the relationships (economic, ritual, matrimonial, etc.) which they maintain between them.

Aggregation takes place during the dry season among the Aka (figure 5a). It occurs at the start of the summer among the Ammassalimiut (figure 5b) and during the whole of the summer for the Numamiut (figure 5c).

It can take advantage of resources concentrated in time and space, which are predictable and abundant. The distribution of *ammassats* during the aggregation of the Ammassalimiut corresponds to this category. The aggregation of the Nunamiut clearly takes place during a period of scarcity (Binford, 1991). This is also what appears to take place among the !Kung (Lee, 1968), the Guayaki (Clastres, 1967) and certain Eskimo groups (Damas, quoted in Conkey, 1980). Aggregation is above all a period of intensity in social relationships. The assumption that it corresponds to the necessity to come together to acquire and treat a periodically and locally abundant resource is to give it a utilitarian character, which is simplistic at best.

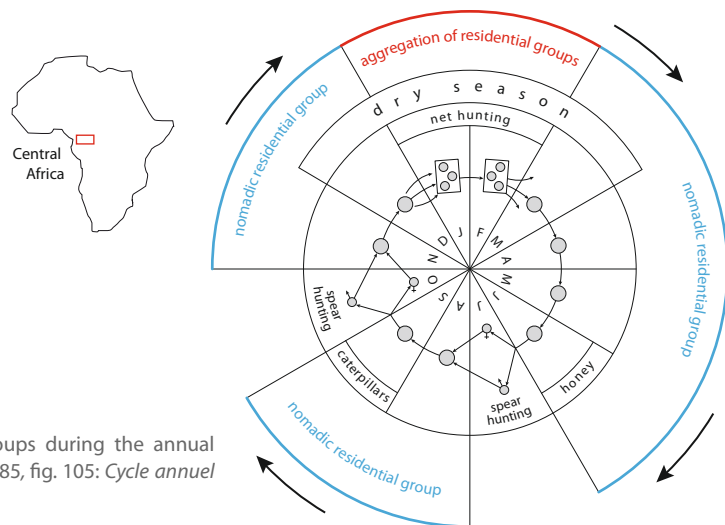
### 2.3 - Division of the residential group

The phenomenon of division occurs during the departure of a class of individuals of a particular age and often a particular gender. A modification of the sociological composition of the residential group takes place which transforms the residential camp, deprived of a class of individuals, into a base camp. This third occupation category is materialised in two forms: the logistical expedition camp(s) of those who depart, and, in parallel, a base camp. The former are intended to provision the latter.

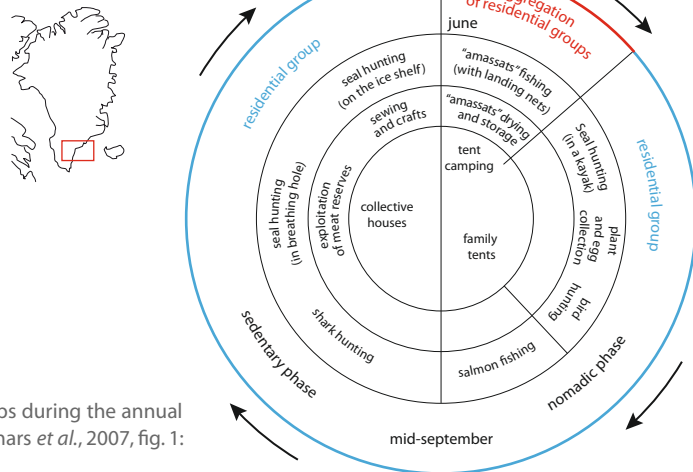
For the Aka, this division occurs during hunts with a spear, carried out only by men (figure 6a). The Ammassalimiut do not have this type of organisation. Among the Nunamiut (figure 6b) it is predominant in the summer for provisioning the aggregation camp and in the autumn to create stocks of caribou meat. The division of the residential group is a response to the difficulty of access to their principal resource, caribou. The capture of migrant herds implies a high degree of unpredictability and the division of the residential group thereby enables a large territory to be covered. This is also the strategy adopted by the Aka to hunt large game (gorilla or elephant).

Hunting camps belong to this category: they intervene during the pursuit of game for the Aka and at the hunting site for the Nunamiut. In the first case, they are characterised by a lack of activities other than sleeping and the partaking of an evening snack (Bahuchet, 1985); in the second by the activities of primary butchery intended to facilitate the transport of the fleshy parts of the game and by the initial stages of the treatment of skins (Anavik Springs sites, Binford, 1991).

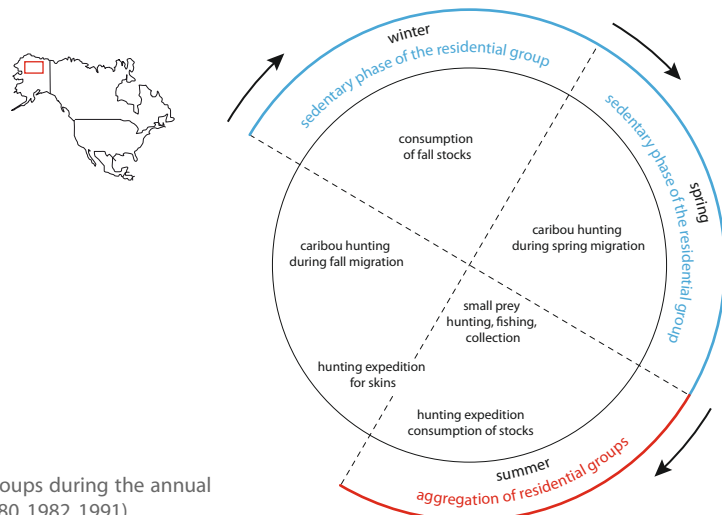
The criteria for distinguishing between the occupations corresponding to our three categories are above all sociological in nature. The aggregation camp is characterised by the presence of several residential groups, the residential camp by the presence of a single residential group and a logistical occupation by the division of the residential group (Fougère, 2009). These sociological criteria are not directly accessible through archaeology. However, archaeology may perceive habitats differentiated by their economic specificity.



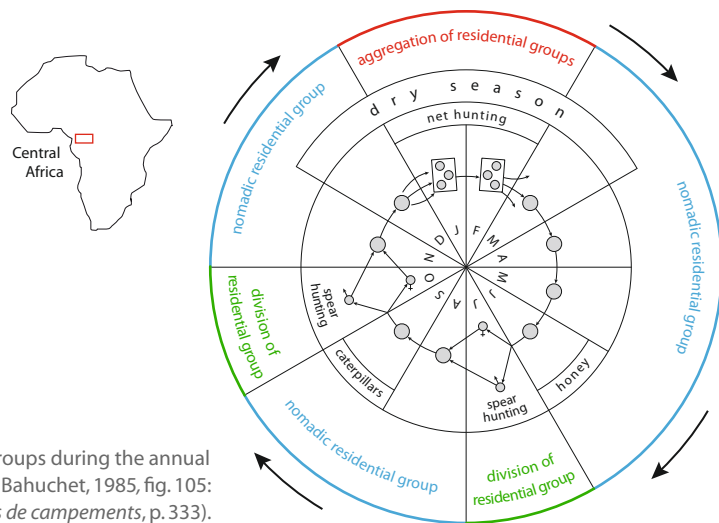
**Figure 5a** - Aggregation site of residential groups during the annual nomadic cycle of the Akas (after S. Bahuchet, 1985, fig. 105: *Cycle annuel des mouvements de campements*, p. 333).



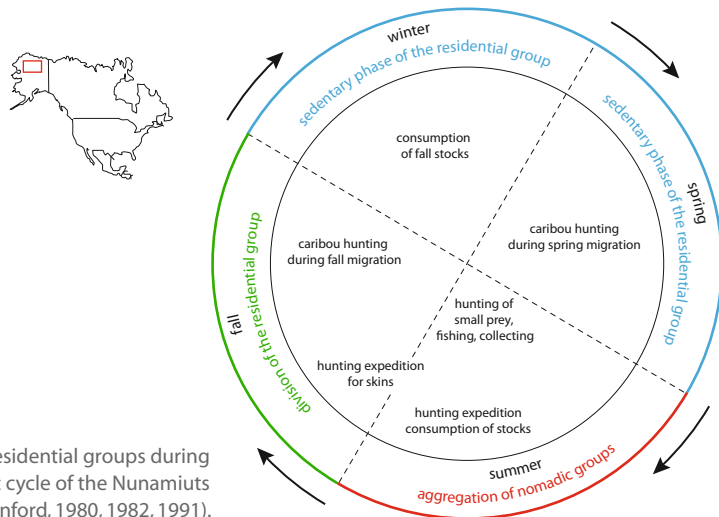
**Figure 5b** - Aggregation site of the residential groups during the annual nomadic cycle of the Ammassalimiuts (after P.-Y. Demars et al., 2007, fig. 1: *Cycle annuel des Eskimos d'Ammassalik*, p. 101).



**Figure 5c** - Aggregation site of the residential groups during the annual nomadic cycle of the Nunamiuts (after Binford, 1980, 1982, 1991).



**Figure 6a** - Division of the residential groups during the annual nomadic cycle of the Akas (after S. Bahuchet, 1985, fig. 105: *Cycle annuel des mouvements de campements*, p. 333).



**Figure 6b** - Division of the residential groups during the annual nomadic cycle of the Nunamiuts (after Binford, 1980, 1982, 1991).

### 3 - The application of a theoretical model to an archaeological reality and the associated difficulties

The sites may reveal links in the *chaîne opératoire* of acquisition, treatment, consumption, conservation or transport of resources. Spatial analysis and the study of artefacts reveal the variety of economic activities and the degree of sequencing of *chaîne opératoires*. A dynamic vision of the occupation may be obtained through microstratigraphic analysis of concentrations and refittings, which can indicate an occupation period and possible modifications in the organisation of the camp space (Olive, 1988; Pigeot *et al.*, 2004). We can also attempt to identify, though somewhat perilously, the intensity of social activity through the material culture (Taborin, 1987).

This data makes it possible to infer the sociological composition of the installations and therefore to attribute a function to the site. The comparative study of the three societies presented at the start of the article, associated with archaeological observations from the field, enables the establishment of an interpretive scheme applicable to archaeological sites (figure 7).

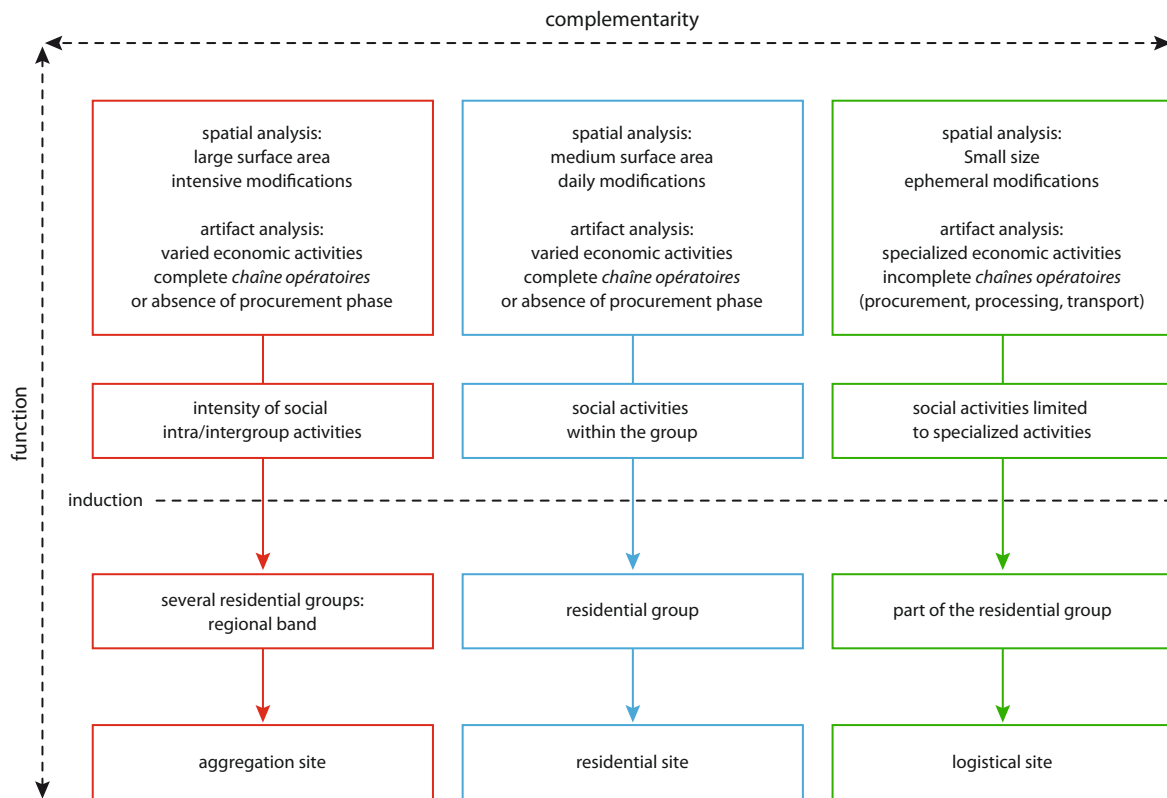


Figure 7 - Theoretical attribution of site functions.

If we eliminate taphonomic biases, it is possible to consider that the sites produced by the division of the residential group, such as hunting camps, would be more legible than the other occupation types: the short duration of the occupation and the practice of a specialised activity would give them instant value and rule out a mixture of deposits due to maintenance or displacement of activity zones (Binford 1978; O'Connell, 1987). However, when there is no reoccupation, the brevity of the occupation may become a complicating factor. Successive reoccupations of a different nature may also create confusion. To “*the differential conservation which excludes whole areas of activities*” must be added the fact that the sites are most often “*palimpsests which project an average image; in other words a condensation of successive occupations*” (Olive, Valentin, 2006: 668).

Archaeology is therefore equipped with theoretical concepts that enable if to attribute functions to sites; however, the reality in the field often prevents interpretation. One way to reduce the margin for error is to add support to hypotheses of site function through comparisons with other geographically close and culturally related occupation.

## 4 - The application of an interpretative scheme to a set of archaeological sites

### 4.1 - A few Magdalenian sites in the Paris Basin

The epistemological orientation of the teams that have succeeded each other since Leroi-Gourhan, together with the sites gradually discovered on the fluvial network of the Seine and their often exceptional conservation, have permitted the pursuit of a line of thinking which, on the basis of the analysis of the internal organisation of the sites, attempts to comprehend a mobility strategy (Leroi-Gourhan, Brézillon, 1972; Olive, 1988; Bodu, 1998-1999; Pigeot *et al.*, 2004; Bodu *et al.*, 2006; Audouze, 2006, 2007; Valentin, 2008)

For each site (figure 8), one of the recurring questions is obviously to determine whether it indicates the installation of a team of hunters (division of the residential group) or the entire residential group.

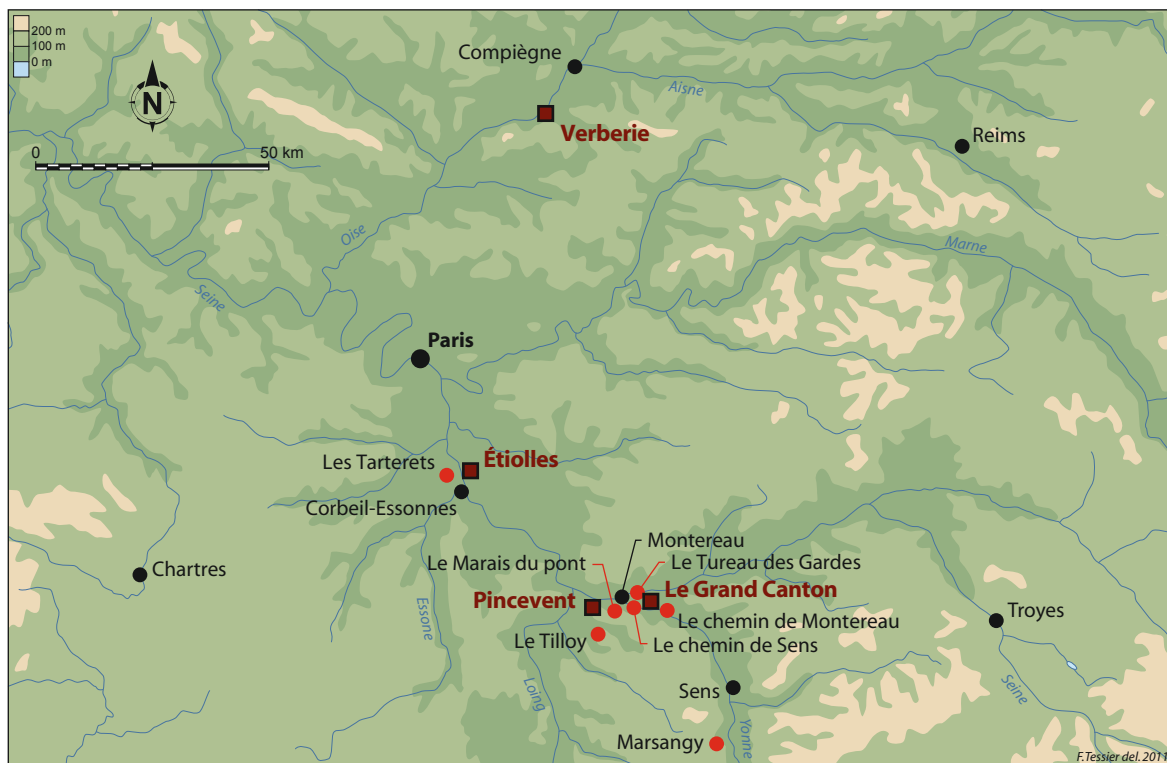


Figure 8 - Magdalenian sites in the Paris Basin (after Olive *et al.*, 2000).

#### 4.1.1 - Verberie: Logistical hunting camp (division of the residential group) or residential hunting camp?

Does Verberie (level II1) indicate the installation of a “group of adult hunters, detached from the greater community” or that of a “family group” (Olive *et al.*, 2000)? The occupations indicate a specialised hunt carried out during the autumn migration of reindeer (Enloe, Audouze, 1997). The *chaîne opératoire* of the treatment of game (dismembering, deboning, marrow extraction) exceeds the level of primary butchery activity which would indicate a hunting camp. However, we can consider that this site, which does not have the brevity of a hunting camp, corresponds to

a logistical hunting camp. In the case, the acquisition and treatment, by a part of the group, of a seasonally abundant resource would have provided stocks to as yet unknown residential winter camps (Enloe, 2004; Audouze, 2007).

On the other hand, the presence of non-productive debitage activities demonstrates the presence “of inexperienced and novice knappers, and therefore children and adolescents of various ages” (Audouze, 2006). The activities are varied: equipment manufacture (armatures, working of bone, osseous materials and wood), repair of hunting weapons, the presence of needles manufactured and used in situ. Spatial analysis reveals the presence of a zone of carcass butchery, which was later converted into a skin treatment area. Use-wear analysis of the scrapers indicates skin working at different stages (dry, wet) and according to various procedures, in particular defleshing and cutting. This can be linked to the presence of women (Audouze, 2006; Audouze, Beyries, 2007) and indicates a relatively long occupation period because it extends through “the major part of the autumn” (Audouze, 2006: 692).

If we apply our interpretive plan, Verberie would not therefore be the manifestation of the division of a domestic group, but that of a residential camp oriented towards the acquisition of reindeer during the period of the autumn migration, as also proposed by F. Audouze.

#### **4.1.2 - Etiolles: a flintknapping workshop (division of the domestic group) or residential camp?**

“Such an extraordinary profusion of knapped flint on the Magdalenian floors of Etiolles” (Pigeot *et al.*, 2004: 257) initially suggests an occupation devoted to the production of laminar flakes together with the manufacture and repair of hunting weapons (abundant backed bladelets). According to this hypothesis, a specialised team would have been attracted by the exceptional quality of the raw material at Etiolles and would have stayed there as long as needed to prepare the lithic equipment. Etiolles would therefore fall into the category of the division of the domestic group.

Meanwhile, the absence of significant blade exportation concurs with the use of the laminar products at the site for butchery activities, bone and wood working. Furthermore, the technological analysis of the lithic remains of habitation groups Q31, P15 and U5 documents different degrees of knapping skill and thus supports the hypothesis of the presence of young apprentices. The presence of borers at the edge of the domestic hearth Q31 may indicate sewing activities, and therefore the probable presence of women. We would thus have a sociological composition of the group corresponding to a residential group.

The occupation duration of this site also does not appear to correspond to the periodic installation of a specialised team. The occupation of P15 seems contemporary to the first phase of habitation unit U5. The debitage stations are located inside the domestic space, close to the hearth occupying the centre of the covered space. In a second occupation phase, P15 is abandoned while the occupation of the exterior space of U5 is intensified. This spatial distribution evokes a residential winter camp that extended into the spring (Olive, 1988; Coudret *et al.*, 1994; Olive *et al.*, 2000; Pigeot *et al.*, 2004; Julien, 2006; Olive, Pigeot, 2006).

The small number of osseous remains does not appear to be solely due to a taphonomic phenomenon. It may therefore indicate a limited hunt (Olive, Pigeot, 2006). It is thus possible to formulate the hypothesis of a residential winter occupation, supplied by an occasional hunt and/or stocks of meat, during which the occupants were able to work on the repair and manufacture of equipment, taking advantage of high quality raw materials.

If Etiolles corresponds to the category of a long duration residential winter installation, we can classify this site among the residential camps of the sedentary phase of the residential group.

#### **4.1.3 - Pincevent IV20: aggregation site, logistical hunting camp (division of the residential group) or residential hunting camp?**

The perimeter of level IV20 at Pincevent (4500m<sup>2</sup>, Julien, Karlin, 2000-2001), the number of hearth structures and the number of habitation units that can be deduced as a result (10, Leroi-Gourhan, Brézillon, 1972), along with the hunting activity oriented towards migratory game and the number of prey killed (at least 76 reindeer), might indicate an aggregation camp. However, spatial analysis demonstrates that not all hearths correspond to habitations. A number of these are in fact peripheral open-air structures constituting zones of communal work (Julien, Karlin, Bodu, 1987; Ploux, Karlin, Bodu, 1992; M. Julien, 1995). The number of domestic units is therefore reduced to four. This does not, meanwhile, prevent the estimation of the population of this camp as several dozen people (David, Orliac, 1994; Julien, Karlin, 2000-2001).

The massive and intensive exploitation of reindeer during its migration raises the same question as for Verberie. Does Pincevent IV20 correspond to a logistical hunting camp or to a residential hunting camp? The different levels of lithic competence indicate the presence of young people, while the significant number of transformation tools indicates the presence of women. This was therefore a residential hunting camp that provided the opportunity to treat significant quantities of meat in order to constitute stocks for the winter (David, Orliac, 1994; Enloe, 1998; Audouze, 2007, see also the conclusions of Bignon, Bodu *et al.*, this volume).

#### **4.1.4 - Pincevent IV0: hunting camp (division of the residential group) or residential camp?**

Still at Pincevent, but in level IV0, the faunal evidence (reindeer and horse) of unit T125 indicates occupation in autumn, winter and at the start of spring. Is this a location occupied selectively to carry out killing and treatment activities preliminary to the transportation of prey, in which case we should see the manifestation of a division of the residential group, or are we in the presence of a residential winter camp occupied during the entire rainy season? The technological analysis of the lithic remains confirms the presence of apprentices, the presence of small sized personal ornaments could be associated with children, and finally the remains of tools used in sewing indicates women. "While it is difficult to demonstrate, the hypothesis of continuous occupation during several winter months (at least from the end of November until March) is the most probable, given the broad possibilities in terms of consumable animal resources and the extraordinary number of activities revealed by the number of intensively used tools and the quantity of products linked to combustion" (Bodu *et al.*, 2006: 135).

This result, together with that produced by O. Bignon, P. Bodu *et al.* (this volume), allows us to classify this level of Pincevent into the category of sedentary winter installation in our model.

#### **4.1.5 - Marolles Le Grand Canton: hunting camp (division of the residential group) or residential camp?**

The question of whether an accumulation of deposits is due to a continuous occupation or to repeated occupations is at the heart of the attribution of a function to the site of Marolles Le Grand Canton. It appears that this site, like that of Tureau des Gardes, corresponds to several hunting expeditions carried out in all seasons (with a lower rate of occupation in winter, Bignon, 2006). This explains the relatively low representation of armatures: the hunters would have contented themselves with manufacturing the necessary equipment for each hunting episode. Was it therefore a camp frequented by the part of the domestic group which was engaged in a



hunt specifically aimed at horses? The most decisive argument for identifying sites used to provision a residential camp is that of an under-representation of the fleshy parts, providing evidence of their removal. The analysis of the anatomical portions of the horses indeed allows us to propose this hypothesis. We can also interpret the accumulation of sandstone blocks near hearth F1 (sector 2 of Grand-Canton) as a structure for smoking meat in order to transport it more easily, or as the remains of a meat cache (Julien, Rieu, 1999; Bignon, 2006).

However, these hunting episodes seem to be followed by a partial direct consumption, large-scale treatment of meat materials and skin working, confirmed by the large number of scrapers. The function of the site seems to be less centred on the hunt itself than on the treatment of game, which opens the possibility of frequentation of the site by the whole domestic group (Olive *et al.*, 2000).

All of these sites in fact appear to correspond to different types of residential camps, indicating residential mobility. However, we must ask whether the possibility of storage and winter sedentarity allows us to speak of residential mobility?

## 4.2 - Interpretation of mobility strategies

The fundamental criterion that distinguishes a logistical economy from a residential economy is the dependence on game that is irregularly distributed in space and time. Spatial irregularity leads to the necessity of a division of the residential group to carry out logistical expeditions. Temporal irregularity leads to the obligation to build up stocks in anticipation of seasons of scarcity of the main game (Binford, 1980, 1991).

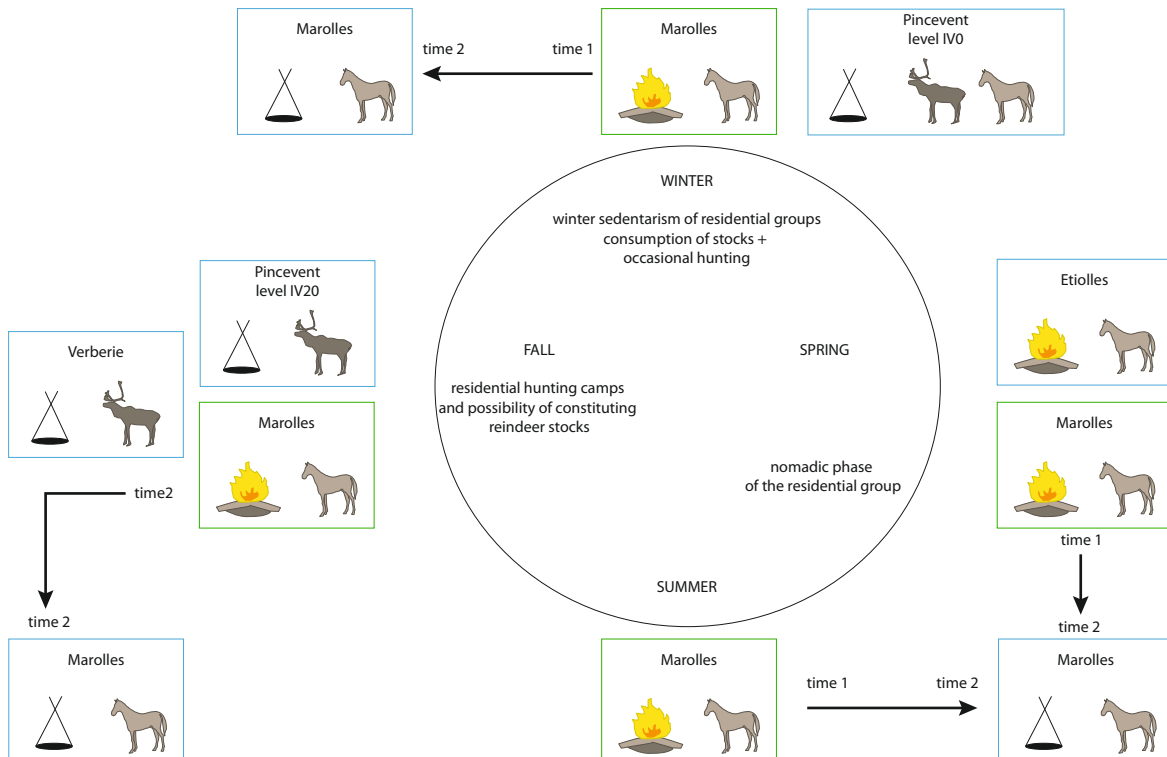
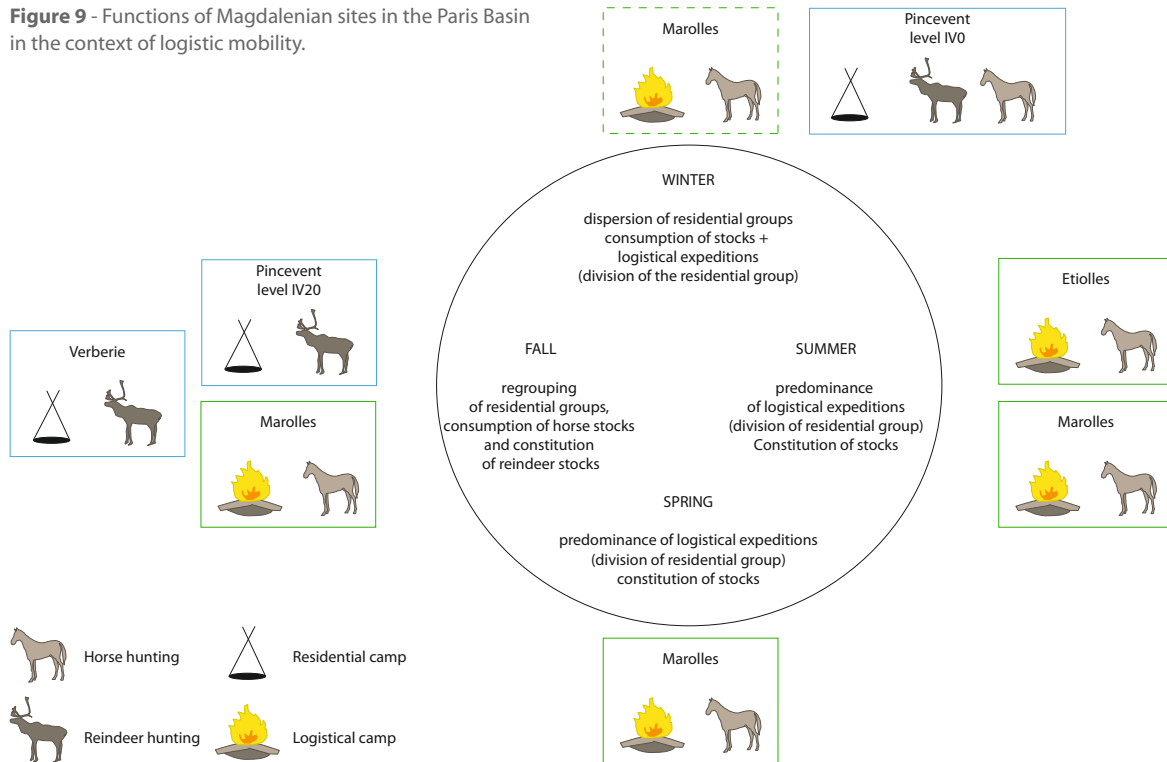
The discovery of a regular exploitation of horses by the Magdalenians of the Paris Basin (Pincevent IV.0, Marolles) may be interpreted in two ways. The spatial irregularity of this game supports the hypothesis of a logistical economy induced by the exploitation of reindeer. The hunting camps established on the reindeer migration routes would enable the building up of stocks which would be consumed in winter. This period, together with the summer and autumn, would be interrupted by phases of the division of the residential groups in order to acquire fresh horse meat, which was difficult to access. This would therefore be a logistical economy with the base camps being supplied nearly all year by a resource acquisition strategy integrating storage and logistical expeditions (Bignon, 2006, 2008) (figure 9). This hypothesis is confronted, however, by the difficulty of confirming the practice of long-term storage and the recurring absence of base camps that the logistical expeditions would have provisioned.

We can also consider that “more stable than the reindeer, the horse provides security which ensures the subsistence of the Magdalenians throughout the year and makes less crucial the establishment of major food reserves to last through the winter” (Olive, Valentin, 2006: 669). All of the sites would then correspond to occupations by residential groups. The division of the residential group would then only occur during the tracking or observation of prey and would be followed by a displacement of the residential camp to the killing site, which corresponds to a forager strategy (see the Aka elephant hunts, Bahuchet, 1985). The sites of Champréveyres and Monruz (Switzerland) seem to correspond to killing sites transforming into residential hunting camps (Müller *et al.*, 2006). Here we would be in the context of residential mobility (figure 10).

A hunting camp corresponds to a brief occupation during a hunting expedition, and would under no circumstances have been occupied by the whole residential group, therefore belonging strictly to the category of the division of the group. It may thus indicate a logistical organisation.



**Figure 9** - Functions of Magdalenian sites in the Paris Basin in the context of logistic mobility.



**Figure 10** - Functions of Magdalenian sites in the Paris Basin in the context of residential mobility. The passage from "Time 1" to "Time 2" shown by an arrow, indicates the transformation of a hunting site, occupied by a team of hunters (Time 1) into a residential site when the rest of the residential group arrived after the hunt (Time 2). This modification occurs with no change in the location of the occupation.

Anatomical diagram of a reindeer: M. Coutureau (INRAP) after R. Barone, Anatomie comparée des mammifères domestiques, 71, Ed. Vigot, 1976; Anatomical diagram of a horse: C. Beauval, M. Coutureau after CI Bellier, P. Semal (<http://www.archeozoo.org>).

However, the presence of one type of camp, in this case the hunting camp, together with a semi-sedentary organisation and the conservation of resources does not in itself enable us to deduce a particular mobility strategy. The Aka practice a seasonal division of the residential group which is manifested by hunting camps and smoke-drying of the game in order to preserve it. However, they have an overall behaviour of foragers (residential mobility). The Ammassalimiut undergo a sedentary period, which is supplied neither by stocks nor by the despatching of logistical expeditions. Their mobility strategy is residential. Finally, through the example of the Nunamiut, we observe that the essential aspect of logistical mobility is the dependence on a single principal resource and the necessity to correct its natural irregularity through the division of the residential group and/or by storage. To discuss logistical mobility, we must therefore find the remains of the strategy adopted to encounter a natural irregularity of resources.

Our modelling of ethnographic data associated with the scheme of archaeological interpretation confirms the hypothesis of a residential mobility strategy during the Magdalenian period in the Paris basin (see volume 103, no. 4 of the BSPF). Of course we cannot be certain that the Magdalenians of the Paris basin had no hunting camps. They may have been fleeing to the point of leaving no remains. It is, however, more surprising to have discovered no evidence of aggregation camps. Perhaps they will be discovered in the future<sup>1</sup>, or are located outside the study zone, or may have not resisted modern urbanisation.

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1. Ten years passed between the discovery of Pincevent and of the other reindeer hunting sites, and twenty years more before the unearthing of the horse exploitation sites.

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