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SOCIAL DIFFERENTIATION IN
NEOLITHIC EUROPE

VOLUME **1**

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Eds.:
Johannes Müller
Martin Hinz
Maria Wunderlich

Institut für Ur- und Frühgeschichte der CAU Kiel

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Monumental cemeteries of the 5th millennium BC: The Fleury-sur-Orne contribution

Emmanuel Ghesquière, Philippe Chambon, David Giazzon, Lamys Hachem, Corinne Thevenet, Aline Thomas

ABSTRACT

The monumental Neolithic cemetery of Fleury-sur-Orne (Normandy, France), covering more than 35 hectares, was the focus of excavations in 2014. While other similar cemeteries have been inventoried in the same region, the excavation of Fleury makes it the only Norman reference site of a major phenomenon in the northern half of France during the 5th millennium BC.

The cemetery has thus far yielded 32 monuments of Passy type (STP), comparable to long barrows, of which one mound is preserved. Seventeen individual burials are preserved inside these monuments. These new data allow significant advances in knowledge of the architecture, graves, selection criteria of the dead for burial, status of the dead and more generally the funerary operation of the cemetery. In addition, the challenge of this new information is to investigate the link between Normandy and the Paris Basin, two discontinuous

regions for the distribution of cemeteries of Passy type. This comparison supports the unity of the phenomenon. Dates belong to the same chronological period and the two groups share the same cultural attributes. The structure of the Fleury cemetery is also similar to that observed at Passy and Balloy. Finally, the graves, the dead and some burial goods confirm the existence of shared symbolic references. However, at Fleury, several aspects of the burial system and deposition pattern for the dead differ from that of burials in the Paris Basin. While the phenomenon is the same between the two geographic groups, their expressions differ. Diachronically, although funerary monumentalism gradually disappears in the Paris Basin with the disappearances of Passy type burials, to the west the phenomenon persists and the Fleury cemetery confirms the succession of such monuments and the first passage graves.

RÉSUMÉ

La nécropole monumentale néolithique de Fleury-sur-Orne (Normandie, France), qui s'étend sur plus de 35 hectares, a fait l'objet d'une fouille courant 2014. Si d'autres nécropoles monumentales sont repérées dans le même secteur, la fouille de Fleury fait de cette vaste nécropole l'unique référent normand d'un phénomène majeur de la moitié nord de la France au cours du Ve millénaire BC.

La nécropole a livré jusqu'à présent trente-deux monuments de type Passy (STP), assimilables à des long barrows, dont un cas de terre conservé. A l'intérieur des monuments, dix-sept sépultures individuelles sont préservées. Ces données inédites permettent des avancées considérables sur la connaissance des architectures des monuments, des tombes, sur le recrutement, le statut des défunts et plus généralement le fonctionnement funéraire de la nécropole. Au-delà, l'enjeu de ces nouvelles informations est d'interroger le lien entre la Normandie et le Bassin parisien, deux aires discontinues de

répartition des nécropoles de type Passy. Cette confrontation nous permet d'affirmer l'unicité du phénomène. Les datations se rapportent à la même période chronologique et les deux ensembles relèvent de la même ambiance culturelle. La structuration de la nécropole de Fleury renvoie également aux mêmes codes que ceux détectés à Passy ou à Balloy. Enfin, les tombes, les défunts et certains mobiliers funéraires confirment des références symboliques communes. Toutefois, à Fleury, plusieurs aspects du dispositif sépulcral et du dépôt qui accompagne les défunts contrastent avec les sépultures du Bassin parisien. Si le phénomène est le même entre les deux ensembles géographiques, leurs expressions diffèrent. Enfin, sur le plan diachronique, alors que le monumentalisme funéraire disparaît progressivement dans le Bassin parisien avec la fin des sépultures de type Passy, à l'ouest le phénomène se poursuit et la nécropole de Fleury confirme la succession des monuments de type Passy et des premières tombes à couloir.

INTRODUCTION

Monumental cemeteries dating to the 5th millennium BC in the Paris Basin are a major phenomenon in the West European Neolithic. Identified in the 1980s, first in the Yonne Valley and the upper Seine Valley (DUHAMEL/MIDGLEY 2004; MORDANT 1997b), a second concentration was rapidly recognized in Normandy, near Caen (DESLOGES 1997).

Structures of Passy type (STP) are central to the phenomenon. These earthworks are identified by a ditch or a linear sequence of pits outlining the form of a corridor, around ten metres wide at maximum with length varying from 10–20 m to more than 300 m. Aerial photos identify their geographic location, while excavations confirm their funerary function, with the discovery of a very small number of individual burials along their central axis.

However, while comprehensive investigation of the Passy cemetery (DUHAMEL 1997) and that of Balloy (MORDANT 1997a), supplemented by the excavation of more restricted groups or partial excavation (DUHAMEL 2004; LANCHON et al. 2006; MÜLLER et al. 1997), provided an increasingly detailed view of the cemeteries in the heart of the Paris Basin, the second centre remained known only through aerial photos and a few test excavations.

The chance to excavate the Fleury-sur-Orne cemetery dramatically changed this state of affairs. The information obtained from the nearly complete exploration of a site the same magnitude as Passy and Balloy makes it possible to compare the two regions.

Investigated monumental cemeteries are fairly rare; this is clearly the case in Normandy with only

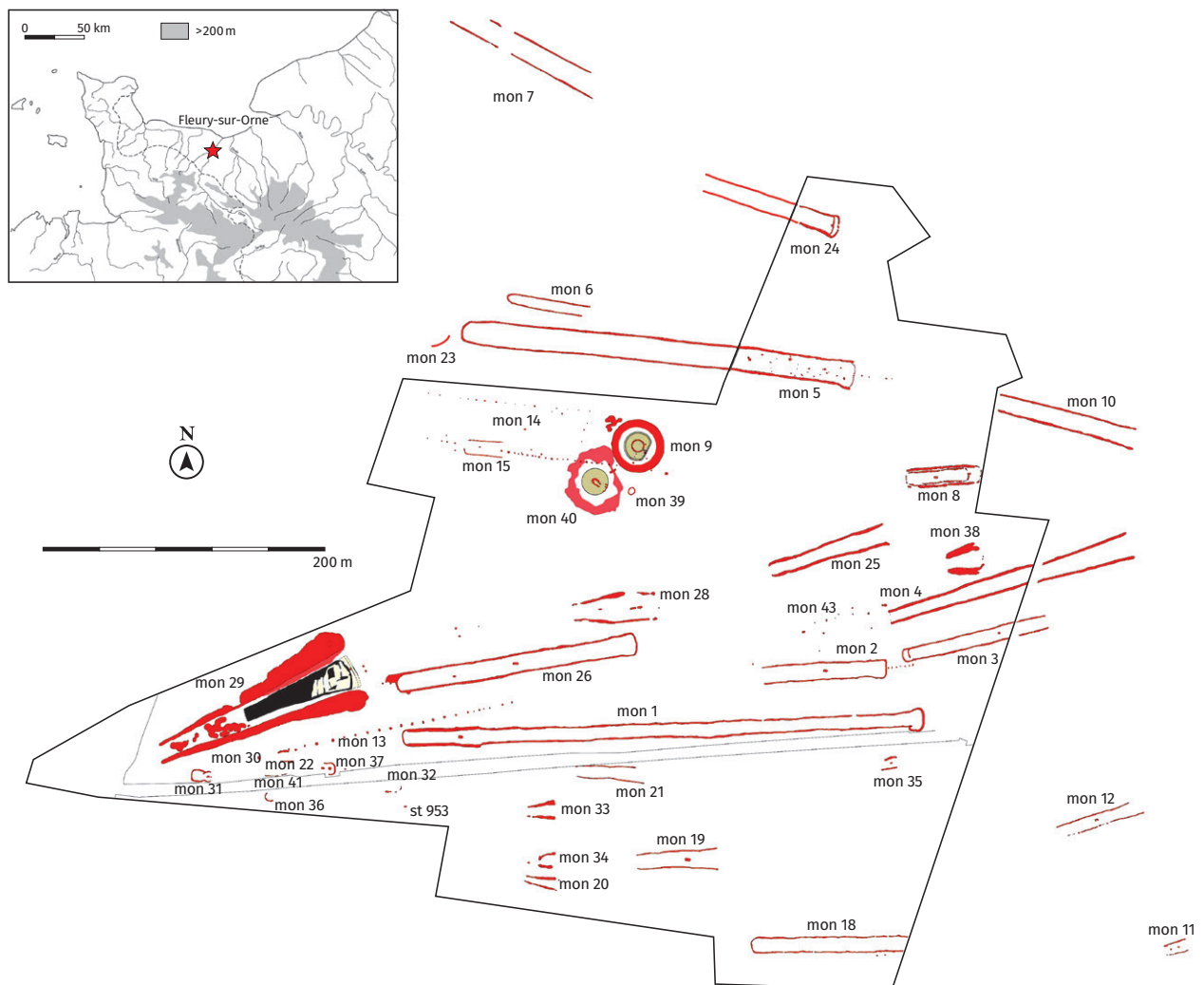


Fig. 1. Fleury-sur-Orne «Les Hauts de l'Orne» – Simplified plan of the monuments (digital drawing: E. Ghesquière, Inrap).

the Fleury-sur-Orne site (Calvados), but also, to a lesser degree, in the Yonne and Seine Valleys. The investment required for the excavation of these sites, which cover over ten hectares, is likely one of the reasons. Yet the low number of intact sites also warrants a sparing management of this set of sites.

The cemeteries were established during the second quarter of the 5th millennium BC. Dates now cover the entire interval attributed to the Cerny culture, 4700–4300 BC (THOMAS 2011, 606, fig. 230). The onset of funerary monumentalism immediately after the Early Neolithic is confirmed by recent dating programmes. The pooling of information obtained from sites in the centre of the Paris Basin allows us to propose hypotheses regarding their structure and »social« meaning (CHAMBON 2003; CHAMBON/THOMAS 2010; 2014). Among the key points, it should be recalled that the cemeteries are not the product of an unplanned clustering of monuments with different morphologies, but the gradual accretion from a basic unit that included two (and sometimes three) monuments. These associated monuments are adjacent to one another or nearby, have the same morphological type and are strictly parallel. However, their association does not mean that they are identical: they differ in their layout and often in size. It is the reproduction of this unit that results in creating the cemeteries we see today.

In the group of monumental cemeteries in the Paris Basin, graves, individual or sometimes double, are in majority of »Balloy« type, that is, a vault inside a wide deep pit, with the body in a container or portable rigid support (CHAMBON et al. 2007). Based on the age

and sex of the dead, these graves include all population classes: young and old adults, men and women, children of all ages (THOMAS 2011, 471–483). The associated grave goods are rare and generally refer to nature, whether by indicating hunting activity by the deposit of hunting tools (arrows, quivers, bows) or the use of materials from wild fauna for ornamentation and tools (CHAMBON/PÉTILLON 2009; SIDÉRA 1997). Few if any of the graves contain artefacts found in domestic context or those typical of the Cerny culture (BAILLOUD 1979).

The basic unit of these cemeteries includes at minimum two subjects, one per monument, and up to ten in the main group at Balloy (CHAMBON/THOMAS 2014, fig. 5a). The two »required« subjects are two men, the younger designated as a hunter by the presence of arrowheads as grave goods, the elder accompanied by an enigmatic pointed bone artefact similar in form to the »Eiffel Tower«. Children may be found along the central axis, while women are absent or occupy peripheral areas (CHAMBON/THOMAS 2010, fig. 6).

If this model is now well-supported, the lack of geographic continuity between sites in the middle of the Paris Basin and Normandy logically raises the question of relationships between the two groups: are the chronology, cemetery structure, monuments, graves, the dead, grave goods and the meaning to be given to these cemeteries similar in both? Finally, can this be seen as a single phenomenon or is monumentalism the only shared trait of funerary systems that are otherwise different?

MATERIAL AND METHODS

The site of Fleury-sur-Orne

The site of Fleury-sur-Orne is located in a large shallow (<1%) valley, with minor sedimentary cover (0.25 m) above the limestone bedrock weathered by freeze/thaw action during the last glacial. The identification of a paleosol below the preserved mound (monument 29) indicates a sediment thickness of 5–10 cm during the Neolithic, with vegetation probably limited to short grass and little or no low shrubs. We note the proximity of the Orne Valley (500 m) and the coastline (15 km).

Prior to excavation, the landscape did not appear to be marked by any real relief, except for a slightly raised path crossing cultivated fields. Apart from a single partially preserved monument found above the elevation of this path, only sunken structures were visible. No evidence of a preceding occupation was identified at the site, which seems to have been abandoned after

the Middle Neolithic. The occupation appears to be uniquely funerary in function, with a complete lack of the remains of houses in the immediate area.

Excavation of the cemetery

The Fleury-sur-Orne cemetery was discovered in the early 1990s by J. Desloges during aerial survey that also identified the site of Rots a few km away (DESLOGES 1997). Several test investigations followed at the two sites, confirming the existence of elongated monuments, including one very large one at Fleury-sur-Orne (more than 300 m long), and excavating several burials, including three at Fleury (of which only has been published to date, in DESLOGES 1997). In the 2000s, the cemetery was affected by urban development projects, and adjacent land parcels yielded eroded monuments. The zone of the excavation discussed

here was the focus of diagnostic evaluation in 2012 by D. Flotté (Inrap¹), covering an area of 50 ha and site of the future project for the Caen metropolitan community. The excavation itself, ordered by the State authorities and conducted by one of the authors (EG) for Inrap, covered an area of 21 ha in 2014.

Three different excavation techniques were adopted: partially mechanised for the deepest ditches, manual excavation for the most part and very careful excavation in the graves. A 3D map was made of all the monuments, using different data acquisition techniques: a 3D laser scanner, a drone or a kite. Anthropological field techniques for excavating human remains were applied for the meticulous excavation of the graves (DUDAY et al. 1990). All taphonomic observations were made *in situ* (drawings, photos, photogrammetry). The bones were unfortunately in a very poor state of preservation. The skeletons were only partially preserved and the bones present show high erosion of compact bone, limiting the application of recommended anthropological identification methods (BRUZEK et al. 2005). Each skeleton was dated by radiocarbon by the Beta Analytic Laboratory: 19 dates were obtained on buried individuals and 17 on fauna from the base of the ditch fill of the monuments. Thus 18 monuments out of 36 were dated.

In total, the excavation revealed the presence of 26 ditch-work funerary monuments including 17 individual graves, two isolated graves, three alignments of posts/steles and the razed remains of two passage graves (Fig. 1). Including the monuments from the start of the Middle Neolithic that were not excavated, or excavated before the 2014 fieldwork, the number at Fleury-sur-Orne has increased to 33, with 20 preserved graves. The anthropological study used a dataset of 15 individuals excavated during the 2014 season.

RESULTS

A 5th millennium BC monumental cemetery

Proposing a cultural attribution for the Fleury-sur-Orne cemetery is *a priori* impossible. There is no material directly associated with the monuments and the graves have yielded only lithics, of which the only diagnostic elements are arrow points. These are, however, compatible with the start of the Middle Neolithic and the Cerny horizon.

Dates are easier to interpret in the form of a calibration histogram (Fig. 2). Individual graves along the axis

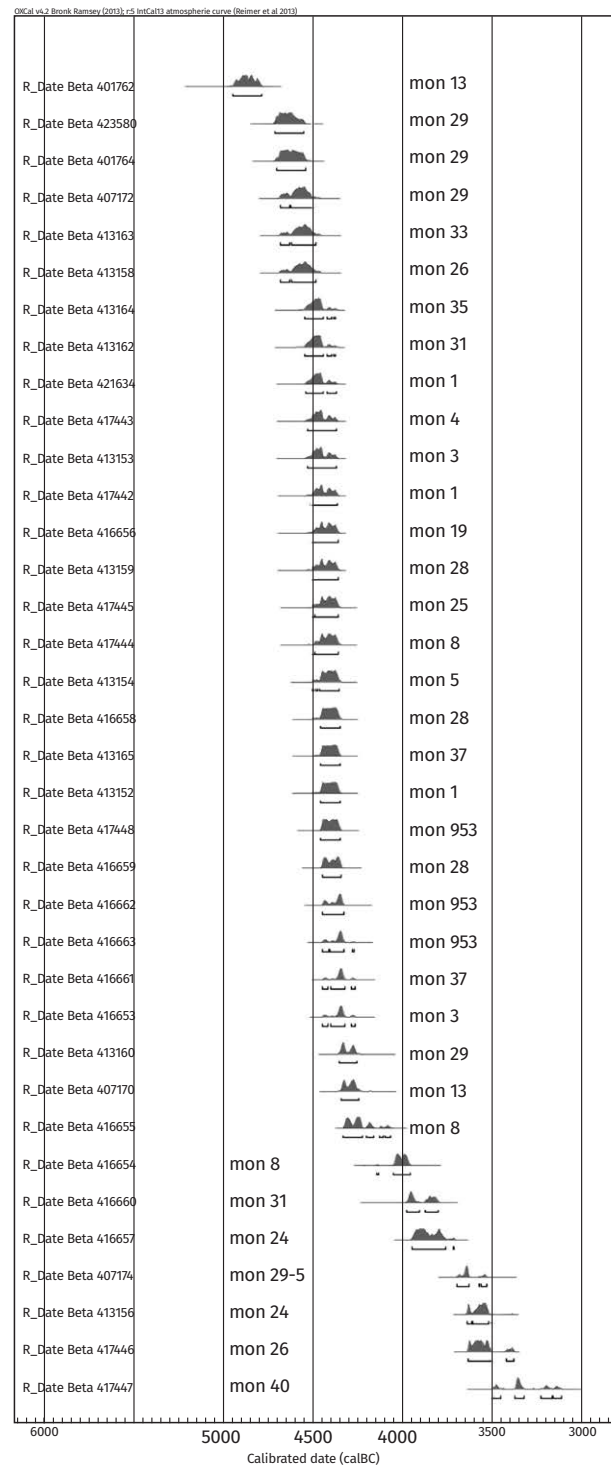


Fig. 2. Fleury-sur-Orne «Les Hauts de l'Orne» – Calibration curves of the dates for monuments and burials; the six most recent ones do not correspond to Passy type monuments (OxCal 2.0).

1 Institut national de recherches archéologiques préventives.

of the ditch-work monuments are attributed to the start of the Middle Neolithic, beginning with 4700 cal BC from monument 29. The frequency peak is, however, clearly situated between 4500 and 4350 cal BC. After this latter date, some monuments appear to have still been built until 4200 cal BC for certain and probably until 4000 cal BC (monuments 8 and 24). The essence of the cemetery seems to belong to the beginning of the Cerny culture, considered as the end of the Early Neolithic (GHESQUIÈRE/MARCIGNY 2008), and continues during the second half of the 5th millennium BC.

The ditch-work funerary monuments

Three main monument forms co-exist at Fleury-sur-Orne (Fig. 1):

- small monuments in the form of isolated or concentric circles represent the shortest monuments (3–12 m long/diameter) (n=4).
- trapezoidal monuments have a very slight flare of their inner surface and significant widening of the ditch at the eastern end, giving them a clearly flared aspect (n=5). Generally small (<20 m), one (monument 29) is very large, 150 m long by 60 m wide. They do not have closing ditches at the ends.
- monuments delimited by two parallel ditches are the most common (n=18). Their size varies greatly, the shortest 13 m, most between 50 and 100 m, two between 150 and 200 m and the two largest >300 m. They may or may not be closed at the western, eastern or both ends. Two of these (monuments 3 and 24) even have a double closing ditch at one end. Two others (monuments 2 and 5) show an alignment of six pits at their eastern end. The shallow depth of these pits suggests the erection of stones rather than wooden posts. Finally, monument 8 is double (8 and 8b). It includes a complete monument with a grave and closing ditches and a large deeper ditch that encircles it, with an associated grave.

Four monuments do not fit well within this typology, having an intermediate form (monument 28) or »deviating« S as seen in monument 38 with a »crab pincers« form, also double. The other two (monuments 32 and 41) are incomplete, located partially beneath a path cutting across the site.

The ditches of the monuments are formed by the accretion of segments 24 m long, generally with an east-west orientation following a fairly curving line, revealing the probable multiplicity of diggers. Their section is sometimes narrow in the form of a trench or open and wide. The only material recovered from

the ditches is bovine bones (particularly scapulas) and massive picks made of local red sandstone.

The ends of the monuments are of several variants (Fig. 3): some have an enclosure system visible as a shallow ditch that is at any rate less deep than the surrounding ditches. This enclosure system is based on one of the surrounding ditches and generally goes slightly beyond to form a bulb-shaped end. The random nature of this terminal ditch, present at the western or eastern end or both, seems to demonstrate a form of completion of the monumental structure. Another type of layout involves only the eastern end of the monuments and further can be associated with a closing ditch: these are separate centred structures the shallow depth of which suggests that they are the bases for the erection of steles. They can be single, double or form an alignment of six pits.

Enclosed by the ditches of the largest of the monuments (monument 29) and preserved from destruction by an ancient path, a mound survives (fig. 1). With a length of 70 m, it shows a new construction mode. The top of the mound and the interior reinforcement walls are built using turf, consisting in the removal of grass sheets, stacked to form stable walls. The eastern façade of the mound, originally of grass sod, was rebuilt with a double facing of limestone slabs. Between the walls, the different chambers of the mound are filled either with grass turf (western part) or limestone plaquettes coming from the digging of the ditch surrounding the mound. Preserved to a height of 80 cm, the tumulus may have originally been 3 m high. The colouring of the substrate beneath the mound (grey under the part made of grass turf, light-coloured under the plaquettes) is coherent with similar observations at the other monuments (grey under five monuments, light-coloured under all others) where the mounds have disappeared. This suggests the presence of a mound on the interior surfaces of all of the monuments at the site and an absence of pedogenesis inside the monuments due to the presence of a mound. Dates for the mound cover the interval from 4700 to 4500 cal BC. It was entirely excavated but contained no grave below it.

The graves

Individual graves were found along the central axis in half of the monuments. One of the characteristics of the graves at Fleury-sur-Orne is their shallow depth (0.05–0.55 m) which cannot be due to soil erosion (limestone paving). This feature implies that the graves were built and in part raised, which is in line with the reconstruction of mounds on the monuments. It is thus possible that the disappearance of

most of the mounds has deprived us of exposed graves and that monuments now empty once contained at least one grave.

The preserved burial pits are oval to rectangular with rounded angles and varying size: the longest are 4 m, the shortest 1.57 m. The widths of the pits range from 0.65 to 1.90 m. Few graves allowed reconstruction of their architecture. Taphonomic analysis of the bones was often impossible, given their mediocre preservation. It is more the study of the varying fill in the graves that allows their reconstruction. At minimum two types of burial layout were identified: quadrangular chambers built inside the pit, and two longitudinal walls abutting against the transversal edges of the pit.

Grave 19-5 is an example of the first layout type (Fig. 4). The decomposition of the body in an empty space is demonstrated here, whereas the dynamics of collapse of the upper part of the skeleton

implies the presence of a now absent architectural element against which the body rested. The location of this element coincides with a vertical limit observed in the pit fill and the distribution in plan of fallen limestone rocks, which suggests the presence of a wall along the northern edge of the pit. The distribution of fallen rocks to the south and west, and to a lesser degree to the east, suggests that walls were present on all four sides of the burial pit.

Grave 31-5 is an example of the second type (Fig. 5). The poor preservation of the bones here prevented determination of the context of decomposition but the pit fill implies the presence of architectural features. The longitudinal walls of the pit are doubled over a thickness of around 20 cm by a fill with many limestone rocks that has a more or less rectilinear limit. Most of the rocks it contains are vertical or sloped toward the interior of the pit, suggesting the former

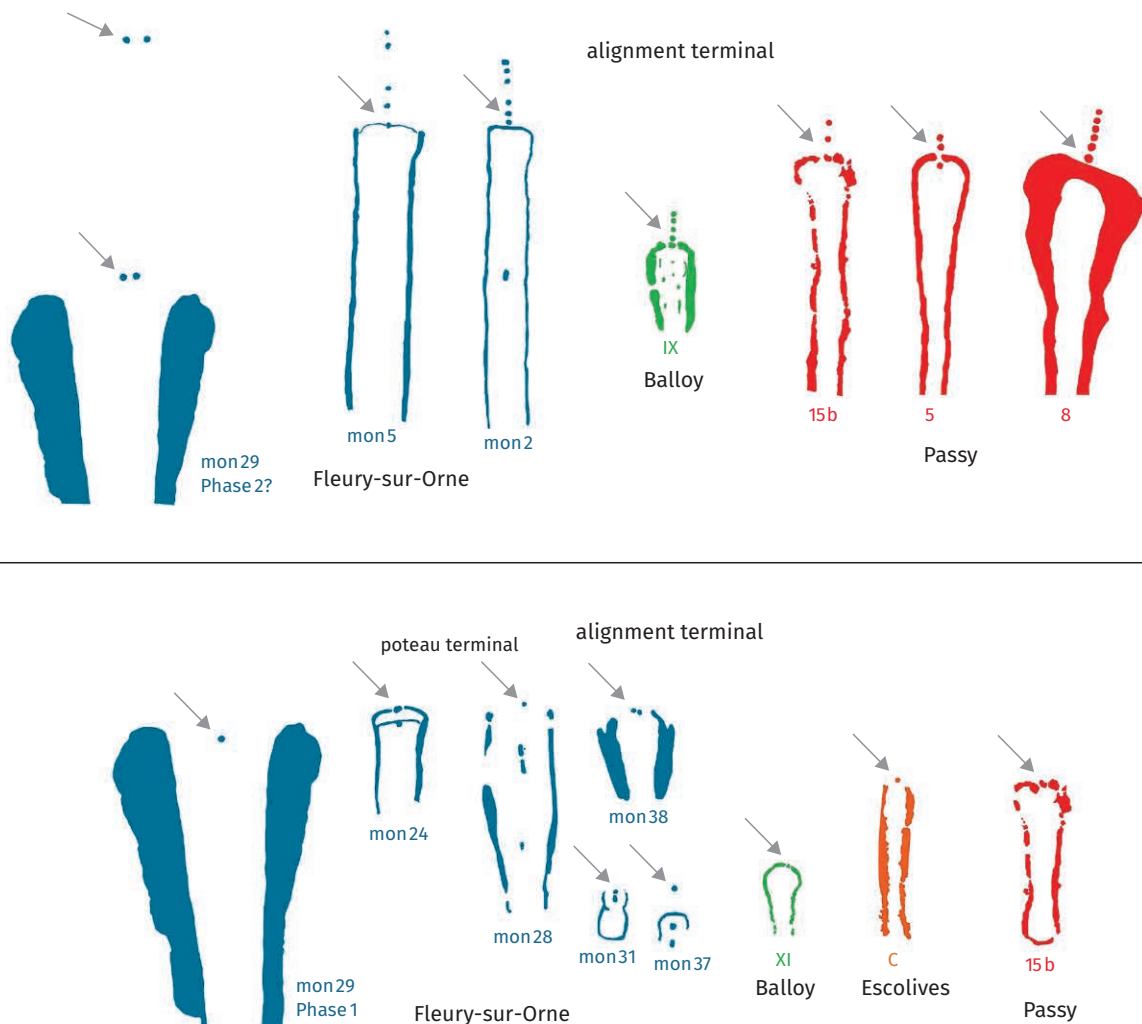


Fig. 3. Fleury-sur-Orne » Les Hauts de l’Orne« – Comparison of the eastern façades of the monuments from Fleury with some Passy type monuments in the Seine and Yonne basins (digital drawing: E. Ghesquière, Inrap).

Fleury-sur-Orne 2014
Sépulture 19-5



Fig. 4. Fleury-sur-Orne »Les Hauts de l'Orne« – Plan of the grave 19-5 (digital drawing: C. Thevenet, Inrap).

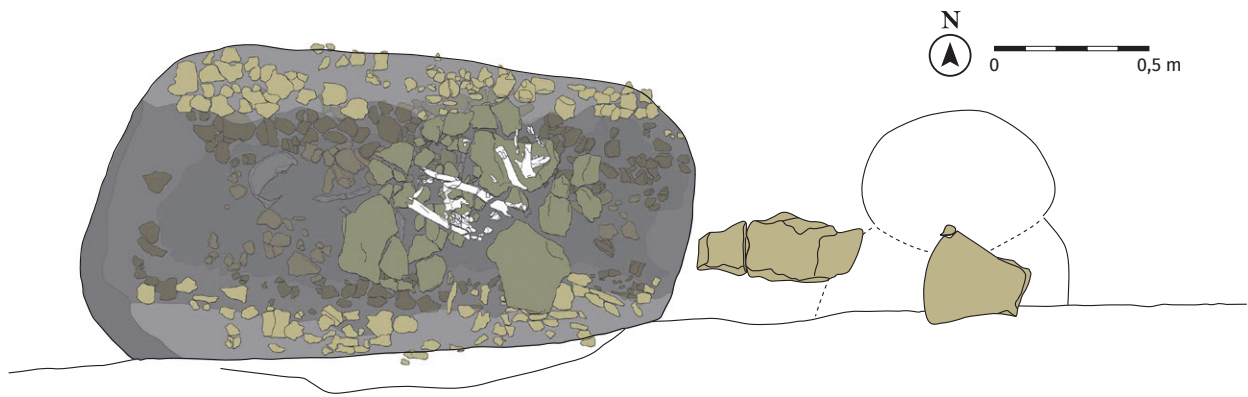


Fig. 5. Fleury-sur-Orne »Les Hauts de l'Orne« – Plan of the superimposed burials 31-5A and 31-5B (digital drawing: C. Thevenet, Inrap).

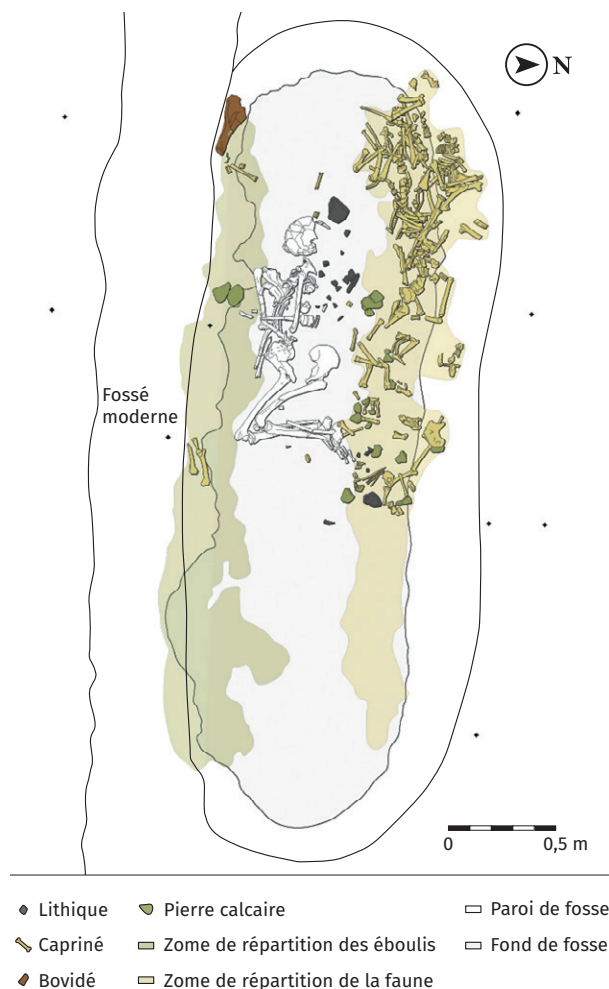


Fig. 6. Fleury-sur-Orne »Les Hauts de l'Orne« – Plan of the grave 26-5 (digital drawing: C. Thevenet, Inrap).

presence of walls now disappeared. In contrast, there are no fallen rocks at the ends of the pit.

The nature of these constructions is open to several interpretations. While the most parsimonious is the use of wood, this is not entirely satisfactory, particularly for the second type. Given that neither the base of the pit nor the sides showing evidence of digging or a trench, it is difficult to explain how such wooden walls would have been supported. Grave 26-5 offers an alternative to the use of wood. Indeed, the different nature of the fill on the northern side of the pit can be interpreted as evidence of the thickness of a wall, and thus a wall made of earth (fig. 6). Systematically collected micromorphological samples from the Fleury graves will enable clarification of the nature of the construction materials.

Grave goods are rare and almost exclusively flint artefacts. Arrow points are the most common, with 42 total found in six graves (Tab. 1). Tools and cores are rare (respectively 4 and 3 pieces), while reduction by-products ($n=19$) and splinters ($n=14$) were found in eight graves. The arrow points are typically found near the body and when taphonomic disturbance does not impede interpretation, they appear to have been stored in quivers. The few tools were also placed in the burial volume, while the cores and reduction by-products were frequently found in the grave fill or on the surface, suggesting chance deposition in the grave.

Some graves contain the remains of domestic fauna, sometimes quite abundant. Animal remains were found in five graves. Although grave 8-6 has only a few remains (teeth and fragments), graves 1-5, 2-5, 19-5 and 26-5 contained several complete caprines as well as specific bovine bones, such as ankle bones and metacarpals, as well as a scapula deliberately placed at the

Tab. 1. Biological identity (age/sex) of the dead and associated material (n/a: non applicable).

INDIVIDUAL	AGE	SEXE	ASSOCIATED GRAVE GOODS	ASSOCIATED FAUNA
1_5*	>20	M	9 arrowheads	5 sheeps
2_5*	>15	I	6 sandstone picks	≥ 1 sheeps
3_5	>15	I	1 arrowhead	
8_5	>20	I	1 splinters	
8_6	>20	I	1 core, 1 flake, 1 splinter	4 bovine tooth fragments, 2 unidentified (bovine or caprine skull)
19_5	>20	M	4 arrowheads, 1 tool, 2 flakes, 1 splinter	8 sheep (3 males, 4 females, 1 juvenile); bovine remains: 1 scapula, 1 distal metacarpal, 1 horn-core base, 1 tooth fragment
24_5	>20	I	5 arrowheads, 1 core, 2 flakes	
26_5	>20	M	24 arrowheads, 1 tool, 1 core, 2 flakes, 1 splinter	> 10 sheep (males, females, juveniles); bovines remains: 1 scapula, 1 cervical vertebra
28_5	n/a	I		
28_6	>15	I		
30*	?	I	30 dentalium shells, 6 Littorina shells	
31_5a	>15	I		
31_5b	>20	I	4 arrowheads, 2 flakes, 1 splinter	
35_5	>20	I	1 flake	
37_5	>20	M	4 arrowheads, 2 tools, 9 flakes, 8 splinters	
37_6	>15	I		
953_1	>20	I		
953_2	>20	I		

* after DESLOGES 1997 n/a non applicable

head of the bodies. The processing of caprines (removal of the skulls and hooves) suggests removal of the hide prior to deposit in the grave. However, the surface alterations of the bones and with it the disappearance of possible flint tool marks, prevents verification of this hypothesis. The animals were deposited along the sides of the burial pits, outside of the structure in which the body was placed.

DISCUSSION

A single phenomenon from the heart of the Paris Basin to the Caen Plain

The excavations at Fleury-sur-Orne confirm that monumental cemeteries of the Caen Plain are part of the same phenomenon as those in the heart of the Paris Basin. With regard to chronology, the dates obtained fall within the same interval, even if the dates from Fleury are essentially from the second half. Based only on these dates, it would be risky to conclude that the cemeteries first appeared

The poor state of preservation of the skeletons makes it extremely difficult to estimate age at death other than to a broad age class (Tab. 1). No child (< 15 yrs) was identified. Only the ephemeral and indeterminate remains of individual 28–5 may fill this age class. Sex was identifiable for only three individuals, all three men (Tab. 1).

in the Yonne and Seine Valleys before spreading to Normandy.

Cultural attributions are not clearer in either zone. The archaeological material recovered in the graves is rare and non-diagnostic. That associated directly with the monuments is poor. In these conditions, only the dates and the general cultural context serve as the main arguments to attribute the cemeteries to the Cerny culture.

The elongated form of the monuments was initially the main criterion to relate the Norman cemeteries

with those in the centre of the Paris Basin, with width varying from 4 to nearly 12 m and extremely variable lengths, from around 10 m to 372 m, a new record for these constructions. Such diversity is observed in most of the cemeteries in the Yonne Valley (THOMAS 2011, 616 fig. 234), especially at Passy itself (DUHAMEL 1997). However, the real argument now lies in the identification of the arrangement of features. Thus, the opening on the eastern façade, with the presence of a cavity along the axis, perhaps extended by an alignment of other pits toward the exterior, may be only simple convergence. Seven monuments at Fleury show such a layout. While it is convenient to consider the circular pits along the façade as post holes, they may also have been the location of monoliths or megaxyles² (stone or wood). Their variable number seems to indicate their autonomy. Similar to Passy Richebourg (DUHAMEL 1997) and Balloy sector B (MORDANT 1997a), several monuments underwent change through time. This is in particular the case for monument 1 (Fig. 1), first »limited« to 60 m and associated with grave 1 (Desloges excavation) and then extended to its maximal size.

The structure of the cemetery is also a shared characteristic between the two geographic areas. At Fleury we find the association of monuments by twos and threes, based on orientation and proximity (Fig. 7). It also appears that this basic unit was constructed on the concept of complementarity between monuments: one has an opening on the façade with axial cavity or cavities, the other does not. Eight to ten associations are thus clear: identical orientations and in close proximity to one another. For the others, it is still possible to propose a pairing, but the supporting argumentation is more difficult to support.

The presence of monuments clearly identified as Passy-type structures in turn enables us to transpose some of the results of the recent excavation at Fleury to the cemeteries in the Yonne and Seine Valleys. If the monuments have the same plan, we can infer that their elevations were identical as well. Yet the data here clearly establishes that a mound initially occupied the entire interior area of the monuments. While pairs and trios associate monuments laid out differently, this does not seem to have had an effect on the superstructure: the indices are the same at Fleury-sur-Orne regardless of the type of surrounding monuments or the design of the façade.

These are funerary monuments. The presence of graves is recurrent and their absence always suspect. The geological context of Fleury-sur-Orne, on a very

compact limestone substrate, may explain the choice of graves on the surface. It should, however, be noted that in the Passy cemetery, there are also true »raised« graves (CHAMBON/LANCHON 2003; THOMAS 2011), covered only by the mound. As in the centre of the Paris Basin, each monument seems to have been associated with a single grave. The presence of two or more graves is exceptional; in one case (monument 28) this appears to be linked to changes in the monument, a new grave linked to the second stage when it was extended. We thus find a pattern already observed at Passy Richebourg (THOMAS 2011, 123 fig. 24).

The graves are related to the vaults. Once again, this is a trait shared by all monumental cemeteries. However, apart from perhaps one grave of Balloy type excavated by J. Desloges in monument 1, the others were laid out differently. The Passy cemetery has yielded flexed burials, but it has not been possible to truly reconstruct the corresponding graves.

In Normandy as in the Yonne and Seine Valleys, the social importance of the dead is not emphasized by the accompanying artefacts: grave goods are rare and include no »sophisticated« object or any resulting from long-distance trade (CHAMBON/THOMAS 2010). At Fleury-sur-Orne, the most common artefacts are arrow points, found in six graves. This is also a characteristic observed in all monumental cemeteries. The presence of a large number of arrow points in the grave of a man (26-5), still grouped together despite post-depositional disturbance, suggests the presence of quivers, as in the Paris Basin (CHAMBON/PÉTILLON 2009). In contrast, no ornamentation or tools of hard animal materials were found with the dead. Rarer than flint tools, such artefacts are fairly well-represented in the Cerny graves in the Yonne and Seine Valleys (THOMAS et al. 2011). One can consider that the poor preservation of bone in the graves at Fleury-sur-Orne led to the destruction of some artefacts, but this absence is also observed in the two most important graves at the site, in which the state of bone preservation is »good«.

The specific role given to the archer, constant in the cemeteries of the Paris Basin, is echoed in Normandy through the regular inclusion of arrow points. The strict link between this attribute and the masculine identity of the individual buried with them, demonstrated for the entire Cerny sample in the Paris Basin (THOMAS 2014a), seems to be of the same order at Fleury-sur-Orne, despite the limited number of sexed individuals. Given the high number of individuals of undetermined sex, the lack of women's graves

2 »Megaxyle« refers to a trunk or a large piece of wood set up vertically.

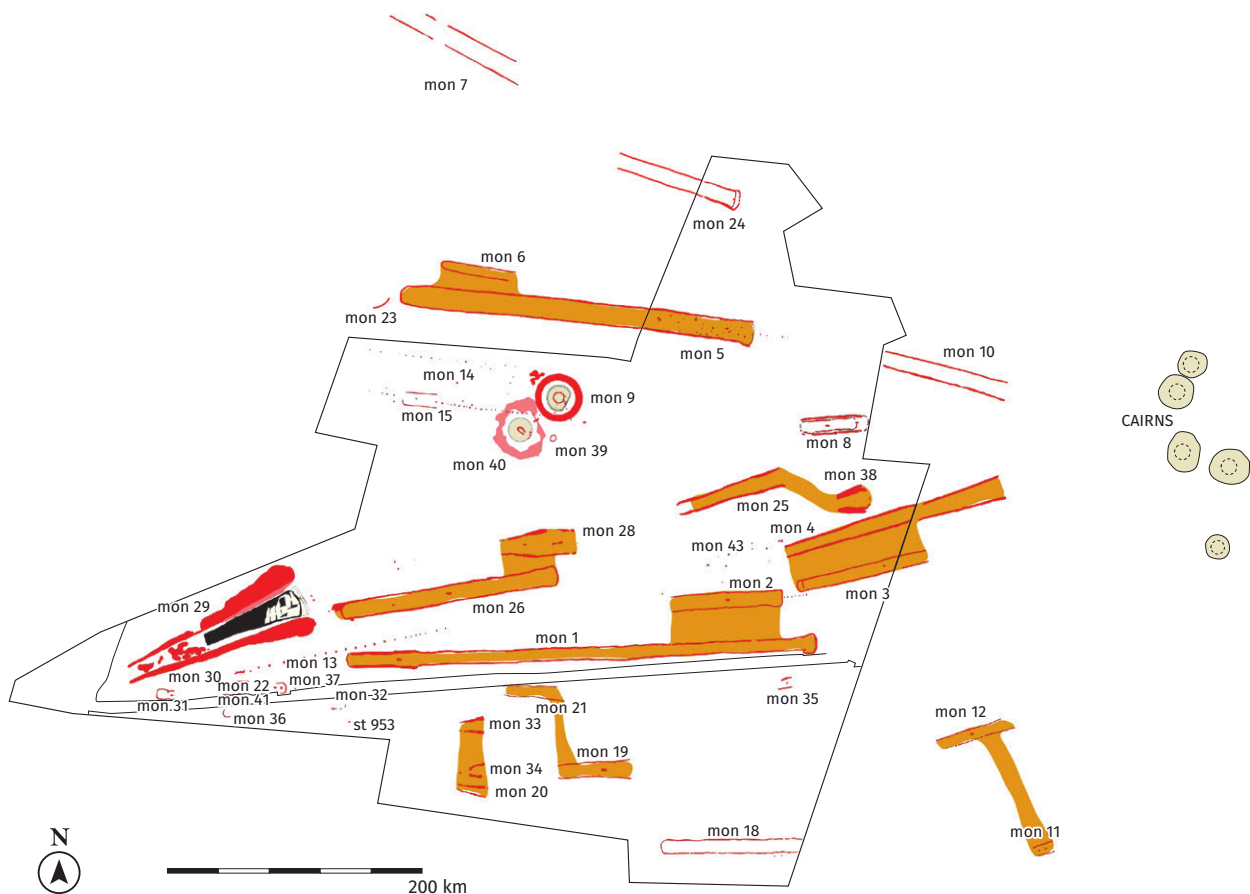


Fig. 7. Fleury-sur-Orne »Les Hauts de l'Orne« – Hypothesis of pairing or trio grouping in the cemetery (digital drawing: E. Ghesquière, Inrap).

at Fleury-sur-Orne cannot be confirmed. Similarly, the absence of children (< 15 yrs) remains subject to caution. This age class is represented in several axial graves of the STP in the Paris Basin, and in several double adult/child graves (superimposed) at Balloy and Passy (THOMAS *et al.* 2011).

A single phenomenon but two different expressions

While the Fleury monuments (and those of similar cemeteries on the Caen Plain) can be included without reserve in the same phenomenon as the cemeteries of the Seine-Yonne Basin, their expression demonstrates real differences. These can be explained at the level of burial layout and the deposits accompanying each body.

Few graves at Fleury-sur-Orne permit optimal reconstruction of the architecture, but in those that were able to be reconstructed show that they are different from the typical Cerny graves in the Paris Basin. Indeed, Balloy-type graves (a portable container inserted into a built vault) are not found at Fleury-sur-Orne.

The poor preservation of the bones is not the only reason; it is likely that the position of the dead (flexed and not on their backs in extended position) also played a role in the absence of a portable container (CHAMBON/THEVENET 2014; THEVENET 2013).

One of the particularities of the graves on the Caen Plain, at Fleury-sur-Orne but also at Rots (ARBOGAST *et al.* 2002), is the presence of significant animal deposits with the dead. At both sites, these are whole skinned caprines placed along the edge of the burial pit (likely outside the burial vault containing the body, but in the pit itself) and isolated bovine remains. The bovine scapula (bull) seems to have played a major role in funerary practices and was very likely symbolic. This hypothesis is supported by the fact that they are systematically found in the ditches of the funerary monuments at Fleury, often as a single bone element.

The Fleury graves contain only domestic animal offerings and not bone artefacts from wild fauna like the graves at Passy. Two species are represented: sheep, deposited whole and bovinds, represented only

by certain elements. Detailed analysis of the bones in graves 19–5 and 26–5 shows the complete absence of goat and it is quite probable that those previously excavated did not contain goat either (funerary activities are similar between the graves). Pig, the third domestic animal associated with daily diet, is absent, as are any wild species. Yet the presence of many arrow points in graves supports their use for hunting (or war) and finds an echo in the graves in the valleys of the Paris Basin. The Hinkelstein and Grossgartach of Trebur cemetery on the plain of the Upper Rhine (SPATZ/DRIESCH 2001) is the key reference for animal offerings. As at Fleury-sur-Orne, two domestic species were principally targeted (bovine ribs and whole sheep), pig and wild species (boar) being rarer.

At Fleury-sur-Orne, isotope studies in progress will determine if meat was a significant part of the diet. We are at present wary of interpreting the presence of sheep as evidence of an essentially pastoral way of life: if the nomadic pastoralists/sedentary farmers opposition is already seen as artificial, imposing funerary construction implies strong control over a territory and probably a sedentary way of life.

The graves at Fleury-sur-Orne as well as those excavated by J. Desloges at Rots have not yielded the emblematic artefact found in the central Paris Basin cemeteries: the »Eiffel tower« form. This artefact is found with key individuals in these cemeteries (CHAMBON/THOMAS 2010; THOMAS 2014b). It would be difficult to ascribe such an absence to the poor preservation of bone materials. We anticipate three possibilities: (i) the artefact was simply not deposited in a grave; (ii) this emblem or another equivalent object was made here in a perishable material and/or (iii) the social organisation, and with it the jurisdiction of the cemeteries, follows a different logic. At this time, the dead associated with massive deposits of domestic animals appear to be the principal individuals but the only artefacts they have in common are arrow points.

From gigantism to megalithism, a continuous development in Normandy?

The Fleury-sur-Orne cemetery is not isolated in the territory of the Caen outskirts. It is not far from at least two other large cemeteries, Rots 10 km north-

west with very similar monuments and Blainville-sur-Orne at an equal distance north-east with small constructions. The Cuverville monument, discovered two years ago and excavated in 2014, is very close in form to monument 29 at Fleury. Identification of these cemeteries is, as in the Seine-Yonne Basin, the purview of aerial survey. If the magnitude of the monuments facilitates their identification, urbanisation occurring before the development of archaeology would have caused the destruction of an unknown number of sites. At present the coverage is, however, comparable to that in the Yonne Valley (DELOR et al. 1997). There as in Normandy did the cemeteries form a focal point for communities that may have been far from the Orne Valley or do they reflect control of a group over a small territory? In Normandy the predominance of grasslands outside the Caen Plain prevents the identification of cemeteries east and west.

Unlike the rest of the Paris Basin, funerary monumentalism does not disappear after these cemeteries. Normandy thus offers a sequence in which the first passage graves succeed the Passy-type monuments: this change, proposed by BOUJOT/CASSEN (1992), is confirmed here. At Fleury-sur-Orne itself, a semi-megalithic chambered cairn 18 m in diameter (excavated by J. Desloges) and a dolmen-like chambered cairn 15 m in diameter, of which only the bedding trench for the orthostates (large squared stone blocks), associated with human bones, lithic and ceramics, was found, would be later built among the monuments of the mid-5th millennium BC. Apart from these two cairns, which date to the end of the 5th millennium BC, a group of five dry stone cairns, probably from the same period, were identified 120 m from the easternmost monuments. There is no evidence to support true continuity between the monuments of these successive periods but the funerary jurisdiction of the locality was not interrupted by any kind of domestic occupation. Our perception of time remains insufficient to understand the developmental process that could lead to change from the large elongated monuments with individual graves beneath mounds to cairns with passage graves for several individuals. Monumentalism is clearly a common factor, that is, the assertion, by the intervention of a few dead, of the importance of a community within its territory.

CONCLUSIONS

The excavation of the Fleury cemetery has enabled considerable advances in understanding of the first monumental architecture (selection process for the dead, systematic mounds, dates, etc.). It encountered

some limitations due to the differential preservation of bones and of the graves themselves, some of which would have been above ground. Nonetheless, the complete absence of a grave for monument 29 while the

mound was preserved suggests the hypothesis of a non-funerary function for some of these structures. The ostentation reflected in the hugeness of the largest monuments (5 and 29) and the association with three alignments of megaliths and megaxyles could be interpreted as indicating a zone dedicated to a more complex spectrum of activities than that resulting from the cemetery alone.

More than thirty years after their first identification, the monumental cemeteries of the 5th millennium BC have barely found their place in the evolution of Neolithic societies. These formidable earthworks built for the benefit of a few individuals seem to indicate highly structured societies immediately after the expansion of the Neolithic. The geographic discontinuity of the phenomenon persists: no group has been identified

between the centre of the Paris Basin and the Caen Plain. The different modalities identified at Fleury-sur-Orne support the hypothesis of separate groups.

The precise chronology and territorial approach are issues to be addressed in future work. Are the basic units the product of successive generations or distinct human groups? Are the different cemeteries the work of neighbouring populations, a single population at different points in time or small territories constituting focal points for much more vast geographic areas?

The contribution of the Fleury-sur-Orne cemetery to knowledge of the monumental phenomenon during the 5th millennium BC is now major. The monuments have finally found their elevation. A community of practice is being outlined, but also differences in expression that must be investigated.

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