



KEYWORDS: *Bronze Age – Fontainebleau rock art – Mesolithic – Swastika – Merels board*

## THE IMPLICATIONS OF A NEW CORPUS OF LATE BRONZE AGE PETROGLYPHS IN THE FORÊT DE FONTAINEBLEAU FOR DATING LOCAL ROCK ART

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**Abstract.** This article shows how recently discovered petroglyphs in the Forêt de Fontainebleau are closely related to late Bronze Age pictogram vases and more distantly related to Vinča ceramics from the Balkans. Many of the most complex motifs in the new corpus amalgamate smaller ones into the apparent equivalent of ideograms. In the process of exploring the relationships between such units and compounds, the article reveals possible links between a swastika, crosses with dots between their branches, grids containing dots, anthropomorphs who seem to be ploughing with ards, and an owl-like figure with a grid and framed cross on its belly. Finally, it explores evidence that the petroglyphs overlap the Massif de Fontainebleau's 'classic' schematic rock art style, which represents the vast majority of the zone's known sites and has often been described as Mesolithic, despite counter-indications.

### Introduction

The discovery of more than thirty engraved sites (Fig. 1) with clear affinities to pictogram vases from the Late Bronze Age and early Iron Age in a section of the Massif de Fontainebleau with only seven previously known rock art sites, two of which may be imitations of ancient petroglyphs, has the following ramifications.

(1) It greatly enriches the French iconography for



**Figure 1.** The currently known distribution of the late Bronze Age petroglyphs lies along an east-west axis at the heart of the Forêt de Fontainebleau, which is just south of the city of Fontainebleau.

the transitional phase between the metallurgical periods, since the petroglyphs are more complex and inter-related — with motifs showing repeated associations with each other — than those on the pots, whose motifs are generally disarticulated from each other to fit into bands around globular surfaces.

- (2) There are enough consistencies between the new corpus and the 'classic' schematic rock art style in the Massif de Fontainebleau (CSSF), which represents the vast majority of the zone's approximately 1400 known sites and has often been described as Mesolithic (Bénard 1993, 2010, 2014), despite counter-indications (Caldwell and Botzjorns 2014), to think that the CSSF is actually related to the new corpus, and probably overlaps it in age.
- (3) The petroglyphs also include several motifs, such as Xs with three finger-like appendages projecting from their top branches, that resemble ones incised on Vinča ceramics, indicating that the late Bronze Age iconography in this corpus and on pictogram vases might be descended from or influenced by one of the first cultures in Europe to master metallurgy.
- (4) The new corpus includes at least one early swastika with enough contextual information to re-interpret it as a probable reference to the junction between four squares in a cross-ploughed field and various types of fertility, since four of the squares (and the cross formed by their junction) are precisely framed in the oval belly of an owl-like figure. This suggests that

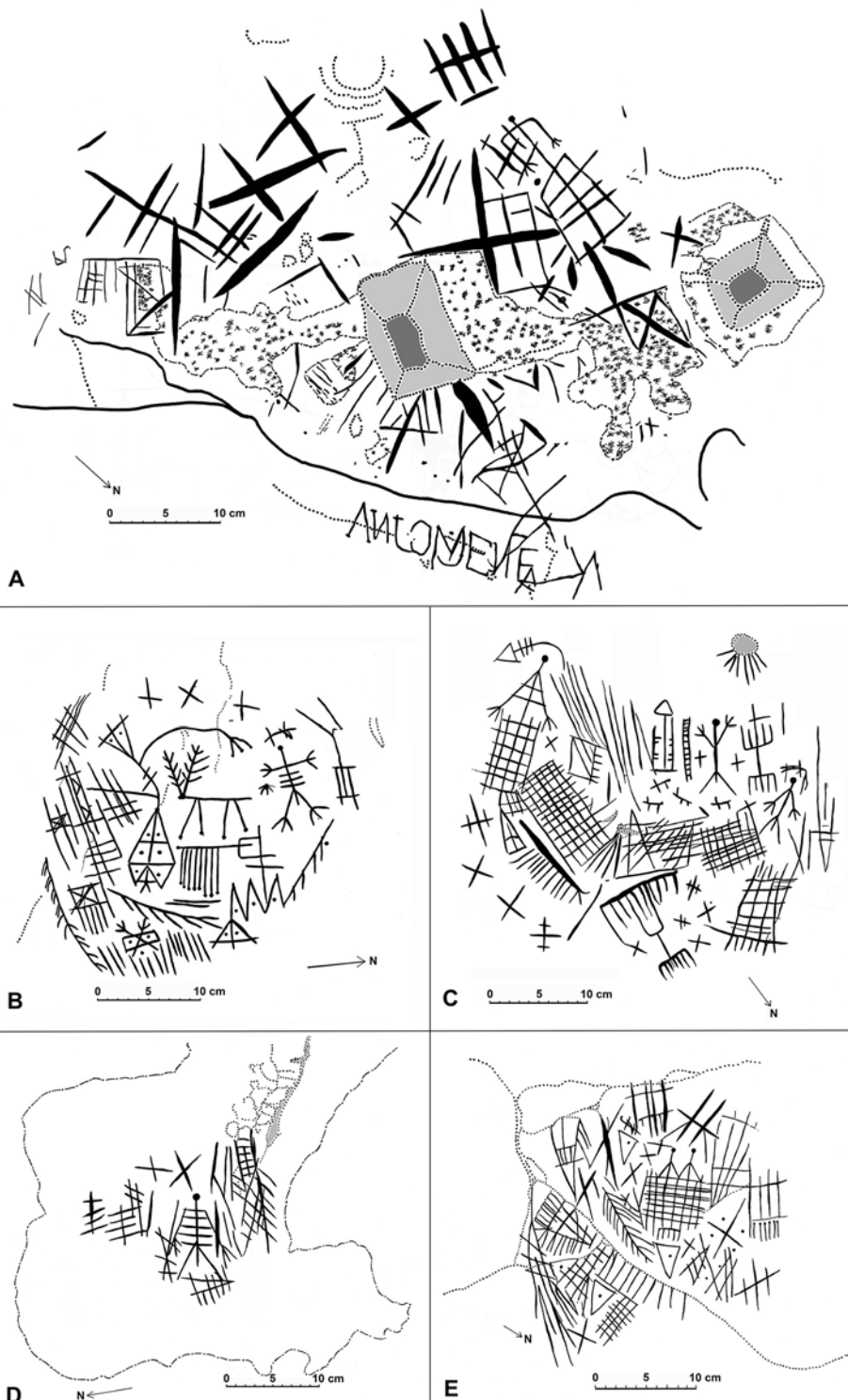
previous interpretations of early swastikas as solar symbols missed a large part of their significance.

- (5) The fact that the petroglyphs were almost always found under mats of mulch in small cavities suggests that such spaces should be re-examined throughout the Massif.

The combination of these ramifications promises to revolutionise the dating of the CSSF and change ideas about cultural flows in Europe from the Chalcolithic through the Middle Ages.

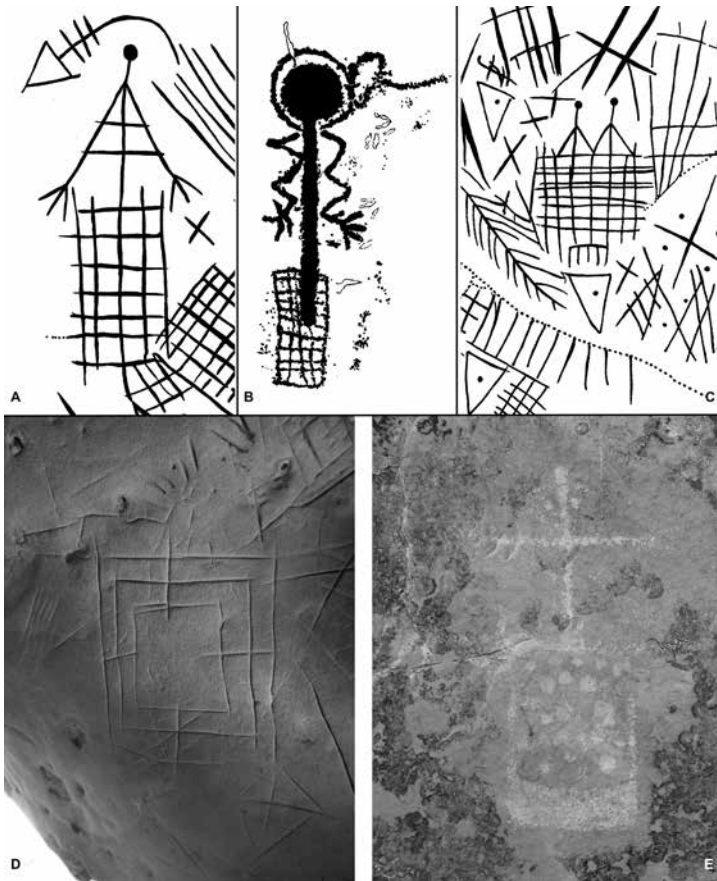
### Background

Although the first discovery in the new corpus, Haut Mont 5 (Fig. 2A), has been known since it was found by Réginald L'Hoste (RLH) around 1947 (GERSAR 1978: 86–88), it was hard to contextualise. Its petroglyphs, which include an anthropomorph projecting from a grid like ones found both in the new corpus and on Mont Bégo (Bianchi 2010: 76, Fig. 16) (Fig. 3B), seemed isolated and were polluted with pecked basins, gutters and 19th century names and dates carved by lumberjacks or quarry workers, who expanded the shelter while turning many of the surrounding blocks into cobblestones. The discovery of the first two unpolluted sites, Haut Mont 6 (Lebon 2015: 23–28) and 8 by Richard Lebon in August and December 2014 — once again, in the case of Haut Mont 6 in a shelter that had been expanded in the 19th century — encouraged their finder to look for more in January 2015. His discovery of four new sites, which have been named Ventes Héron 1–4, led a team of prospectors consisting of Laurent Valois (LV), Richard Lebon (RL), Patrick Kluska (PK), Philippe Boyer (PB), the author (DC) and, on one occasion, Yann-Pierre Montelle (YM) to suspect that the sector might contain more petroglyphs, whereupon all its members began finding them.



**Figure 2.** Five examples of the late Bronze Age petroglyphs in the Forêt de Fontainebleau: (A) Haut Mont 5 (found by RLH). The two rectangular shaded areas with dark grey centres represent basins, which were made by quarry workers or lumberjacks within the last 300 years. (B) La Tranchée 1 (found by PK). (C) La Malmontagne 13 (found by RL). (D) La Malmontagne 16 (found by PB, DC & RL). (E) Le Haut Mont 9 (found by PB). All tracings by D. Caldwell.

The new sites include: Le Haut Mont 6–11, Le Rocher de la Combe 1, Montoir de Recloses 1–2, Plaine du Rosoir 1–2, Rocher Besnard 1–2, Rocher Bouilins 1, Rocher du Mauvais Passage 2, Vente Bourbon 1–4, Ventes Héron 1–4, La Tranchée 1, Monte Merle 1 and



**Figure 3.** Anthropomorphs projecting from grids and rectangles: (A) La Malmontagne 13. (B) An anthropomorph with features resembling those of early metal daggers projecting from a grid, Mont Bégo (after Bianchi 2010). (C) Le Haut Mont 9. (D) Coquibus 3. The anthropomorph jutting from a merels board or triple box enclosure, which looks like a bird's eye view of the concentric stockades with median gates and streets of some Celtic villages. The possible reference to such a community seems to have been given an anthropomorphous element here. (E) The Neolithic anthropomorph projecting from a rectangle on the menhir du Paly in Milly-la-Forêt. The anthropomorph has eyebrows, dotted eyes and five fingers at the end of its arms. All imagery by the author except 2B.

La Malmontagne (henceforth 'M') 8–29, although the last group contains a few sites that lack clear links to late Bronze Age iconography. M8–9, 11–12 and 25, for example, are too rudimentary to assign to a stylistic group. M10, 20 and 24 may be Christian, since M10 consists of two elongated crosses with cupules at the extremities; while M20 consists of 2 elongated crosses and 9 parallel grooves on a mound beside a large, raised, natural, water-filled basin, which looks like a baptismal font; and M24 consists of two apparent Christian crosses, one of which is on a trapezoidal base. All the same, the presence of the parallel grooves at M20 suggests they might be the descendants, as it were, of those at such sites as Malmontagne 21 (Fig. 4A), where they appear along with such typical pictogram-vase motifs as an equilateral cross with dots between the branches. Next, M23 blends characteristics of the new Bronze Age corpus and of the undated CSSF, since it is small, while also being abstract and hidden on the wall of a cavity,

and M26 has an exposed anthropomorph, which has been dismissed as a forgery for decades, although it looks surprisingly similar to many of the ancient anthropomorphs that turned up when we started clearing cavities.

The sites in the new corpus share enough features with each other and the vases for the present author to draw these preliminary conclusions, which are likely to differ from those being developed by other members of the team and their co-authors, who are publishing their conclusions elsewhere.

#### Common positions

- (1) The petroglyphs with the clearest affinities to pictogram vases are always small, with the largest ones only covering a quarter of a square metre in each cavity, even when the cavities are large enough to have provided more space or other zones that look perfect for engraving.
- (2) Most of the petroglyphs are also in such small cavities that nobody thought they were worth examining thoroughly.
- (3) They are usually on the horizontal or slightly hollow floors of the cavities, as opposed to their walls and ceilings or on loose rocks, and are often in or next to a water channel.
- (4) Although the petroglyphs often fill the flat floors of such cavities, whose walls frequently constrain and frame them, the engravers seem to have preferred the recesses of unusually large boulders in low-lying areas such as plains and the ends of rocky ridges, rather than the bigger spaces that abound in rock formations on steeper slopes nearby.
- (5) The petroglyphs are almost always found under mulch, which has apparently protected the engraved surfaces while keeping them humid and hidden from previous prospectors.
- (6) They are almost all on small patches of dark rock, rather than surrounding lighter ones, even when both have remained moist and hidden.
- (7) Many (but not all) of the cavities are so low that they were apparently engraved by a person lying on the ground.
- (8) Many of the cavities face the northern half of the compass, which tends to keep the petroglyphs from drying out.

#### A coherent corpus

The finely incised engravings are also clearly related because:

A. The petroglyphs share a great many motifs both with each other and pictogram vases from numerous sites between Catalonia and the

Massif (Gomez de Soto 1980: 149–162), including incised platters from Moras-en-Valloire in the Drôme (Nicolas and Martin 1972; Briard 1987: 139) (Fig. 5A–B) and vase 85, which is an incised tureen (Fig. 5C), and other pots from layer 5 in the Salle du Gisement of the Grotte du Queroy, Chazelles, in the Charente (Briard 1987: 144, 1989: 134–135; Gomez de Soto et al. 1991: 367, Fig. 35). Layer 5 has been dated to 1320–790 cal BCE, with a high probability that the date is between 1050 and 830 cal BCE in a range centred on 950–940 cal BCE (Gomez de Soto et al. 1991: 345). Almost all the petroglyphs in the new corpus, for example, have:

- obliquely barred rectangles like pots from Languedoc and Catalonia (Gomez de Soto 1980: 153) (Fig. 6C),
- equilateral crosses with dots between the branches like vases from the Rhone Basin (ibid. 155) (Fig. 6A),
- comb-like motifs, which often appear in pairs with their teeth facing outwards like ones on pictogram pottery from both the Rhone Basin and Languedoc/Catalonia area (ibid. 154) (Fig. 6K–L),
- stick figures with cupules for heads like anthropomorphs on late Bronze Age pots from throughout southern France (ibid. 154) (Fig. 6G), and
- rayed discs, hollows or cupules like rayed circles on pots from the Centre-Ouest region (ibid. 154) (Fig. 6F).

One of the closest sites to have produced such pictogram vases is la Grand Paroisse, which is in the same département as the newly discovered petroglyphs, the Seine-et-Marne (Gomez de Soto 1993: 150, Fig. 1).

B. The petroglyphs in the new corpus almost always take advantage of the morphology of the rock:

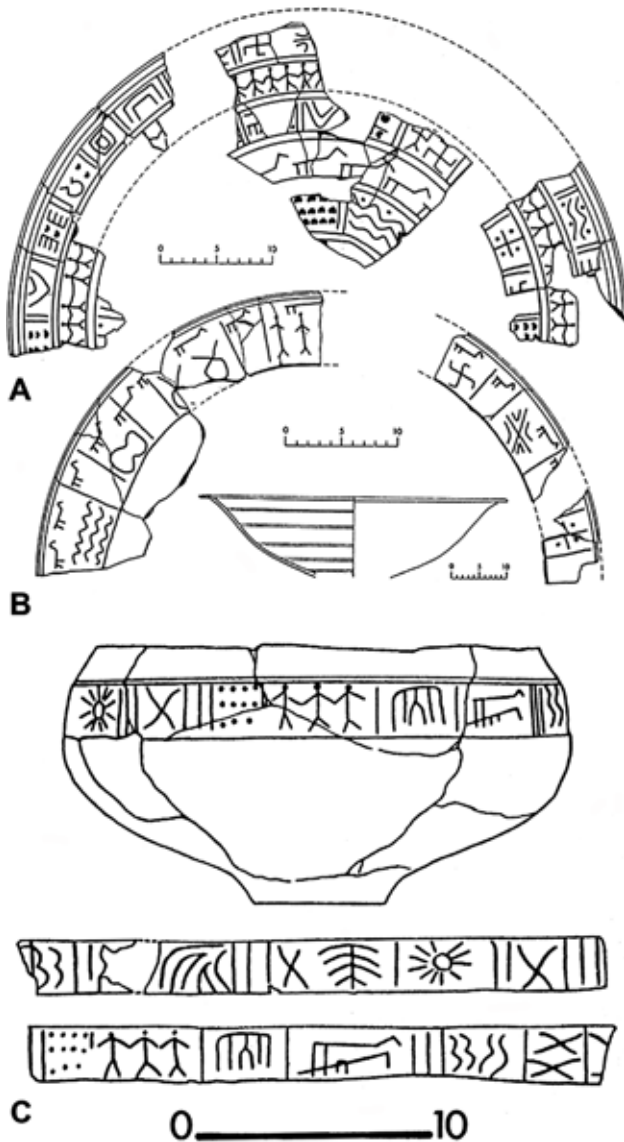
- to frame and orient the imagery with a clear top and bottom, and
- in the design and placement of motifs. For example, an internally rayed disc covers a natural mound at the centre of a relatively large petroglyph with a fanning structure in Rocher Besnard 1 (RL) (Fig. 4B), while six mounds around its bottom right margin have each been marked with an 'X'. Similarly, the stick arms and body of a triangular-headed anthropomorph in Vente Bourbon 4 (RL) (Fig. 7B) follow natural fissures. Furthermore, both the bottom of an obliquely barred rectangle and the bottom ends of six lines 'hanging' from it in the same composition are arrayed precisely along natural cracks.

Malmontagne 21's engraving (PK) (Fig. 4A) shows the same predilection for using relief since it is split into sections, which take advantage of cracks and changes



**Figure 4.** Two examples of the late Bronze Age corpus of petroglyphs in the Forêt de Fontainebleau: (A) Malmontagne 21 (found by PK). (B) Rocher Besnard 1 (found by RL). Both tracings by D. Caldwell.

in contour. For example, a heart-shaped lobe at top left (with a grid, ladder-shaped motif over a probable anthropomorph, and cross) appears to have been suggested by natural features, which were enhanced. A small hollow with downward fanning grooves just below the lobe also seems to be natural. The pair of nearly symmetrical top central registers, which contain a line of four triangular 'masks', also take advantage of ripples in the surface that create two horizontal bands of relief. Finally, the section on the right of the small shelf is both lower than the rest of the composition and divided



**Figure 5.** Late Bronze Age pictogram vases: (A & B) Plates from Moras-en-Valloire, Drôme. (C) Grotte du Queroy, Chazelles, Charente (after Briard 1989: 135; Gomez de Soto 1993; and Gomez de Soto et al. 1991).

from it by a crack. Furthermore, it is sub-divided into a raised rim, which has 10 longitudinal grooves, and a lower zone behind it, which has a solitary cross with dots between the branches.

C. The petroglyphs, which are often so deeply, narrowly and precisely incised that we suspect they were carved with metal blades, are usually highly organised, with similar motifs arranged in registers and clusters, with hardly any overlapping lines, except within coherent motifs like grids and crosses. Triangles with a single cupule at the centre are grouped, for example, at the bottom centre of Ventes Héron 3 and in an interlocking zigzag pattern at Rocher Besnard 1 (Fig. 4B), while they form a vertical column to the left of a possible therianthrope, which seems to combine human and owl-like features, in Mont Merle 1 (RL) (Fig. 8A). Similarly, X-shaped crosses are located above or to the sides of the heads of anthropomorphs in Rocher

Besnard 1 (Fig. 4B), Vente Bourbon 4 (Fig. 7B), Mont Merle 1 (Fig. 8A) and Haut Mont 9 (PB) (Fig. 2E), as well as around the left side of two anthropomorphs in Vente Bourbon 1 (DC) (Fig. 8B), where the bottom two Xs alternate with zoomorphs, which might represent canids.

D. With the exception of Haut Mont 6 (Lebon 2015: 23–28), the most complex petroglyphs tend to show clear vertical structures, even when their elements fan around a vertical axis like those in Rocher Besnard 1 (Fig. 4B), whose top central anthropomorph is upright while one with a zigzag body and arms next to a crack at bottom left is tilted. Everything from the petroglyphs' small sizes and frequent framing by a combination of natural limits, incised lines and rock colour to their careful organisation of a shared set of motifs in relation both to each other and the space indicates that hardly any of the newly discovered petroglyphs are palimpsests that accumulated over long periods, but that each of them was composed over a short time, and perhaps even in a single session.

### Preliminary analyses of the iconography

#### A. Anthropomorphs

The new corpus has several types of anthropomorphs, including the following elaborate examples, which surpass all of those on the vases in complexity:

*Anthropomorphs with triangular heads.* Some of the most spectacular examples of this type include the previously mentioned ones in Malmontagne 21 (Fig. 4A), Vente Bourbon 4 (Fig. 7B) and Vente Bourbon 1 (Fig. 8B). The 'male' figure in Malmontagne 21 (Fig. 4A), for instance, has four 'spikes' projecting from a 'headband' with two pairs of slanting lines in it, one of which is partly effaced and incorporated into a deep groove which extends from one of the 'spikes' between the eyes to the 'penis'. The left side of the triangular head has the same kind of tassels or streamers as a triangle with a centre cupule and three obliquely barred rectangles above. The stick arms, which each end in three fingers, are formed by a straight line which crosses the torso at a slant, so that the right arm is raised towards a double-tiered 'cross'. A ladder-shaped motif with three vertical lines fills the space under the raised arm while a harpoon-like motif with downward slanting lines on the left side of an unusually deep groove, which is pointed at both ends, parallels the left side of the body.

Although the figure in Vente Bourbon 4 (RL) (Fig. 7B) resembles the previous one because of its triangular head and the fact that it also seems to be holding an object, it is more symmetrical and static. Interestingly, the object at the end of its left arm looks like a sceptre with the same kind of triangular head as the main figure (except for its 'beard' or 'tassels') and the same trident base as the anthropomorph's three-pronged feet and hands. Unlike the figure in Malmontagne 21 (Fig. 4A), this one has five spikes projecting from its triangular head, rather than four, and no 'headband'. It also has three lines, which cross the torso below the arms like

	Motifs on pictogram vases (+ 2 Vinča & 1 Tartaria motifs at bottom left)	Motifs in the Forêt de Fontainebleau (except Vinča proto-swastika, 2nd line right, & figure with triangular head from Zebbug at bottom centre)
A		
B		
C		
D		
E		
F		
G		
H		
I		
J		
K		
L		
M		
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O		

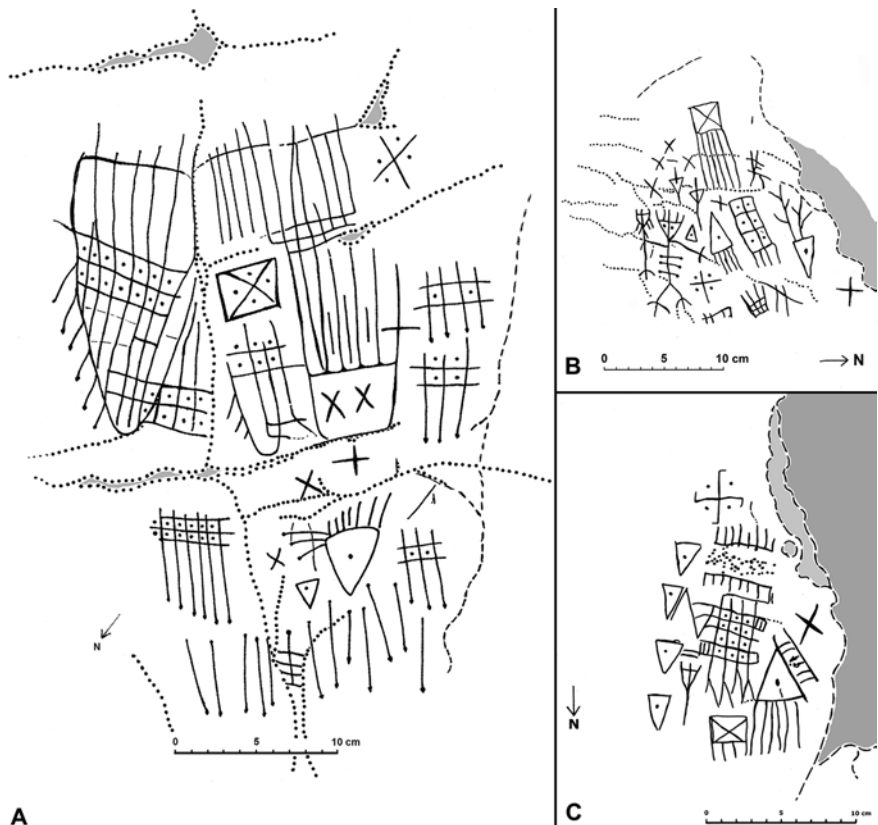


Figure 7. Three examples of late Bronze Age petroglyphs in the Forêt de Fontainebleau: (A) Malmontagne 22 (found by RL). (B) Vente Bourbon 4 (found by RL). (C) Vente Bourbon 3 (found by DC). Note the resemblance of the swastika with dots between the branches in the last petroglyph to crosses with such dots at other sites. All tracings by D. Caldwell.

ribs with cupules at the ends.

Except for the triangular head and dots at the end of the 'ribs', the figure is quite similar to the splayed frontal structure of a 'male' anthropomorph with three sets of horizontal 'ribs' and a small cupule head at the top right of La Tranchée 1 (Fig. 2B), and a nearly identical one below an upside-down V made up of ladder-like motifs, which seems to be 'pointing' at a centrally placed cross in Ventes Héron 4.

The horizontal 'ribs' ending in cupules in Vente Bourbon 4 (Fig. 7B) are also reminiscent of a slightly different set of such lines extending from either side of the torso of an anthropomorph with a small cupule instead of a triangle for a head in Ventes Héron 3. The anthropomorph's four pairs of 'ribs' end in the same kind of dots or cupules, but slant downwards. The figure is all the more remarkable because it has a pair of relatively large cupules both above and below it, which have fanning incisions that look like rays or eyelashes. In passing, it should be noted that such analogies are the anachronistic impressions of a modern observer and are basically intended as descriptive tools, rather than identifications.

Moving on, the figure at the top right of Vente Bourbon 1 (Fig. 8B) is equally static, with a long appendage between two shorter ones at the top of its triangular head. The lines forming the two sides of the face cross at the chin, forming an X, whose lower branches each end in three fingers. The torso formed by the line descending from the central 'spike' between the eyes and down to the top centre of a triangle with a cupule in the middle

Figure 6. Comparable motifs on late Bronze Age pictogram vases, in the new corpus of petroglyphs in the Forêt de Fontainebleau and on Vinča, Tărtăria and Zebbug ceramics (pictogram motifs after Gomez de Soto 1993; Vinča, Tărtăria and Zebbug motifs after Gimbutas 1991).



**Figure 8.** Three more examples of late Bronze Age petroglyphs in the Forêt de Fontainebleau: (A) Mont Merle 1 (found by RL). (B) Vente Bourbon 1 (found by DC; a separate petroglyph consisting of grooves was previously found by RL on the exposed rim of a hollow that had served as a hearth in the same shelter). (C) Malmontagne 27(?) (found by DC). All tracings by D. Caldwell.

has five lines fanning down on the left and four on the right, so that it looks like a plant or tree with drooping branches. Interestingly, the 'punctuated' triangle is in the same place in relation to the anthropomorph as one at the base of Le Haut Mont 9's complex central motif (Fig. 2E), where it is centred below the branches of a comb-like design, whose 'back' is attached to the base of a grid with a pair of stick figures projecting from the top.

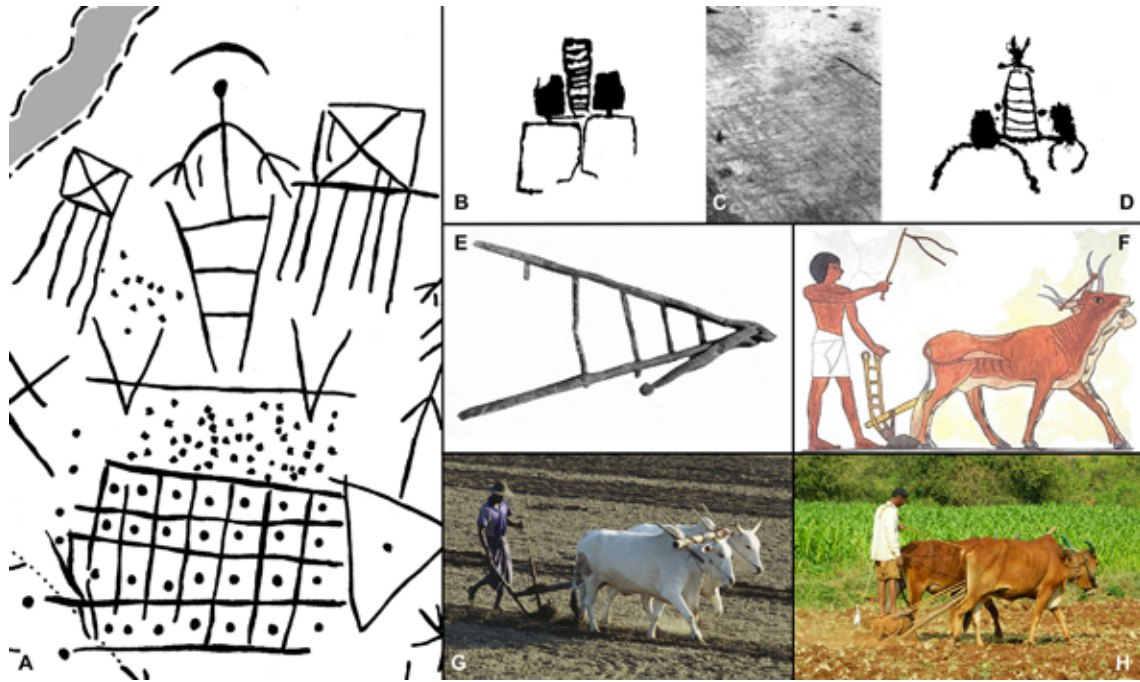
Such full figures also seem to be alluded to, through synecdoche, by triangular 'masks', which are split down the middle like the beings in one of the first two unpolluted sites in the new corpus discovered, Le Haut Mont 8 (RL), where a groove rises like a stalk from below each face, which it bisects, before projecting from

the top of the head as the tallest and central 'spike' in an array of one, three or five appendages. It is intriguing to note that each side of such bisected faces forms one of the most common motifs in the canon — a triangle with a dot in the middle, suggesting that triangular faces and triangles with a central dot are related.

Incidentally, the combination of the symmetrical arrangement of an obliquely barred rectangle with downward 'streamers' on either side of two outward-facing 'combs' linked by a line between their backs and four triangular 'masks' in the register below it at Malmontagne 21 (Fig. 4A) is an example of how the top central sections (where one often finds one or two recognisable anthropomorphs) of the most complex petroglyphs in the new corpus are often clearly ordered.

One of the strangest anthropomorphs with triangular heads is one with two of them at the bottom right of Vente Bourbon 1 (Fig. 8B). The figure in question has a triangular face at both of the top ends of its V-shaped body, which is crossed halfway down by a line terminating at either end in three-fingered hands. The motif is all the more remarkable because it may be reversible, since the bottom angle of the V has a small cupule, making the motif double apparently as a stick figure with palmate feet. This suggests that figures with triangular heads may have been seen as having the opposite polarity, as it were, from ones with cupule heads, although the two of them seem to have been complementary.

Another remarkable anthropomorph in this family extends a long arm over an antlered cervid on the right and has a lower body, which looks like a moth with folded wings composed of a mosaic of punctuated triangles and trapezoids. The same petroglyph at La Tranchée 1 (Fig. 2B) (PK) has another triangular head with three 'spikes' that is upside-down at the end of a zigzag with dots between the bottom angles, which is itself the prolongation of an oblique incision with downward lines. Another motif at the bottom right of Mont Merle 1 (Fig. 8A) combines a triangular 'mask' and three triangles with a median dot into a radial motif. Finally, an unusually large variation on a triangular head occurs at the top left of Le Haut Mont 9 (PB) (Fig. 2E), where the head has elongated pupils and three 'streamers' off its right temple.



**Figure 9.** Ards and travois: (A) Detail of the petroglyph in Vente Bourbon 1, showing an anthropomorph with hands outstretched towards the projections of a motif that suggests a two-handled animal-drawn ard, rather than a travois or cart. (B) A petroglyph of 'oxen yoked' to a cross-barred triangular motif that has been interpreted as a travois, but may be one of two kinds of triangular ards, Vallée des Merveilles (after Pétrequin et al. 2006: 383, Fig. 18). (C) Field cross-ploughed with an ard, Groningen-Winschoterdiep, 1985. Detail of a photo by Groningen municipality (after Louwe Kooijmans 2006; in Pétrequin et al. 2006). (D) Note the small anthropomorph behind the cross-barred triangular motif, which may be a triangular ard, Vallée des Merveilles (after Pétrequin et al. 2006: 383, Fig. 18). (E) The travois from Chalain 19, Fontenu, Lac de Chalain, Jura, end of 31th century BCE (after Pétrequin et al. 2006: 385, Fig. 21). (F) An ancient Egyptian two-handled ard. (G) A modern two-handled ard with a raised back and plough at the apex. (H) A modern rake-ard with multiple tines on the back, which is dragged along the ground.

'Ploughmen' and anthropomorphs projecting from grids. Three of the figures in this group have a number of details and associations which might be figurative. The anthropomorphs, which are nearly identical, are at the top left of Vente Bourbon 1 (Figs 8B, 9A), top centre of Rocher Besnard 1 (Fig. 4B) and bottom centre of Mont Merle 1 (Fig. 8A). Each of them has a head formed by a small cupule, a vertical line for the torso and stick arms ending in three-fingered hands, which seem to be reaching towards the top extremities of a large V-shaped motif below them. The pointed bottoms of the horizontally barred Vs in each petroglyph intersect a horizontal line with a smaller V overlapping it at either end. The overall motif looks (to this observer) like an anthropomorph standing behind and manipulating either a travois like one found at Site 19 in Lac de Chalain (Pétrequin et al. 2006; Bianchi 2010: 76, Fig. 13) (Fig. 9E), or one of two kinds of V-shaped, animal-drawn ards (Fig. 9F–H) pulled, in every case, by a pair of oxen represented by frontal schematics of their horned heads. The first interpretation is the standard one for petroglyphs showing bovids yoked to barred triangles at Fontanalba (Bianchi 2010: 76, Fig. 12) and the Vallée des Merveilles in the Maritime Alps (Fig. 9B, D), including one with an anthropomorph at the back end (Pétrequin et al. 2006: 383, Fig. 18) (Fig. 9D). This

is because the investigation of early western European ploughing has been influenced by the discovery of single-handled ards like early Bronze Age examples from Walle, near Aurich, Holland (Louwe Kooijmans 2006: 203, Fig. 14) and Lavagnone, Italy (Pétrequin et al. 2006: Pl. 1), rather than the possibility that early European ards (or scratch plows, as they are also known) could have also resembled V-shaped ones with reinforcing bars between them, which were used from ancient Egyptian times (Fig. 9F) to today (White 1962) (Fig. 9G–H).

The two types of V-shaped ards that the motifs may allude to work in diametrically opposed ways, since the digging end of the first type is at the back, which is shaped like a rake and is weighted down by a large stone on which the ploughman stands (Fig. 9H); while the digging end of the second kind is the pointed front or apex, which is outfitted with a single blade, while the back end is raised and has two handles (Fig. 9G). The out-stretched hands of the three anthropomorphs and projections from the back of the V-shaped motifs below them suggest that the figures might be manipulating the second type of ard, which is easier to direct than a single-handled one.

If the barred triangles in these three motifs indeed represent two-handled ards, it might mean that the



randomly pecked zone in front of the barred V with a possible neck yoke and schematics for cattle at Vente Bourbon 1 (Fig. 8B) has to do with soil preparation and that the grid of punctuated squares under that might represent a prepared field, but we must accept that this reading is pure speculation.

All the same, it is interesting to note in this regard that animal-drawn ards cannot dig a deep furrow like modern ploughs, which use a ploughshare and mouldboard to turn the soil to one side, and that they produce the best results in sandy soils like those in the Massif de Fontainebleau. Even then, ards, which were well-suited for preparing such land for cereal crops, leave a strip of unbroken earth between the furrows, making it advisable to cross-plough the plot (White 1962: 42), so that the intersecting lines delineate square mounds, which can serve for planting individual stands of plants. Vestiges of such cross-ploughing have survived since as far back as the Neolithic in many places in western Europe, including Groningen-Oosterpoortwijk, Bornwird, Zandwerven, Oostwoud and elsewhere in Holland (Louwe Kooijmans 2006: 199–201) (Fig. 9C).

In passing, it should be noted that the idea of representing prepared or planted land with cupules in a rectilinear frame might be echoed by the ancient Pescarzo/Giadeghe 'property map' at Val Camonica in Italy (Pétrequin et al. 2006: 392, Fig. 27), but this, again, should not be taken for fact, but as another hypothesis.

The three motifs that I have tentatively identified as 'ploughmen' seem to be associated with several other motifs, which show one or two figures projecting from a grid, somewhat like a similar combination at Mont Bégo (Bianchi 2010: 76, Fig. 16) (Fig. 3B). These motifs include:

- a single figure projecting from a grid at Haut Mont 5 (Fig. 2A),
- an anthropomorph above a grid in Ventes Héron 1, where it is paired with a being on the left, which rises from the same kind of barred V that I have interpreted as a double-handled ard,
- an example with two projecting anthropomorphs projecting from a grid in Le Haut Mont 9 (Fig. 2E), and
- an anthropomorph in Malmontagne 13 (RL) (Fig. 2C), whose arms form a horizontally barred downward V ending in three-fingered hands that meet the upper corners of a grid. This figure seems to incorporate the barred V, which I have interpreted as an ard, into its torso.

All three of these anthropomorphs projecting from grids seem to be cursory versions of the more complex 'ploughman' motif seen in Vente Bourbon 1 (Fig. 8B, 9A), Rocher Besnard 1 (Fig. 4B) and Mont Merle 1 (Fig. 8A), since they simply eliminate the intermediary section that might be an ard by placing the anthropomorph in direct association with the grid or incorporate the ard, as it were, into the being's torso.

Further variations on the theme of an anthropomorph incorporating an ard into its torso may be, first, a full figure in La Malmontagne 16 (PB, DC & RL) (Fig. 2D) with 5 pairs of horizontal 'ribs' filling the space between its spine and the downward V formed by its arms; and second, an anthropomorph with a cross-barred triangle descending from its neck like a long robe in a site which at the time of submission had not received an official number, but will be Malmontagne 27, 28 or 29 (DC) (Fig. 8C). It should also be noted that all the figures directly associated with cross-barred triangles (and their possible references to ards or travois) and grids below them have small cupule heads, rather than triangular ones.

*Anthropomorphs with trapezoidal heads.* This category consists for the moment of just one complete figure with a 'horned' or 'spiked' trapezoidal head on the left of Mont Merle 1 (Fig. 8A), and a similar 'mask' or disembodied head directly above the 'ploughman' in Rocher Besnard 1 (Fig. 4B). The figure at the first site, which stands between a column of four Xs at the extreme left and another column of 'punctuated' triangles to its right, has an oval on its torso that overlaps a grid of punctuated squares in such a way as to precisely frame the nexus of four of them. This makes it possible to see that the highlighted junction of the dotted squares forms one of the most common symbols in the corpus, an equilateral cross with dots (Fig. 6A). This cross is further emphasised by being more deeply incised than the surrounding lines and is centred exactly where one might expect a navel. Furthermore, it turns out to be just the central example of identical crosses spreading outwards in all directions beyond the oval 'belly' frame. When we consider the evidence that the grid shown in intimate association with the probable ard at Vente Bourbon 1 (Fig. 8B) might represent a cross-ploughed field, and that the dots in the grid might represent plantings in square mounds created by such field preparation, then we must consider the possibility that the engraver intended us to associate fields and crops with the generative and digestive parts of this being's body.

*Stick figures.* There are several types of stick figures. One of the most elaborate kinds is typified by the anthropomorph at the top right of La Tranchée 1 (Fig. 2B), which has a cupule head, horizontal arms ending in three digits, three pairs of horizontal ribs, a phallus, and three bird-like toes on each foot. This category shares the same types of head and fingers as the category shown in direct association with possible ards or grids.

More rudimentary stick figures occur between the sides of a ladder-shaped motif on the left of Malmontagne 21 (Fig. 4A) and between two mounds at the bottom of Malmontagne 22 (RL) (Fig. 7A), which is unusual among the more elaborate petroglyphs, both in its apparent abstraction and because most of its downward 'streamers' end in sharp points, which look like projectile points.

Finally, some stick figures, like those in Le Haut Mont 6 (Lebon 2015: 23–28) and an elongated anthropomorph at the bottom left of Le Haut Mont 9 (PB) (Fig. 2E), seem to have been purposely ‘hidden’, both among other motifs and by stretching and disarticulating them almost to the point of abstraction.

*Anthropomorphised motifs and possible masks.* The new corpus includes a wide range of superficially abstract motifs, which can be read as faces or beings, because of features that look like eyes or the anthropomorphs’ hands and feet. One of the most astonishing is a horizontal line over the ‘ploughman’ in the centre of Mont Merle 1 (Fig. 8A), whose ends turn downwards and end in the same three prongs that represent hands and feet elsewhere (Fig. 10C). Streamers hang from the entire horizontal length of the line, between these apparent ‘arms’ or ‘legs’, while a row of dots, which parallels the top of the line, extends to the right over the same kind of ‘punctuated’ triangle that represents halves of both ‘human’ and animal faces elsewhere, incorporating it into the motif, so that the overall design looks like both an anthropomorphised rain cloud and animal (perhaps a horse) to the author. Once again, though, such impressions should not be mistaken for facts, and mainly serve to remind us of how suggestive pre-Historic imagery can remain even after its true meaning has been lost.

In addition to the radial motif with both a triangular ‘mask’ and triangles with a median dot at the bottom right of the same petroglyph (Fig. 8A), which looks to this viewer like an anthropomorphised flower, and the previously mentioned zigzag figure at the bottom left of Rocher Besnard 1 (Fig. 4B), which looks like the personification of lightning, there are several motifs that combine eye-like dots or ‘hands’ with grids or Xs to make abstract patterns, which look like beings. These include two motifs with downward streamers, which end in sharp points, on the right of Malmontagne 22 (Fig. 7A), because each of them has a pair of punctuated squares which makes them look like owl-like faces.

Digits were used to anthropomorphise an X-shaped motif (with a dot between its top branches and another one between its bottom ones) in Vente Bourbon 1 (Fig. 8B), where the top ends of the X terminate in the same kind of ‘hands’ as the anthropomorph’s above it. A variation on this X-shaped motif with ‘hands’ on the upper branches occurs at La Tranchée 1 (Fig. 2B), where the two dots are arranged horizontally and are framed by a rectangle making the motif look like a ‘mask’. What is so surprising about this subset of X-shaped motifs with three digits on their top extremities is they resemble ones seen on Vinča ceramics during the Neolithic and Chalcolithic (Winn 1981; Gimbutas 1991: 310). Although the newly discovered petroglyphs have so many resemblances to late Bronze Age pictogram vases that they probably date to approximately the same period, they also contain so many similarities with Vinča signs and conventions, including the use of triangles with tassels or spikes (Fig. 6 Letter O), that

they suggest that some of the motifs on the vases and in the Massif de Fontainebleau developed from the earlier iconography in the Balkans.

Finally, it should be noted that the Xs with ‘hands’ on two of the branches might be a variation on the X formed by the sides of the head and arms of the triangular-headed anthropomorph at the top right of Vente Bourbon 1 (Fig. 8B).

#### *B. Crosses and swastikas with dots between the branches*

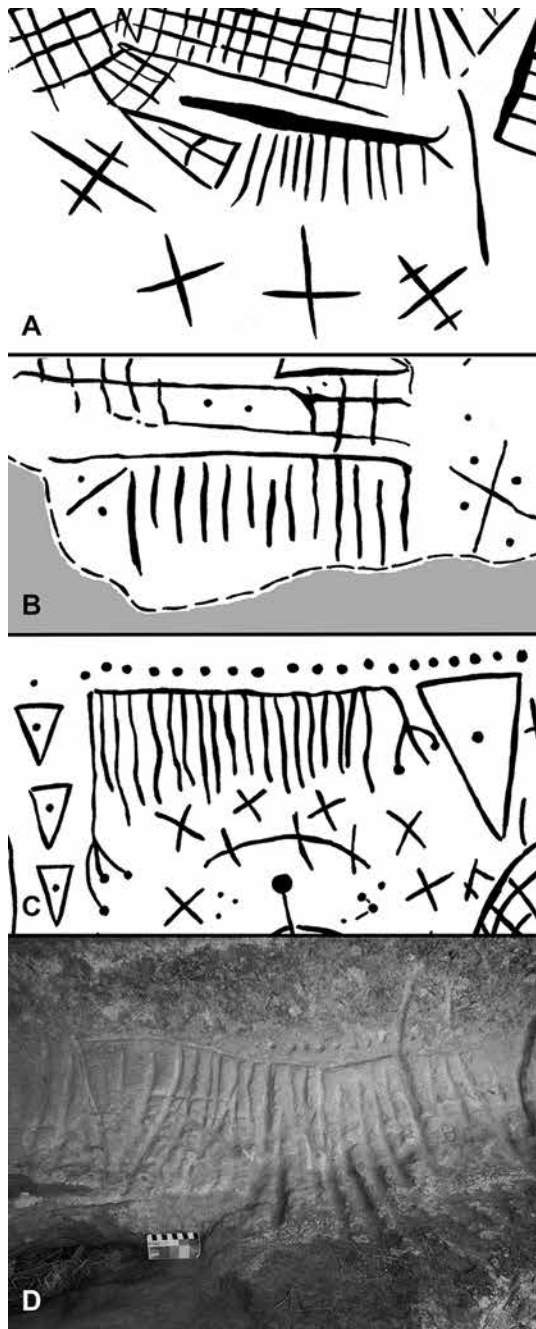
Although swastikas or Gammadion crosses are common on late Bronze Age pictogram vases from the Rhone Basin, Languedoc and Catalonia (Gomez de Soto 1993: 153), only one of the sites, Vente Bourbon 3 (DC) (Fig. 7C, 6B centre image), had produced a clear example at the time of this writing. The example in question looks exactly like the crosses with dots between the branches (Fig. 6A second image) that appear in so many of the newly discovered petroglyphs, except for the clockwise extensions on the end of the swastika’s branches. The combination of the oval framing part of a grid of punctuated squares at Mont Merle 1 (Fig. 8A) so as to isolate and emphasise an equilateral cross with dots between the branches and the association of identical grids with anthropomorphs behind apparent double-handled ards at such sites as Vente Bourbon 1 (Fig. 8B) allows us to recognise this swastika as another possible allusion to the intersections in cross-ploughed fields, with:

- the hooks on the branches simply being the next sides of four planting squares, and
- a reference to the extension and repetition of the cross symbol throughout such punctuated ‘field’ grids.

This is intriguing because primitive swastikas have often been interpreted as solar symbols (Goblet d’Alviella 1894), whereas the symbol in the new corpus, which is much richer iconographically than the pictogram vases, seems to suggest that early western European swastikas were more clearly associated with ploughing, planting and, possibly, given the presence of the grid on the belly of the apparent therianthrope at Mont Merle 1 (Fig. 8A), with various kinds of fertility. That does not exclude the possibility, of course, that the swastika in Vente Bourbon 3 (Fig. 7C) unites celestial references with ones concerning the ground and belly.

#### *C. Zoomorphs*

The zoomorphs in the new corpus range from clear representations of cervids with antlers at Plaine du Rosoir 1 (RL) and La Tranchée 1 (Fig. 2B), to a chimeric zoomorph with antlers and a long ‘fish bone’ tail above a rayed disc in the middle of Rocher Besnard 1 (Fig. 4B) and a wide variety of stick figures with apparent antlers, horns and ears, including one above a punctuated triangle at the top centre of Le Haut Mont 9 (Fig. 2E), which looks like a boar because of its up-turned snout. Another two stick ‘animals’, this time with possible



**Figure 10.** Multi-legged zoomorphs or other beings: (A) La Malmontagne 13. (B) Vente Bourbon 1. (C) Mont Merle. (D) Argeville cliff shelter. All imagery by D. Caldwell, except where otherwise credited.

antlers, occur at the centre right of Vente Bourbon 1 (Fig. 8B), where they alternate with the bottom Xs or crosses in a crescent of such motifs. Several of these schematised zoomorphs, including four under and to the left of the legs of a male anthropomorph with raised arms in La Malmontagne 13 (Fig. 2C), are nearly identical to ones on pictogram vases (Fig. 6H) where they often seem to represent canines.

Another group of zoomorphs that appears both on the vases and in the new corpus includes 'animals' with an unnaturally large number of 'legs' or other basal appendages (Fig. 6 letter I, 10A–C). These 'monstrous'

zoomorphs include the previously mentioned one with 20 appendages, including the two which end in three digits, at Mont Merle 1 (Fig. 8A, 10C) and one at the lower left of Malmontagne 13 (Fig. 2C, 10A) with 12 appendages, not counting the horizontal neck with the cupule head and probable slanted tail. Another zoomorph with such appendages appears in the bottom left corner of Vente Bourbon 1 (Fig. 8B, 10B), where the being with a head composed of two punctuated triangles overlooks a water channel and occasional pool, which are fed by a round chimney in the roof of the rockshelter.

It is intriguing to note that a large zoomorph, which incorporates several of the features of this group with an unnaturally high number of appendages, exists in a cliff shelter overlooking Argeville in the Essonne (Fig. 10D). Like the 'monstrous' zoomorph at Mont Merle 1 (Fig. 8A, 10C), it has a row of dots above the dorsal line and around 20 vertical lines below it. One of the main differences between the motif, which is in the heart of the arc of CSSF sites and shares both their grids and long parallel grooves, and comparable ones in the new corpus is simply size, with everything from grids to zoomorphs in the CSSF arc often being larger.

Finally, it should be noted that several of the more elaborate beings in the new corpus, including the deer at La Tranchée 1 (Fig. 2B), are either associated with curved constellations of star-like crosses or Xs, on the one hand, or curved motifs, which range from simple downward arcs to arched motifs that look like arrows or even living beings, on the other. The anthropomorph above the 'ard' at Vente Bourbon 1 (Fig. 8B), for example, has a simple arc over its head, while the one projecting from a grid at Malmontagne 13 (Fig. 2C) has a curved arrow with three bars across the shaft and one at Ventes Héron 1 has an arc with a fork at both ends, which make it look like the schematisation of a fish with an open mouth.

#### D. Plant-like motifs

Both the new corpus and pictogram vases look like they might contain references to plants, including fern-like fronds (Fig. 6D) (like to the one on the bottom left of the grid with the two anthropomorphs projecting from it in Le Haut Mont 9; Fig. 2E), which look both like feathers and the bracken which blankets the area today. While it is impossible to be sure what these 'fronds' really represent, it should also be noted that some of the anthropomorphs, including the previously mentioned one with a triangular head at the top right of Vente Bourbon 1 (Fig. 8B), have downward sloping 'ribs' that are reminiscent of the drooping branches of some plants and trees. In light of the previous reading of dots in possible field-grids, it is also intriguing that the plant-like anthropomorph at Vente Bourbon 1 (Fig. 8B) 'sprouts', as it were, from one of the triangles with a dot, which are so common in the new canon.

### E. Re-combinations of elements into possible 'ideograms'

Although a number of the corpus's 'more abstract' motifs, including triangles with a median dot, have been discussed already, it is important to note how closely related many of them are, with the same graphic units appearing in fresh combinations which may have been read like ideograms. An obliquely barred rectangle near the top centre of Malmontagne 22 (Fig. 7A), for example, has a dot in each of the four triangles created by the sides and bars, suggesting that such rectangular 'flags' actually fuse four of the triangles with a dot that are often shown in isolation or as each half of a triangular head. The flag is also revealed to be a framed cross with dots between the branches, showing how the elements of this semiotic corpus are assembled into multiple configurations, which could probably communicate a plethora of meanings. Another example of such an assemblage involving triangles with dots occurs at the bottom right of Malmontagne 21 (Fig. 4A), where six of them are joined in a hexagon.

### F. Apparent abstractions and enigmas

Although many of the graphic units and motifs in the canon seem so abstract as to resist interpretation, some of them, including one that looks like the sole of a shoe at the right of Mont Merle 1 (Fig. 8A), contain enough elements which appear in other combinations to make some educated guesses about their relationships. The motif in Mont Merle 1, for instance, contains two ensembles that are repeatedly grouped — a punctuated grid and 'randomly' pecked zone, which I have speculated might represent disturbed soil, since it occurs between the grid and probable ard in Vente Bourbon 1 (Fig. 8B, 9A).

### Links to the 'classic' schematic style of the Massif de Fontainebleau

Several petroglyphs in the new corpus seem to blend the characteristics of late Bronze Age to early Iron Age pictogram vases with those of the 'classic' schematic rock art style (CSSF), for which the Massif has hitherto been famous, but which is more common in an arc passing from the northwest of the newly discovered sites, on the Plateau de Buloup, for example, around to the west, in the Essonne, and finally to the south, in and around Larchant. Haut Mont 6 (Lebon 2015: 23–28), for instance, has the late Bronze Age assemblage of punctuated triangles, grids and anthropomorphs with cupule heads and three fingers, but is abstract, rectilinear and schematic enough to have been classified as one of the 'classic' schematic sites, typified by grids, if it had been found in the western arc. Another petroglyph, Malmontagne 14 (PK), which is on the damp floor of a cavity in the geographic heart of the new corpus, is also sufficiently abstract and rectilinear to look like a miniature variation of the CSSF petroglyphs in larger cavities to the west, where it would probably have been ascribed by some researchers to the Mesolithic.

One of the most telling clues that the late Bronze

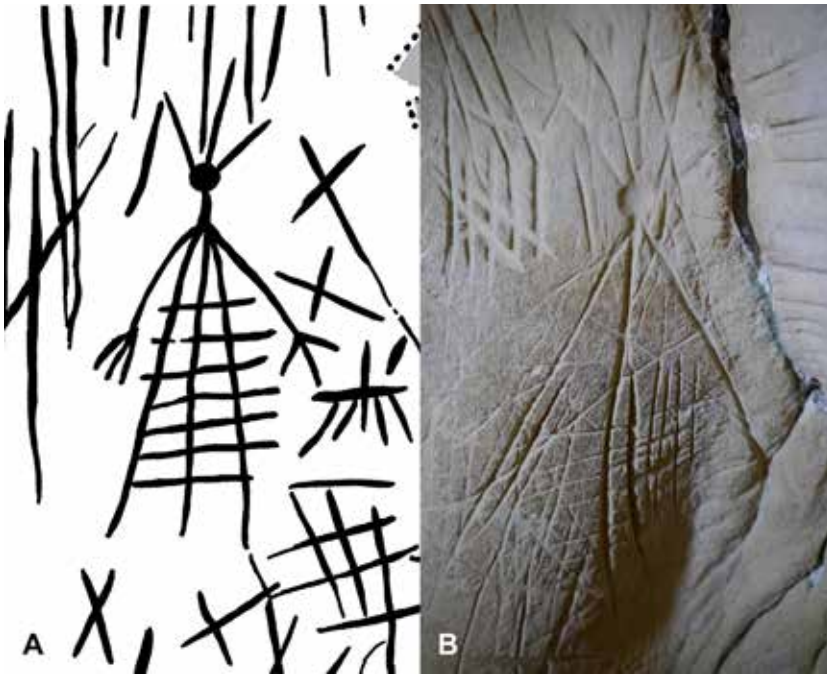
Age corpus and CSSF are closely linked is in Haut Mont 5 (GERSAR 1978: 86–88) (Fig. 2A), whose finer petroglyphs, which include the typical Bronze Age stick figure projecting from a grid like those which incorporate elements of metal daggers at Mont Bégo (Fig. 3B), only became identifiable as belonging to a typologically consistent group with the discovery of the new sites. Ironically, the evidence that the Bronze Age and 'classic' styles are linked is to be found in the very thing that made the site hard to date before the recent discoveries, namely the fact that it contains petroglyphs from different periods. Unlike most of the other petroglyphs in the late Bronze Age corpus, which are on the floors of small cavities that cannot be expanded for habitation, the petroglyphs in Haut Mont 5 are on the raised shelf and walls of a cavity with a sandy floor that could be easily deepened. This meant that its oldest motifs might have originally been at the level of a sand floor, but that the shelter invited expansion and reuse, so they were repeatedly exposed and adulterated.

The result of such exposure and reuse was that a palimpsest of several types of petroglyphs formed. The more finely incised petroglyphs such as the anthropomorph projecting from the grid, which are consistent with the Bronze Age petroglyphs under discussion, are probably the oldest, since they are interrupted both by the later basins, gutters and names from 1810 through 1818, and an assemblage of abstract motifs containing the same kind of wide, deep grooves, which have been considered the signature of the CSSF. This suggests that the CSSF is either contemporaneous with or more recent than the late Bronze Age motifs at this location.

Such superimpositions, affinities and even cross-overs between the two 'styles' also suggest that they probably overlapped both in space and time, and that hardly any of the CSSF petroglyphs, which have been repeatedly ascribed to the Mesolithic (Bénard 1993, 2010, 2014), are much older than the new corpus and the pictogram vases with which it shares so many affinities.

Finally, we must deal with a red herring, which is the common belief that there is some sort of functional necessity concerning the ease of making a straight versus a curved line in the area's sandstone, which has encouraged people from unrelated periods to use the same rectilinear style involving grids and parallel grooves. The proliferation of graffiti in the Massif written in cursive script during the 19th century proves that this assumption is based on a misapprehension and that the schematic rectilinear style was probably based mainly on cultural inclinations.

One site, which seems to combine rectilinear and curvilinear elements into a coherent ensemble, the Terrier au Renard in Buno-Bonnevaux, deserves to be mentioned in this regard, both because it shows that the medium lends itself to both curved and straight incisions, and because it includes a bovid that has been



**Figure 11.** Anthropomorphs with cupule heads: (A) Malmontagne 27(?). The site number had not been settled at the time of submission. (B) Coquibus 3. Although this anthropomorph at the bottom right of the back wall is larger than the one at the previous site, it resembles it closely. This difference is typical, since many features in the 'classic' schematic style in the Massif, like large grids, are simply bigger than the corresponding elements in the Bronze Age petroglyphs, from which they seem to be derived.

described as being a possible Epipalaeolithic petroglyph of an aurochs (Bénard and Valois 2014). The discovery of the new corpus, with all its typological affinities with late Bronze Age pictogram vases (Fig. 6), makes that attribution suspect, since the bovid, whose short horns more closely resemble those of domestic cattle than those of aurochs, is accompanied by crosses with bars across their branches which are strongly reminiscent of barred crosses:

- around the bottom left of Malmontagne 13 (Fig. 2C),
- to the left of the 'yoke' at Vente Bourbon 1 (Fig. 8B),
- in association with the left shoulder of the anthropomorph at Haut Mont 5 (Fig. 2A),
- at the bottom right of Le Haut Mont 9 (Fig. 2E),
- below the triangular head on the right in Malmontagne 21 (where the top branch becomes the neck) (Fig. 4A), and
- on the right at Ventes Héron 3, where one with bars on opposing branches also has dots between all of them, assimilating dotted and barred crosses into a more complex motif.

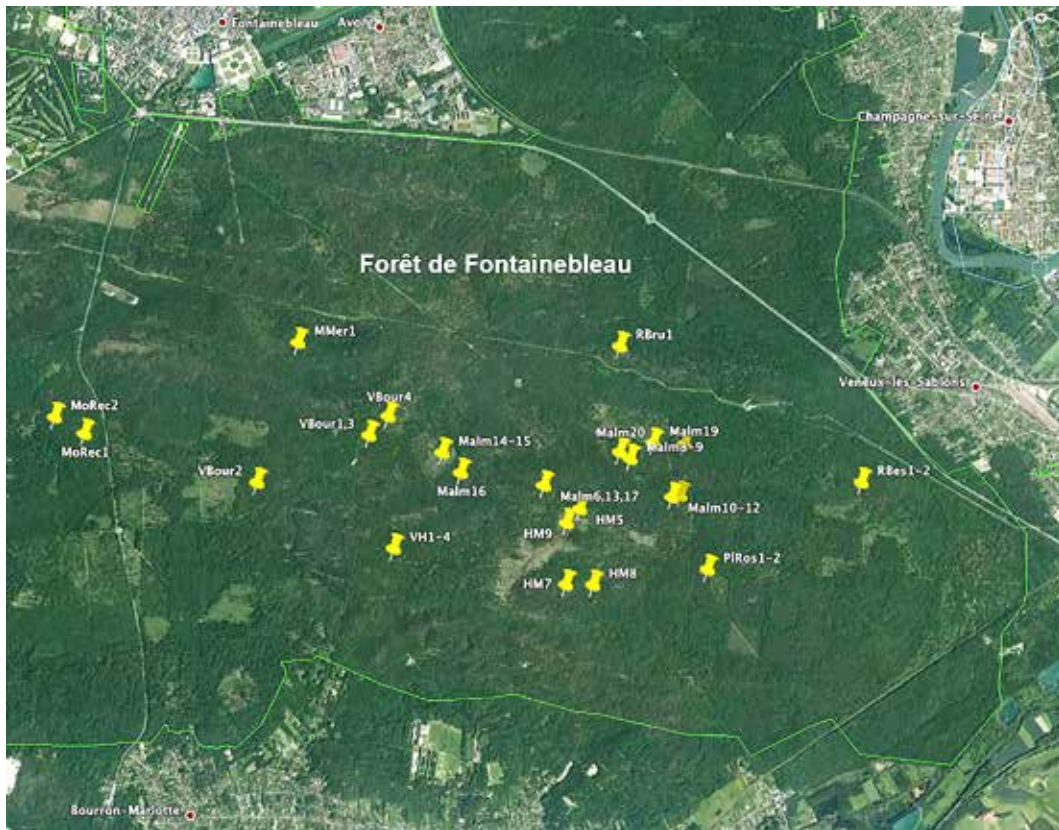
Given the evidence from Haut Mont 5 (Fig. 2A), where similar crosses and wide grooves overlap or are interwoven with motifs like the anthropomorph projecting from a grid, which are identifiable as belonging to the new corpus, we must assume that the crosses, at least, at the Terrier au Renard might be

fairly close in age to it as well. If they are, then we are left with two major possibilities: one, that the bovid and crosses were made during widely separated periods, or, two, that they were made within a relatively short time, when the engraver(s) were influenced by both the late Bronze Age style and a more curvilinear one. This leaves us with two more possibilities: that the bovid, which has a distant resemblance to Neolithic examples from Brittany (Gaumé 2007), was made during that period and was either contemporaneous with or older than the surrounding crosses; or that they were all made around the time of the Celtic expansion, in which case the panel may be an example of the combination of a regional rectilinear style derived from the late Bronze Age corpus, which may be only a little older, with the curvilinear representation of animals seen on Celtic coins (often with a row of dots over their backs) (Davies 2002). If that is so, the entire panel could have been made over a short period just before and/or after the arrival of the Celts around 2700 BP.

One of the most problematic sites in the Massif in terms of dating is Coquibus 3 (Valois 1996), which is packed with the grids and other elements that have been ascribed to the Mesolithic (Bénard 1993, 2010, 2014), while also having:

- an anthropomorph on the right wall with a javelin whose point has a vertical line like metal spear points with central ridges or mould marks,
- a mounted knight in armour bearing a lance and sword in association with a crucifix,
- the same kind of stick figure with a cupule head (Fig. 11B) and spikes as the one in Malmontagne 27 (pending a final site number) (Fig. 11A), and
- an anthropomorph projecting from a triple box enclosure (*triple enceinte*) or merels board (Berger 2004) (Fig. 3D). Such concentric boxes were made in western Europe from the Celtic period (Guenon 1962) through the Renaissance, when one was engraved in an alcove on the northern side of the hôtel de Cluny in Paris after it was rebuilt between 1485 and 1510.

Before passing on, it is interesting to note that the anthropomorph associated with the rectangular merels board may represent one of the last iterations of a theme, which might have begun in the area with such Neolithic examples of a stick figure projecting from a rectangle as one with eyes, eyebrows and fingers on the Menhir du Paly (Caldwell 2013) (Fig. 3E) that continued through the figures projecting from rectangular grids in



**Figure 12.** The presently known sites of the late Bronze Age petroglyph corpus of the Forêt de Fontainebleau, south of Paris.

the late Bronze Age corpus (Fig. 3A, C) (Fig. 12).

The combination of so many motifs, which can be ascribed to the late Bronze Age through the Renaissance, with the CSSF at sites like Coquibus 3 and the grotte à la Peinture in Larchant, where some of the petroglyphs on a monolith that was thought to have been sealed under archaeological deposits since the late Mesolithic (Bénard 1993, 2010), were shown to be medieval (Caldwell and Botzjorns 2014), suggests that the petroglyphs in most of them probably accumulated over a nearly uninterrupted period when the same engraved cavities were remembered and remained meaningful — a period which may only have extended from the middle of the second millennium BCE to the middle of the second millennium CE, based on a conservative reading of current evidence.

### Taphonomy and conservation

The almost total absence of petroglyphs with clear affinities to late Bronze Age vases on exposed surfaces might be due to their disappearance in areas that have been subject to weathering. This possibility is supported by the exfoliation of the highly eroded petroglyphs at one of the few sites in the heart of the new corpus where petroglyphs have been found in the open, Le Haut Mont 10 (PB). If some of the petroglyphs did disappear within the last 3000 years due to exposure, it implies that many of the visible surfaces in sandstone cavities in the Massif are eroding fast enough to destroy fine engravings from the period when the new corpus seems

to have been made. This, in turn, implies that many of the exposed petroglyphs near the entrances of cavities elsewhere in the Massif might be younger than the late Bronze Age.

Finally, the discovery of the new corpus by removing rug-like mats of roots and moss poses a conservation problem, since many of the petroglyphs, such as the one at Rocher Besnard 1 (Fig. 4B), are now alternately flooded and desiccated and are much more vulnerable to weathering and abrasion. This makes it imperative to establish long-term conservation measures almost immediately.

### Conclusions

In conclusion, the new corpus of petroglyphs is so iconographically rich and coherent and clearly related to late Bronze Age pictogram vases that it has made it possible to:

- define many of the relationships between motifs that are disarticulated from each other to fit in narrow bands around the pots,
- demonstrate that many of the motifs in the new corpus are composed of elements that remain recognisable in a wide range of combinations, suggesting that the various combinations could be 'read' like associative ideograms,
- cast fresh light on the possible associations of such supposedly well-known motifs as early swastikas,
- establish that some of the signs in the late Bronze

Age corpus may be descendants or cousins of ones used by the Vinča culture, which was one of the first in Europe to master metallurgy, and probably had a significant influence on subsequent metallurgical societies,

- show typological links between the Bronze Age corpus and the 'classic' schematic style of the Massif de Fontainebleau, which suggests that most of the petroglyphs that have been lumped into the CSSF were actually made from the middle of the second millennium BC to the middle of the second millennium CE, rather than during the Mesolithic.

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