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## **SOCIAL DISCRIMINATIONS THROUGH THE GRAVE: IDENTITY AND STATUS OF THE DEAD IN THE CERNY CULTURE (MIDDLE NEOLITHIC, PARIS BASIN, FRANCE)**

*ABSTRACT: During the 5<sup>th</sup> millennium BC the Paris Basin witnesses the emergence of the first necropolis and funerary monumentality. Associated with the Cerny Culture, these vestiges offer a privileged insight into the social transformations of Middle Neolithic communities in France. Following bioarchaeological analyses, the aim of this paper is to compare and discuss the social status of the dead in the monumental cemeteries characterised by their long barrows, and the flat graves without structures. The biological identity of the dead (age-at-death and sex), the grave goods and the spatial organisation of the graves underlines the prominence and the role of diverse categories of individuals, which could be related to different social ranks ordered into a hierarchy. The women are marginalised and few men appear to be the central figures of the monumental cemeteries. Surprisingly the same individualisation is present in flat cemeteries and the mortuary organisation suggests similar status. The highly structured society of the dead as it appears inside and outside the giant enclosures questions the monument as a significant element of social discriminations.*

*KEY WORDS: Monumentality – Passy-type long barrows – Flat graves – Ranking – Funerary practices*

### **INTRODUCTION**

Between 4700 and 4300 BC, the Paris Basin witnesses the emergence of numerous cemeteries including grand mortuary monuments which, as a funerary manifestation, would have no later equivalent in Europe. The "Passy-

type" long barrows, first identified in the so called cemetery, are today recognised in about 20 sites, concentrated for most of them in the Seine-Yonne valleys (Delor *et al.* 1997) (*Figure 1*). Whether they are characterised by tumuli, palisade enclosures, or mixed systems, the Passy-type monuments sometimes exceed

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300 m in length but contain very few burials (Duhamel, Midgley 2004). Most of these burials are classified under the "Balloy-type": the individuals lie in extended position inside a mobile container in a "vault" (Chambon *et al.* 2007). Within the same geographic area, two cemeteries without monument, *La Porte aux Bergers* at Vignely (Chambon, Lanchon 2003) and *Les Patureaux* at Chichery (Chambon *et al.* 2010), reveal the same type of burials (Figure 1). With or without monumental structure, the finds associated with the burials can be attributed to the Cerny Culture, the ultimate stage of the Danubian Neolithic in this region.

Whereas the Cerny domestic settlements are poorly identified (Mordant, Simonin 1997), its mortuary context remains the only framework for analysing the social

structure of the group. The deceased subjects, their burials and grave-goods are significant elements allowing the restitution of the mortuary practices. This insight into the world of the living leads to a better understanding of the ideological and social structure of the community. The hierarchical interpretation of the Cerny monumentality constitutes a widespread level of reading (Duhamel 1997, Duhamel, Midgley 2004, Duhamel, Mordant 1997, Duhamel, Prestreau 1991, Midgley 2005). Four hypotheses are commonly linked to the monumental phenomenon. (i) It would be reserved to a single part of the population. (ii) It would benefit to the upper social caste of the population. (iii) As some young individuals were given such prominent treatment, the children would inherit a central position from a "religious" or a "political"

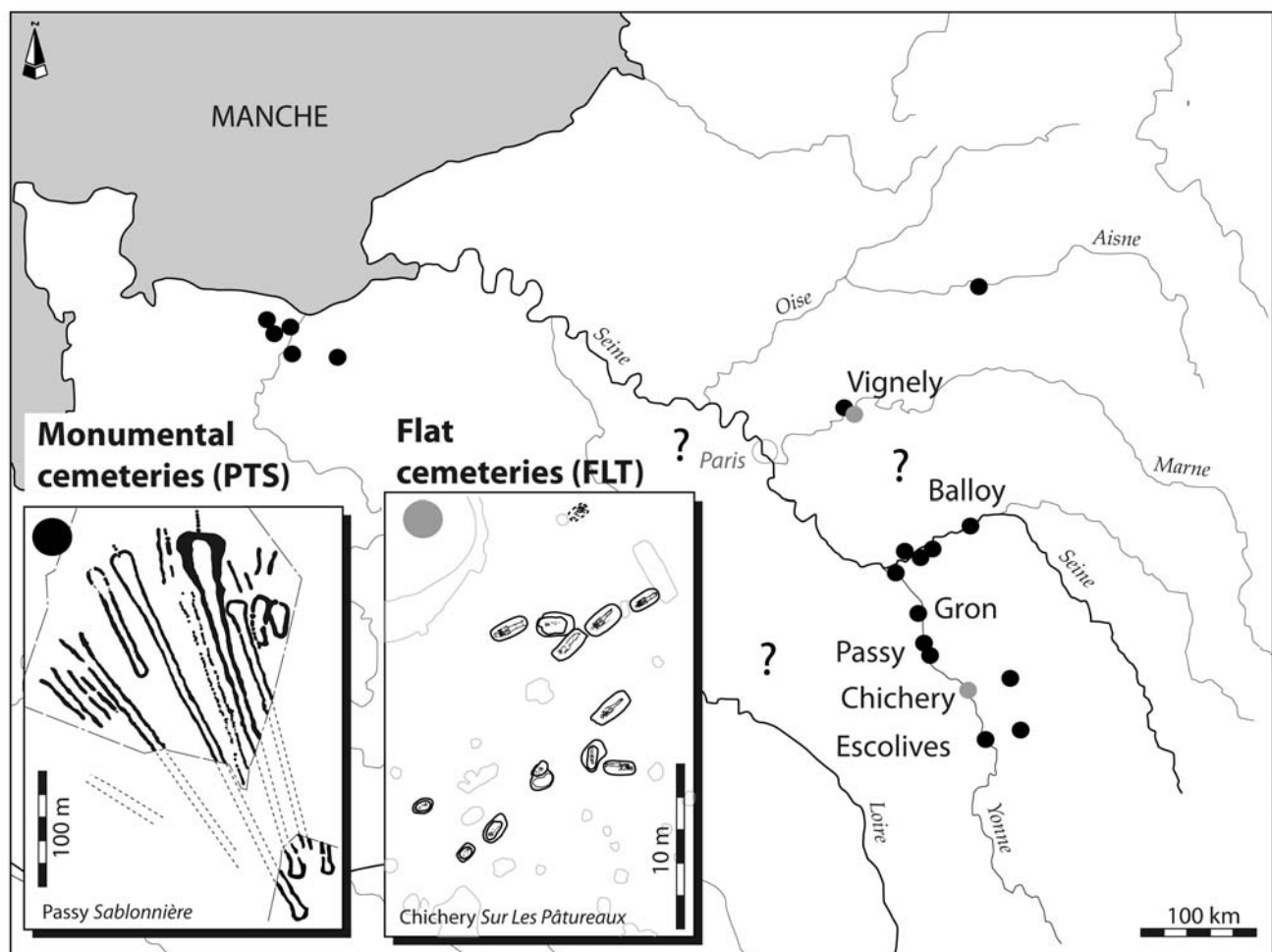


FIGURE 1. Location of the monumental cemeteries with Passy-type long barrows (PTS) and the flat cemeteries without structure (FLT) of the Cerny Culture in northern France. One main area: the central Paris Basin. About 20 sites, mostly recognised on air photos, few excavations (modern city names additionally).

power. (iv) The rest of the population should be buried in "ordinary" cemeteries. Beyond the interpretation which would translate the different type of cemeteries, monumental and flat, into social discriminations, we will see that integrated analyses including both cultural and biological data highlight a more complex scenario.

## MATERIAL AND METHODS

The anthropological analyses were conducted on 137 individuals coming from the five monumental cemeteries with *Passy-type structures* (PTS) currently discovered in the Paris Basin, and the two *flat* (FLT) Cerny cemeteries coming from the same area (Table 1).

Age-at-death and sex assessments follow recent and accurate macroscopic methods (Bruzek *et al.* 2005). As the sexually dimorphic characteristic are only completed with skeletal maturation (around 20 yrs), there is no sufficiently reliable method for determining sex in children (Bruzek, Murail 2006). The morphology and morphometry of the coxal bones was used for the assessment of sex of the adult sample (> 20 yrs), following Bruzek (2002) and Murail *et al.* (2005). For the cases of missing hip bone, it was completed with a secondary sex diagnosis based on discriminate function analysis according to the extra-pelvic within-population dimorphism (Murail *et al.* 1999). Age-at-death assessment of the adults was based upon the chronological metamorphosis of the auricular surface of the ilium, following Schmitt (2005). The age estimation of the children was based on three components: the deciduous or permanent teeth formation and root resorption (Moorrees *et al.* 1963a, b) for children who died between 1 and 12/13 years old; the length of long-bones (Fazekas,

Kósa 1978) for children who died shortly after birth; the bone maturation (Scheuer, Black 2000) for adolescents (around 15–19 yrs).

The social status of the dead is assessed by a bioarchaeological approach. Here, two main archaeological parameters are investigated with regard to the biological identity of the dead (age-at-death and sex): the spatial organisation of the graves and the grave-good distribution according to quantitative and qualitative criteria. Thus, the presence of artefacts in the graves as well as possible symbolic values of specific instruments is discussed.

The chi-square and the Fisher's exact tests were used for assessing differences between groups and for testing the dependence of biological and archaeological data (Statistica 7.1, StatSoft Inc., France). Accepted alpha values were set at 5%.

## RESULTS AND DISCUSSION

### Biological identity of the dead in monumental and flat cemeteries

The identification of the age-at-death and the sexual diagnosis of the individuals recovered in the Cerny cemeteries shed light on the selective patterns that occur in these specific funerary areas. The sex-ratio of the overall adult sample is balanced: 30 males and 29 females. The sample of adults of unknown sex ( $n = 23$ ) is related to poorly preserved skeletons coming from all cemeteries for which the secondary sexual diagnosis could not be performed or was not efficient. All categories of age are represented, from perinatals (children whose age-at-death ranges from foetal viability to four weeks after birth) to old individuals (> 60 years).

TABLE 1. Age-at-death and sex assessment of the skeletons buried in monumental (PTS) and flat (FLT) Cerny cemeteries. BLR, Balloy *Les Réaudins*; PSR, Passy *La Sablonnière, Richebourg*; GLS, Gron *Les Sablons*; EPE, Escolives-Sainte-Camille *La Pièce de l'Étang*; Vignely *La Noue Fenard*; VPB, Vignely *La Porte aux Bergers*; CSP, Chichery *Sur les Pâturaux*.

	PTS					FLT		Total
	BLR	PSR	GLS	EPE	VNF	VPB	CSP	
Male adult	13	6	2		1	5	3	30
Female adult	8	4	2		2	11	2	29
Unknown sex adult	6	5		8	1	1	2	23
Total adult	27	15	4	8	4	17	7	82
Total children	19	15	2	1		10	8	55
Total	46	30	6	9	4	27	15	137

In PTS cemeteries, the sex-ratio (22 men/16 women) is up to 1.4 while it is only 0.6 in FLT cemeteries (8/13) (Table 1). The over-representation of female individuals in flat cemeteries appears important and quite unusual amongst archaeological samples. Indeed, they represent 62% of the adult sample, and it would remain higher even if the individuals of unknown sex were male. However, this over-representation of women in FLT context is not statistically significant (chi-square,  $P = 0.2752$ ). The sex-ratio in PTS cemeteries is inverted: 57% of the adults are men. In this case, the proportion of individuals of unknown sex is quite large ( $n = 20$ ) and could highly influence the results. In any case, there is no significant opposition in the representation of the sexes between the monumental or flat cemeteries (Fisher's exact test,  $P = 0.1799$ ). Although the gender might have certainly accounted for the inclusion of these individuals in such specific areas, it does not appear to be a strict discriminating factor for the burials in both types of Cerny cemeteries.

The characterisation of the *recrutement* (Masset 1986) or the "differential inclusion pattern" in the Cerny cemeteries, based on the age-at-death, is defined by the comparison of these sample to a theoretical mortality pattern (Ledermann 1969). The comparison allows for the demonstration of a potential over- or under-representation of each age group relative to a living population (Sellier 1996, 2011). In monumental and flat cemeteries the mortality quotients of the Cerny populations indicate that only the individuals who died before one year of age are clearly under-represented (Thomas *et al.* 2011). The lack of small infants and perinatals appears to be a general pattern. The reasons of such deficits have been discussed (Thomas *et al.* 2011), and taking into account the accidental parameters, it is the social will of the living to exclude some of the younger children from these specific mortuary areas that has been suggested. The rest of the population does not seem to suffer from any burial segregation according to age-at-death. The choice to exclude a segment of the younger children could be related to their status within the community. It could reflect their incomplete social integration at the time of their death. However, further bioarchaeological investigations tend to put in perspective such a hypothesis.

### **Central position of some men and children in both types of cemeteries**

Age and sex of the dead are, of course, only one parameter among others for the population to select or exclude some categories of individuals from the Cerny

cemeteries. The social identity of the dead must have been an additional criterion that has conducted differential inclusion patterns: their function or status, their family or clan lineage. Although rare and generally scanty, the grave goods yield by the burials express a part of the social identity of the dead in this cultural context (Chambon *et al.* 2010, Chambon, Lanchon 2003, Duhamel 1997, Mordant 1997). In all probability the different artefacts do not hold the same symbolic value. Some "remarkable instruments" can be distinguished from "common tools" according to a specific function, a rare representation or a sophisticated shaping (Augereau, Chambon 2003). In all types of cemetery the bioarchaeological analyses enlighten the central position of some individuals who received specific grave goods. Among them is the category of people called "hunters". They are adults or children buried with one or several arrowheads which appear often too "precious" to be used as mundane ammunition (Chambon, Pétillon 2009). Several modes of deposit were identified in relation to their number and their position in the tomb: unhafted arrowheads included in a container placed in the grave; several arrows placed next to each other beside the body; or a quiver full of arrows placed on the dead body, sometimes associated with a bow (Chambon, Pétillon 2009). Among adult individuals the arrowheads are strictly associated with male deceased: 13 males are buried with one or several arrowheads, there are none with women (Fisher's exact test,  $P < 0.001$ ). Another artefact, the enigmatic "Eiffel tower" spatula, might be related to hunting equipment (Chambon, Pétillon 2009). This emblematic artefact of the Cerny cemeteries is only known in the mortuary context of this culture. Though these objects are often interpreted as anthropomorphic figurines (Carré 1993, Mordant 2001), I. Sidéra (1997) demonstrated that they were hafted and that their pointed end was used. It thus has been interpreted as spear tips (Sidéra 2003). Found in very few copies, the "Eiffel tower" spatulas design a second category of remarkable individuals, exclusively adult and male (five men and none women: Fisher's exact test,  $P = 0.05$ ). The importance of hunting or of the wild world in the funerary ideology has been demonstrated by the nature of the artefacts. Besides the projectile points, the animal materials used in the manufacture of body ornaments and tools are almost those of wild species: red deer, wild boar, and exceptionally bird, bear and wolf (Sidéra 1997, 2000). The deterministic distribution of the two most outstanding Cerny artefacts in favour of men reinforces the postulate of an overemphasis of the masculinity through the mortuary ideology. None of the women

stands out of the group by the presence of any notable object in their graves.

The association of arrowheads with some children would reveal that the status of "hunter" can be inherited from birth. Given the very young age-at-death of some of these children, this status prevails over the actual act of hunting, a function that they could be meant to adopt (Thomas *et al.* 2011). The grave-5 of a child of the flat cemetery *Sur les Pâtureaux* at Chichery (Chambon *et al.* 2010: 137–140), is one of these "symbolic hunters". This child, deceased between three and six years of age, is remarkable in several respects. The cemetery is spatially divided into two groups of graves (*Figure 2a*), according to the age-at-death of the individuals (adults/children: Fisher's exact test,  $P = 0.0319$ ), and the grave good distribution (presence/absence: Fisher's exact test,  $P = 0.0152$ ) (Thomas 2011: 406–407). Thus, the graves located west of the cemetery (group A) are those of children without grave-goods, whereas the graves located east of the cemetery (group B) are mainly those of adults with grave-goods. The location of the grave-5 in the group B, devoted to adults, does not seem to be a random situation. A strong similarity exists between this young individual and the adult male from grave-2 in the same group. Both graves distinguish themselves from the others by the number and the diversity of the artefacts. Next to the arrowheads, lies in particular a *pic-ciseau*. The young individual's one is smaller, as if it was "proportioned to the size of the child" (Chambon *et al.* 2010: 173). In both cases, the active side of the tool laid on the left forearm of the body with the handle originally against the arm (*Figure 2b*). As reflected by the location of the tomb and the specific grave goods, the social status of the child appears to be highly notable and deliberately related to the status of a "hunter" adult man.

In monumental cemeteries, the association between men and children with exceptional status is present in the "central module" of Balloy (monuments II and V: Mordant 1997). While the monumental enclosures of the cemetery accommodate only one or two individuals, the monument II is composed of eight axial burials (*Figure 3*). The central grave is occupied by the unique "Eiffel tower" man of the cemetery, who is the oldest individual of the module. On both sides of his grave there is alternately a child dead before three years of age and an adult "hunter" man. The presence of artefacts in the graves is not systematic in the cemetery since less than half of the 46 individuals is associated with grave goods (Mordant 1997). However, every burials of this central module ( $n = 10$ ), associating men and very young children, contained grave goods: ornaments, fauna and

flint industries. The over-representation of graves that yield grave goods in this module relative to the rest of the cemetery is statistically significant (Fisher's exact test,  $P = 0.0115$ ).

All these observations converge to the same idea of the categorisation of the Cerny children. As shown before, a primary discrimination is done according to the age-at-death between children excluded or integrated to the cemeteries. A second distinction is done among the children present in the cemeteries with those single out by the evidence of a remarkable mortuary treatment. The children who show an exceptional position are for most of them dead before five years of age. However, it is the age limit under which the children are frequently excluded from the cemeteries. This report suggests that the age-at-death criterion could not be given as a strict and unique reason to explain the differential mortuary pattern among the children. If some of the youngest children are treated in the same way of some specific adults, they probably had themselves hold a privileged status. Given their age, their social position does not seem to depend on a particular role or function but rather a social legacy. The symmetric funeral treatment observed between these children and some male adults gives probably a line of inquiry in order to clarify the terms of such an inheritance. Whatever the origin of their privilege may be, the burial status of these children foreshadowed a total social integration of some of the youngest individuals at the time of their death. Consequently the exclusion of a large part of the youngest children from the Cerny cemetery should not only be related to their age-at-death but also to a relegated social status.

### **Specific organisation of the graves and statuses in both types of cemeteries**

The structural analyses of the monumental cemeteries, according to the typology and the topography of the enclosures on the one hand (Chambon 2003), and the biological identity of the dead and the status expressed through the grave goods on the other hand, allow to identify different patterns of organisation (Chambon, Thomas 2010). The most widespread model is composed by a module of two symmetric monuments and involves the two categories of male adults described previously, plus some specific children (*Figure 4a*). The mutual position of these individuals evokes a hierarchical organisation of statuses (*Figure 4b*). In all cases, a unique "Eiffel tower" man occupies the central position. Several "hunters", adults or children, are joined in the same monument or in the symmetric one. The women are not

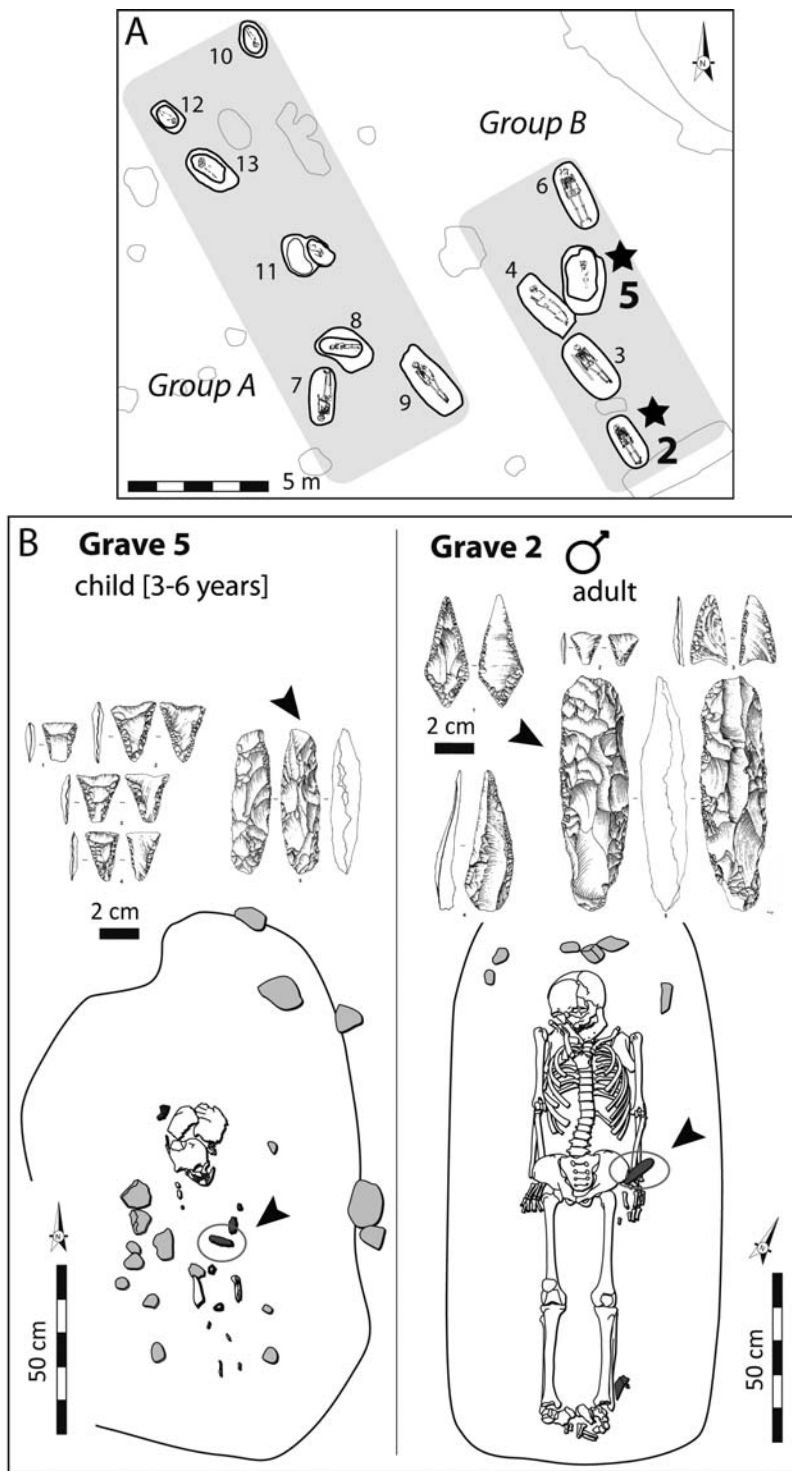


FIGURE 2. Association of a remarkable man and a child in the flat cemetery of *La Porte aux Bergers* at Chichery. A, organisation of the cemetery into two groups of graves and location of the graves 2 and 5; B, maps and flint industry of the graves 2 and 5. After Chambon *et al.* (2010). Black arrows show the *pic-ciseau*.

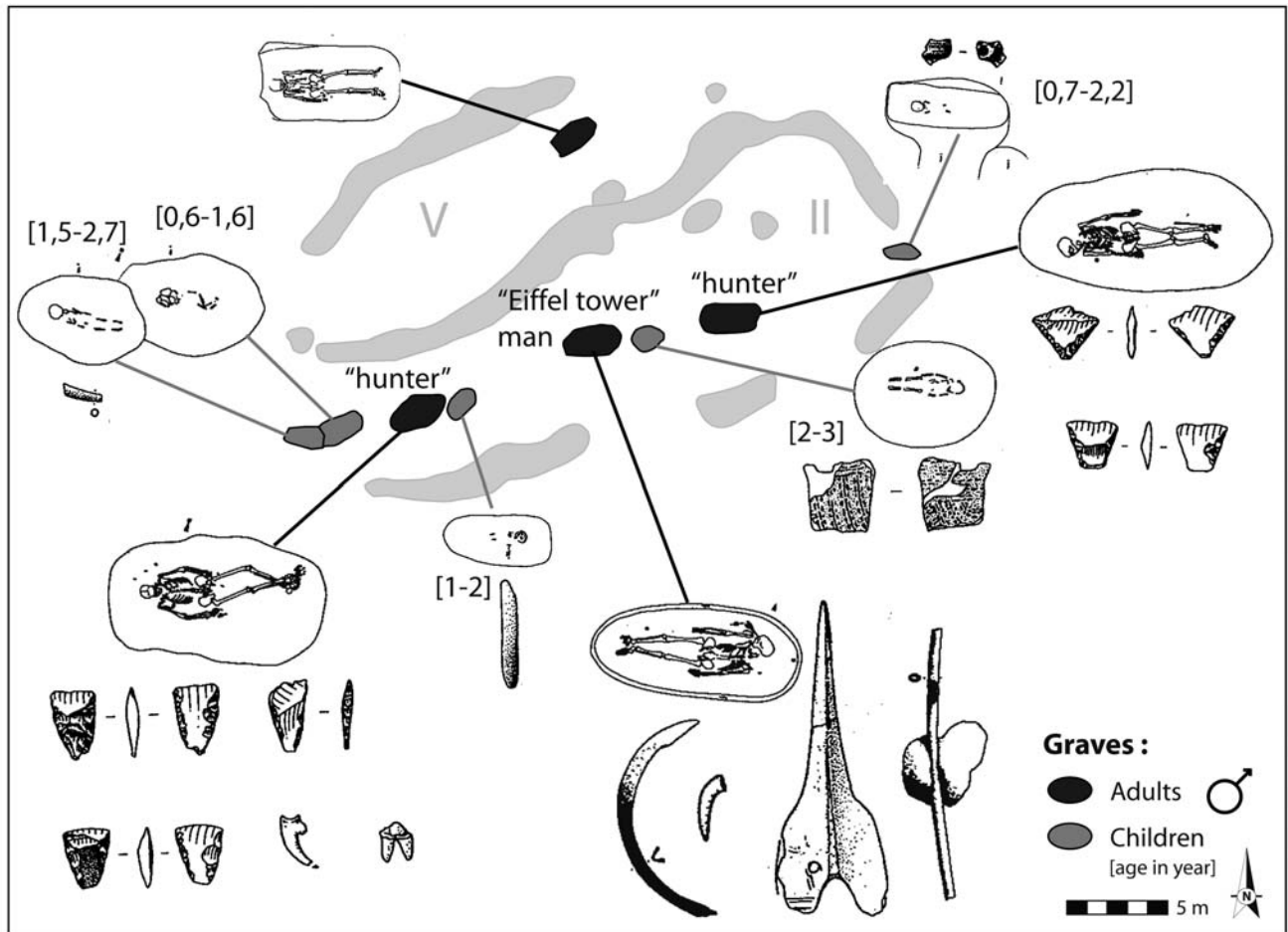


FIGURE 3. Association of remarkable men and children in the central module of Balloy (monuments V and II): age-at-death and sex of the individuals in the axial burials and grave goods associated. After Mordant (1997).

clearly included in this model. None of them had access to the internal area of the modules (*Figure 4a*). Located close by the enclosures or inside the enclosure ditches, the women appear to be marginalised and relegated to the bottom of this hierarchical organisation.

The multiple modules in the two main monumental cemeteries (Balloy and Passy) may be related to their long time span of occupation (Thomas 2011: 606). Each group of symmetric monuments may have been erected successively (Mordant 1997). The presence of a single "Eiffel tower" man per module suggests a repetitive and perhaps successive rank within the monumental cemeteries. Considering the specific pattern of organisation in these modules, the men associated with an "Eiffel tower" spatula appear to be the central character of the monumental cemeteries. Apparently, the "hunters" also receive a privileged position, close to

these central men. Both categories of individuals seem to strongly contribute to the structuring of the monumental cemeteries throughout their occupation. The typology and the topography of the monuments seem to be correlated with the status of the individual buried inside. If giant enclosures are not likely to be erected randomly, the presence of an "Eiffel tower" man or several "hunters" in flat cemeteries questions the meaning of these monumental structures.

A first glance at the Cerny graves from the flat cemetery *La Porte aux Bergers* at Vignely (Chambon, Lanchon 2003) suggests a random distribution. However, eight graves brought together on the culminating point of the settlement could be the original heart of the cemetery all around which the other burials may have been located according to a circular layout (Thomas 2011: 367–368) (*Figure 5a*). The central group of

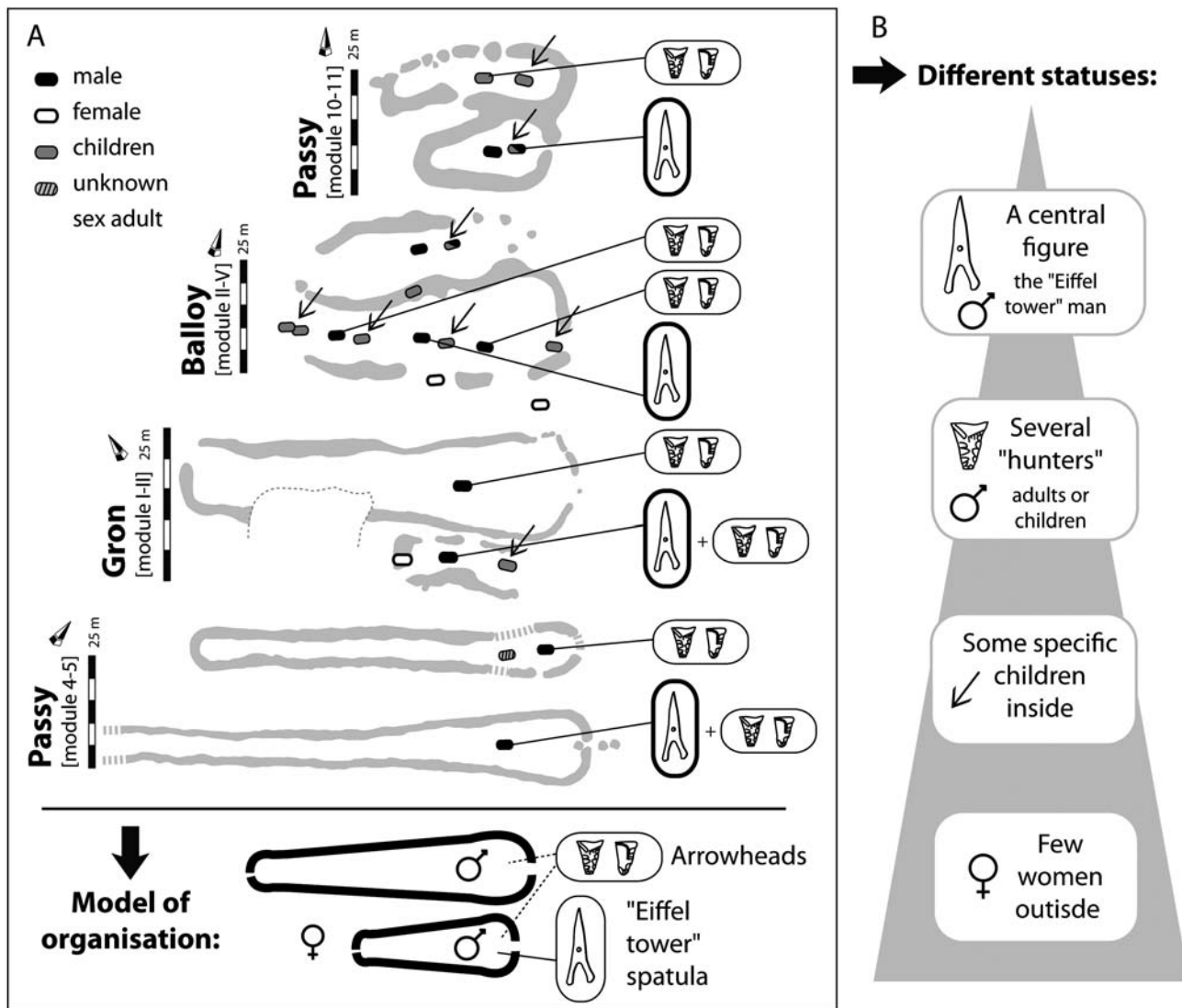


FIGURE 4. Model of organisation in monumental cemeteries. A, pairs of symmetric monuments organised around an "Eiffel tower" man; B, statuses organised into a hierarchy.

burials, the *locus 1*, displays an elaborated organisation around one "Eiffel tower" man (Figure 5b). The eight graves are topographically associated by two, and from archaeological and biological point of views, each pair is symmetrical: the graves share the same architecture, the same position and orientation of the dead, and the two individuals have the same age and sex. Two couples of female adults, one couple of children dead before three years of age, and one couple of male adults are identified (Figure 5b). One of these men is associated with an "Eiffel tower" spatula. By homology, it appears logical to consider the grave of the "Eiffel tower" man

as the central element of the plan, beside of which the symmetric graves of women and children are organised. If all the surrounding burials of the cemetery get organised effectively around this *locus*, the central position of the "Eiffel tower" man would be even more obvious. The radiocarbon dates available for this cemetery support a short time span of occupation (Thomas 2011: 606). In particular, in the *locus 1* the taphonomic studies (Chambon, Lanchon 2003) suggest the simultaneous deposit of several pairs of symmetric graves. The topography of the graves in this *locus* as well as the absolute dates allows for postulating they may be



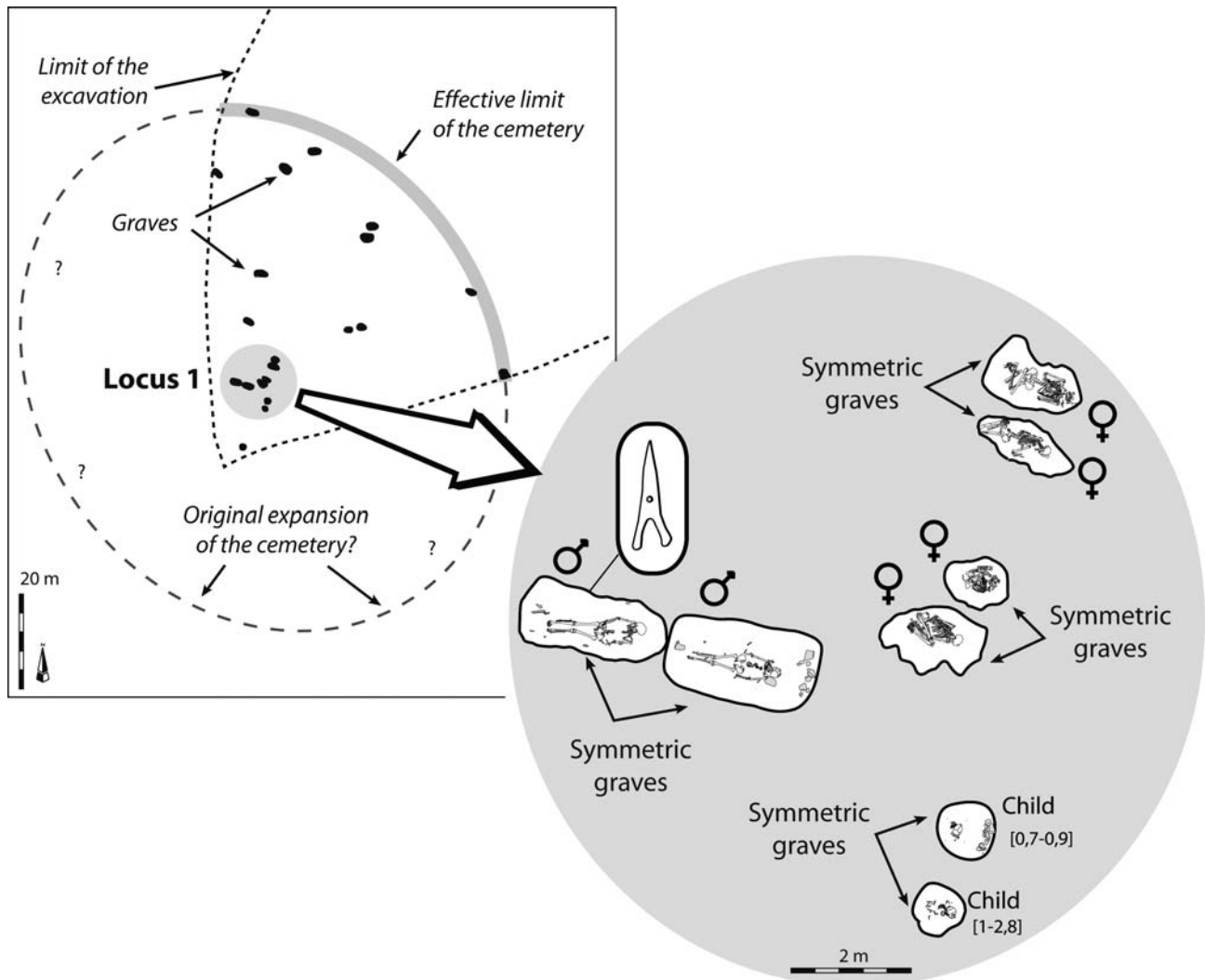


FIGURE 5. Specific organisation of the graves in the flat cemetery of *La Porte aux Bergers* at Vignely. A, proposition for the restitution of the original expansion of the cemetery around the *locus 1* located at the culminating point of the settlement; B, a central *locus* organised around an "Eiffel tower" man.

contemporaneous. The symmetry observed between the two male graves of the *locus 1* at Vignely reflects to the model of the monumental cemeteries with an "Eiffel tower" man (Figure 4). No "hunter" is yet identified in the *locus 1* of Vignely while it appears constant in the monumental model. If this *locus* mimics the monumental ones, it seems to develop its own identity. Although no Passy-type structure has ever been erected around the graves of Vignely, the "Eiffel tower" man buried there and those buried in monumental graves show the same mortuary feature and suggest the same privileged status.

#### What do the monumental structures mean?

When P. Duhamel states about the monumental cemetery of Passy that the burials are those of a "possible caste", he postulates consequently "the rest of the population should be found in contemporary and ordinary cemeteries" (Duhamel 1997: 446). At first sight, the discovery of two flat Cerny cemeteries *La Porte aux Bergers* at Vignely and *Sur les Pâturaux* at Chichery nearby the PTS cemeteries could have supported this hypothesis. However, the graves in both types of cemeteries, FLT or PTS, are remarkably similar: they mainly come under the "Balloy-type". The grave-good

assemblages in these burials show also the same picture: the type and frequency of the artefacts are the same (Thomas *et al.* 2011). Moreover, the differential inclusion patterns according to the age-at-death do not support the interdependence of PTS and FLT cemeteries. Although the sex-ratio of both types could seem complementary, the number of unknown sex adults in PTS cemeteries do not allow for postulating that the missing male adults in FLT cemeteries are buried in PTS ones.

The lack of Cerny burials remains a large problem. Less than 200 individuals are today attributed to the Cerny Culture. This number is not proportional to time range (a minimum of four centuries) during which these cultural manifestations occurred. The lack of burials is not an exception in the Paris Basin. However, by comparison with the number of graves attributed to the early Neolithic or to the second period of the middle Neolithic in the same region the corpus of the Cerny burials appears important (Chambon 2005, Chambon *et al.* 2007). The over-representation of Balloy-type burials, with an individual in extended position, compared to those with an individual flexed on the side is probably artificial. The Balloy-type burials are, in this region, specific to the Cerny Culture. Consequently the extended position of the dead is by itself an argument of dating. On the opposite, the second type of burials, when it is discovered isolated and without any artefact, could be related to any period. The research strategies and the massive destructions in urbanised zones are probably other factors for the small corpus size of Cerny graves. However, some areas empty of Cerny remains cannot be related to a research discontinuity (*Figure 1*). In the northern Paris Basin the field explorations were intensive and systemised; the absence of Cerny cemetery in this area is significant (Chambon *et al.* 2007). The burial of the body in a structured pit, inside a cemetery in the southern Paris Basin, would show only one aspect among various solutions chosen by the Cerny community in the management of the dead. The small number of Cerny graves currently known represents a selective segment of the population: the one who received a burial.

The crossing analyses of biological data (age and sex) and archaeological data (grave goods and spatial distribution) enlighten the organisation of the cemeteries but also allow tackling the social identity of the dead. This parameter is of course a fundamental feature to investigate in order to understand the selection modalities in these cemeteries. The identification in different monumental cemeteries of a several categories of individuals in a codified pattern highlights various

statuses and functions of the individuals in the society. While bioarchaeological analyses express a certain invisibility of the women, it shows the unambiguous central position of two categories of men. The mortuary practices reserved to the children back up significantly the notion of status inheritance. It also clarifies a probably multiform social system. The immature population buried in the Cerny cemeteries is not a homogenous entity. They hold various statuses apart from their age-at-death. Several children have a remarkable position that is close or even identical to those of the central men. It can thus be postulated that the sexual discrimination for the mortuary treatment accepted among the adult sample is a rule implemented from the youngest age. While there is no reliable macroscopic method for determining sex in children, genetic data should be investigated.

Regarding the "social" aspect of the differential selection patterns, the flat cemeteries do not show, again, any kind of opposition or interdependence with the monumental cemeteries. The categories of remarkable individuals are present in the flat cemeteries. Even more crucial, an elaborated formation of graves around the "Eiffel tower" man at Vignely refers to the model repeated in monumental cemeteries. The absence of Passy-type structure could lead to consider the cemetery as commonplace. Yet, the statuses of the dead are so close to those who rest inside the "privileged" monumental graves, that the hypothesis can be rejected. The singular position of the "hunter" man and the child of Chichery also support that postulate. Far to be relegated to an ordinary level of the social organisation of the dead, the individuals buried in flat cemeteries show the same mortuary consideration than those buried in monumental graves. If the monuments are not consistently related to the social identity of the persons, their meaning should be found elsewhere. The chronology cannot be a key of explication. Given the radiocarbon dates currently available for the Cerny graves (Thomas 2011: 605) both types of cemeteries, flat and monumental, are contemporary.

## CONCLUSION

The mortuary monumentalism of the Cerny Culture expresses a certain form of social organisation into a hierarchy. This statement cannot formally be disproved. It is acceptable to propose that a strong structuring of the funerary world mimics a strong structuring of the living. Still, in the light of the bioarchaeological results, the

pattern, which sees elite buried in the monumental graves and the rest of the population in ordinary cemeteries remains too simplistic. If the different treatments of the dead express a vertical organisation of the society, it is necessary to identify the significant archaeological parameters for such discrimination. In the Cerny Culture, the only presence of long barrows around the graves does not appear to be one of them.

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