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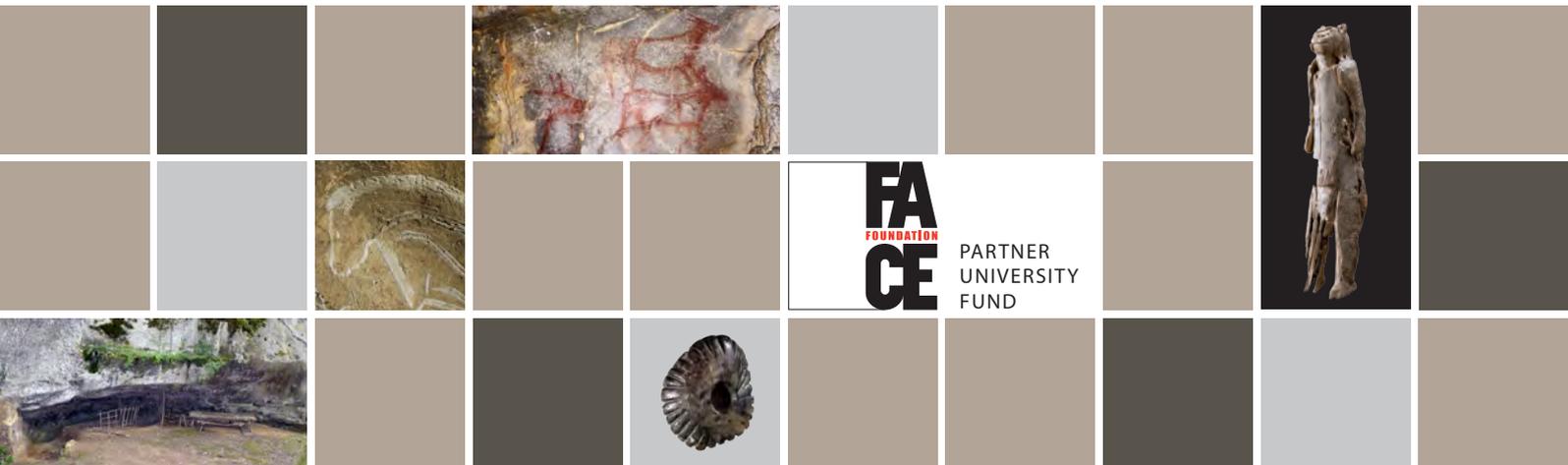
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AURIGNACIAN GENIUS

**Art, Technology and Society
of the First Modern Humans in Europe**



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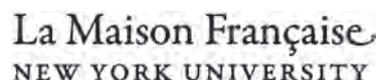
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FROM GESTURE TO MYTH:

Artists' techniques on the walls of Chauvet Cave

Carole FRITZ, Gilles TOSELLO

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FROM GESTURE TO MYTH:

Artists' techniques on the walls of Chauvet Cave

Carole FRITZ, Gilles TOSELLO

Abstract

The walls of the Chauvet-Pont d'Arc Cave are decorated with charcoal drawings dated to an average of 36 000 cal BP, red paintings, engravings, and finger-traced designs, all grouped in distinct panels. Examination of the ¹⁴C dates, which are increasingly revealed to be of great antiquity, dating to the Early Aurignacian, allows for more precise modeling of human use of the cave. The attribution of certain components of the parietal art to the Gravettian, based on directly dated torch-marks on the walls and charcoal on the cave floors, remains secure. A survey of the techniques employed, organized around the three colors used (white, black, red), reveals formal diversity in the site, and at the same time confirms multiple points of convergence and commonality in terms of the themes and composition of the panels, which underline the homogeneity of the works as an ensemble. Ethology and the theme of cave lions on the hunt hold a central place in the inspiration of the artists at Chauvet; through their spectacular frescos, these artists have provided us a point of access to their symbolic vision of the world and an element of their myths.

Keywords

Paleolithic art, myth, stories, images, artistic techniques, charcoal, dating, evolution of art, Aurignacian, Gravettian.

Introduction: Art of great antiquity

Discovered in 1994, the cave of Chauvet-Pont d'Arc is a cavity of considerable dimensions and complex topography. In addition to the remains of cave bears (bones, foot-prints, claw-marks, dens), and the archeological remains on the cave floor (hearths, scatterings of charcoal, human footprints), the cavern shelters more than 420 representations of animals and graphic motifs and symbols (Clottes, 2001) (figure 1).

In 1995, the publication of the first ¹⁴C dates from certain black drawings in the cave constituted a true revelation in the study of art and human prehistory, confirming for the first time the existence of parietal art of astounding virtuosity dating to the Aurignacian period (Clottes *et al.*, 1995). In the scientific world, these dates were received with enthusiasm by some and with incredulity and skepticism by others (Clottes, 1996; Züchner, 1996). The consequences of this discovery were (and remain) considerable, to say the least. It has shaken the foundations of the linear model for the evolution of art and symbolic thought among *H. sapiens* that has been developed and refined over the last century. Twenty years later, we are far from having explored all of the many new lines of research presented by this paradigm shift; certain authors (often the same individuals) remain the last obstinate defenders of a simplistic and obsolete view of Paleolithic art (Combier, Jouve, 2012; Alcolea, Balbin, 2007; Pettitt, Bahn, 2003).



Figure 1 - Grotte Chauvet-Pont d'Arc. General plan and the location of the principle chambers and galleries (CAD: C. Fritz and G. Tosello; topographic background by Y. Le Guillou and F. Maksud dedicated to F. Rouzaud).

Radiometric dates from the cave have multiplied since 1995 (Valladas *et al.*, 2004, 2005; Cuzange *et al.*, 2007). Additional methods have established the precise chronology of the collapse and closing of the primary cave entrance and have further supported the initial results (Sadier *et al.*, 2012). As of 2014, more than 150 dates were available and even more are in the course of treatment and analysis (Quilès *et al.*, 2014). This research confirms that there were two events of human occupation / use of the cave. The first occurred between 33 000 and 39 000 cal BP and corresponds with the creation of the drawings in black (the only ones that can be directly dated), which were solely authored by Aurignacian visitors to the cave. This phase of occupation and decoration is not, however, the oldest. In the sector of the *Salle du Crâne* and the *Galerie des Mégacéros*, there are drawings in black of a distinct character and style that underlie the others but have not thus far been successfully dated (Feruglio, Baffier, 2005). In any case, the position of these figures in the relative chronology of the decorated panels indicates that they are older than the drawings in black dated directly to an average of 36 000 cal BP (Quilès *et al.*, 2014) (figures 2-3).



Figure 2 - *Galerie des Mégacéros*, left wall. Panel with two types of drawings in black, fingertip traces, rubbing-removal of clay, engravings, and claw-marks from cave bears (photo: C. Fritz).

The second and more recent phase of human visitation to the cave dates to the Gravettian (between 29 000 and 33 000 cal BP) and is evidenced by dates derived from torch-marks and charcoal fragments, but not, to date, from any of the drawings (Clottes *et al.*, 1995; Le Guillou, 2005; Cuzange *et al.*, 2007).

Could these Gravettian visits to the cave be related to the creation of works in the cave other than the drawings in black?

The paintings in red and the engraved and finger-traced images, for example, cannot be directly dated. At the entrance to the *Galerie des Mégacéros*, to the left, there is a panel that presents a relative chronology of composition in five stages, in which a finger-traced mammoth on the wall is painted over by two woolly rhinos in black with stylistic characteristics typical of the Aurignacian phase (Feruglio, Baffier, 2005) (figure 3).

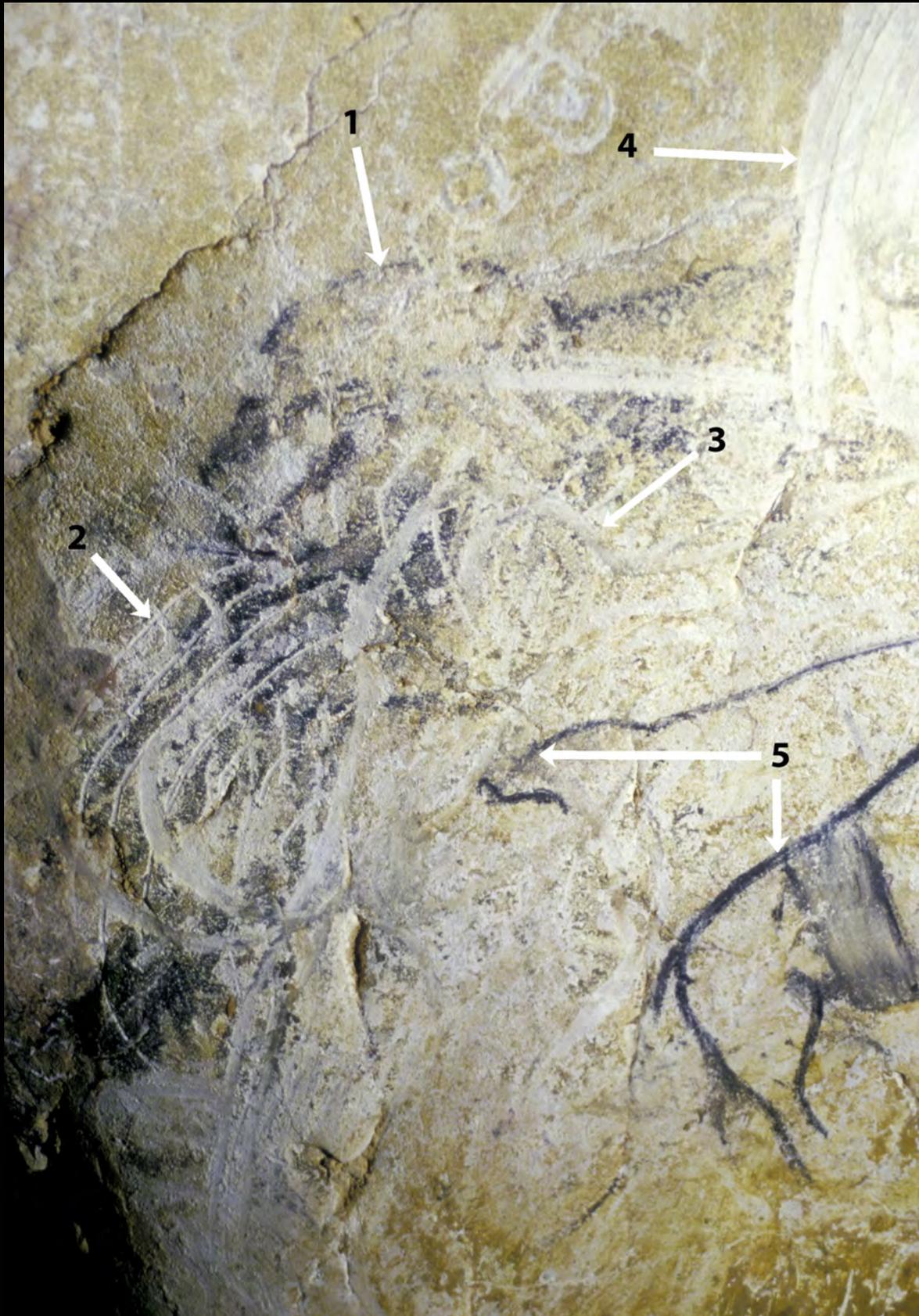


Figure 3 - *Galerie des Mégacéros*, left Wall. Detail of Figure 2. Chronology of phases in the panel: 1: black mammoth; 2: claw-marks of a bear; 3: mammoth in fingertip traces; 4: erasure or signe "en gerbe"; 5: dorsal outline of the black rhinoceroses, drawn during the last phase (chronology: D. Baffier and V. Feruglio; photo: M. Azéma).

Based on comparisons to other caves like Gargas and Pech Merle, at least some of the paintings in red at Chauvet have been attributed to the Gravettian on the basis of stylistic elements such as negative hand-prints and a comparable menagerie of animals (mammoths, bears, felids). In spite of these stylistic parallels, there are images of felids and red dots in the *Salle du Fond* that are heavily eroded and partially covered by drawings in black that date to the Aurignacian phase. These elements (the felids and red dots) are stylistically similar to palm-prints and felids known in the first sector of the cave (Clottes, Azéma, 2005) (figure 4). If the paintings in red of Chauvet date to a single period (which has not been confirmed), they are older than previously believed, because they predate the Aurignacian drawings in black.



Figure 4 - 1: *Salle du Fond*, left section of the large *Panneau des Lions*. Faded vestiges of red paintings, covered over by drawings in black; 1bis: The same image after digital processing to highlight the red and remove the black. The profiles of the lions and the palm-prints are much more visible; 2-3: *Galerie des Panneaux rouges*. Heads of lions and zone of red palm-prints for comparison with the paintings in the *Salle du Fond* (photos: C. Fritz and G. Tosello / MCC).

Another noteworthy fact: the paintings in red in the “*Salle du Fond*” have been cut through by claw-marks of cave bears. The most recent dates on cave-bear remains place them at around 33 000 BP, which additionally suggests that these red images are associated with the initial, Aurignacian, phase of human visits to the cave (figure 5).

If one attempts the rather risky exercise of proposing a synthetic chronology of the site based on the parietal art, the evidence thus far supports a model much more complex than a succession of two distinct phases of human visitation suggested by the currently available dates. The “first” of these two hypothetical phases, the Aurignacian drawings in black that are dated to around 36 000 cal BP, is in fact preceded by even older works drawn in black, painted in red, and engraved. It is difficult to establish a relative chronology within this older sets of images, as there is no recurrent sequence of superposition among them (even if a technique itself can define a chronological phase, which remains to be proven). As for the “second” (Gravettian) phase, it must be pointed out that at present, no work of art can be attributed with certainty to this event of human visitation.

In summary, the chronology of Chauvet cave extends in phases of the Aurignacian that predate 36 000 cal BP; human frequentation of the cave is revealed to have occurred earlier and earlier, even if one cannot as of yet provide an exact date for its beginning.

In Europe, Chauvet cave is now a less isolated example in time and space than it appeared to be in 1995. Since that time, many additional examples of Aurignacian art have been discovered and/or dated to the period between 30 000 and 33 000 uncal BP (36 000 to 37 000 cal BP). The archeological contexts of works of mobiliary art have been dated to this period, for example the ivory figurines of the Swabian Jura at Geißenklösterle (level II, 33 500 BP), Hohle Fels (layer Va, between 31 700 and 32 300 BP) and Hohlenstein-Stadel (between 32 270 and 31 750 BP) (Conard, Floss, 2001; Conard, Bolus, 2003; Conard, 2009; Higham *et al.*, 2012). In Dordogne, the engraved blocks from Abri Castanet have been dated to around 32 600 BP (37 019 ± 480 cal BP) (White *et al.*, 2012). In the Romanian cave of Colboia, a fragment of charcoal recovered from the floor of a gallery decorated with charcoal drawings returned a date of 31 640 BP (36 020 ± 480 cal BP) (Clottes *et al.*, 2011). In the French department of Gard, in the cave of Baume-Latrone, a fragment of burnt bone was recovered from beneath a layer of calcite sealing the entrance to a chamber of cave paintings was dated to 32 740 ± 530 BP (37 520 ± 650 cal BP) (Azéma *et al.*, 2012). It is the geological in-filling of the site of Aldène that has provided a *terminus ante quem* of 30 260 ± 220 BP for the parietal engravings, “contemporary to the first phase at Chauvet” (Ambert *et al.*, 2005).

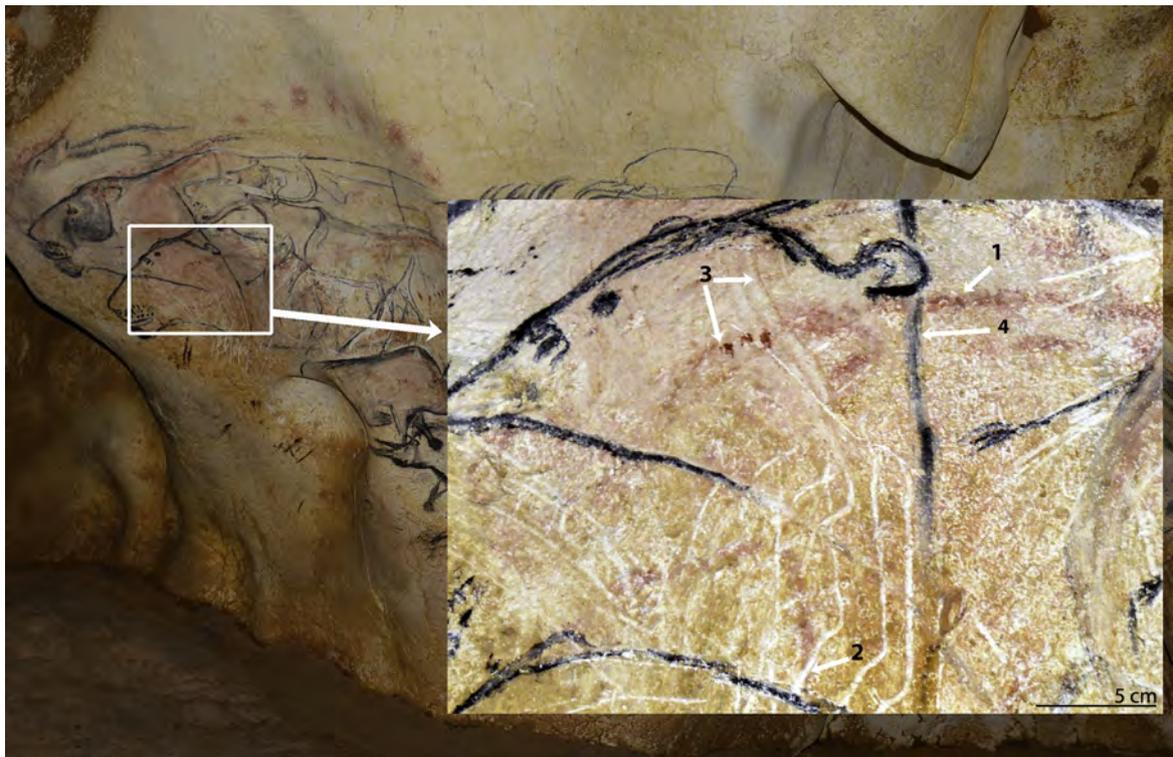


Figure 5 - Salle du Fond, left section of the large *Panneau des Lions*. 1: faded left profile of a red lion; 2: claw-marks of a bear cutting through the red painting; 3: fingertip traces and small red dots superimposed over the red lion (1); 4: large black heads of lions superimposed over the ensemble (photos: C. Fritz/Ministère de la Culture et de la Communication).

1 - Three colors in a single cave

As we have shown, the emblematic elements of the art at Chauvet cave are the charcoal figures achieved through sketching with a piece of charcoal and blending. In addition to these iconic images, there are numerous paintings in red and engraving that stand out in white against surfaces of the walls covered in brown clay.

A - White

In contrast to the reds and blacks, the white images in the cave are not the product of pigments applied to the cave walls; they are achieved through the removal of material from the walls. In effect, these images were created by the tracing of fingertips through clay deposits of a reddish-brown color, present on certain areas of the cave walls. Cutting into the clay layer with a fingertip, or removing it by rubbing a palm or tool-edge over it, would have revealed the contrasting white limestone surface beneath. Unlike the majority of Paleolithic decorated caves, in which time has taken its toll and obscured artistic traces with a patina or a layer of calcite, the state of preservation in this cave is so exceptional that the contrasts between clay and cave-wall have maintained their original freshness and appear to us much as they once did to the eyes of prehistoric artisans ([figure 6](#)).

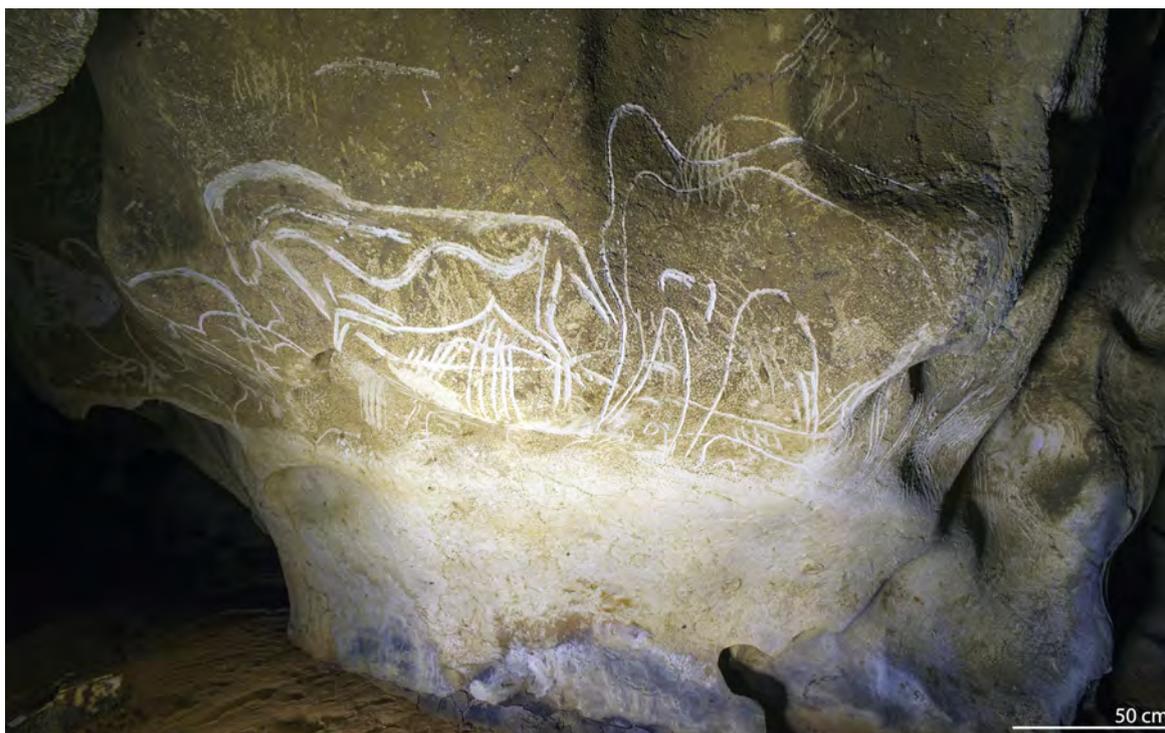


Figure 6 - Salle Hillaire, *Panneau du Cheval gravé*. The horse and the two mammoths are composed with fingertip traces that stand out lighter against the ochre-colored clay background of the cave wall. These fingertip traces cut through the claw-marks left by bears (photo: C. Fritz).

As a general rule, the trace of a fingertip hardly lends much subtlety to the sketching of simple outlines with a rapid sequence of gestures, but this does not preclude a certain level of virtuosity. ([figure 7](#)). Even so, in certain figures, touchups have been made to modify the original lines, creating an effect of relief ([figure 8](#)).



Figure 7 - *Salle Hillaire, Panneau du Cheval gravé*. Detail of the head: the inside edge of the outline of the forehead has been softened with the fingertips (photo: C. Fritz).



Figure 8 - *Salle Hillaire, Panneau du Cheval gravé*. Along the inferior line of the neck, a series of short, oblique lines is cut through by long fingertip trace that is heavier on the external edge: this succession of gestures was used to create a slight relief effect (photo: C. Fritz).

At times, the artists were more intrigued by the surfaces of the cave walls, abandoning outlines in favor of zoomorphic silhouettes, rubbing away large areas of clay from the walls, as in the case of the “mammoths raclés” in the “Salle du Crâne” (figure 9) (Azéma, Gely, 2005: 49). The inspiration for this masterful composition of three mammoths, which extends over more than 3 m, may have been a vertical pillar with a rounded base projecting from the cave wall and evoking the large foot of an elephant. From this natural “foot”, a large mammoth was created in a dynamic pose, hind leg lifted, through removal of the thin clay layer with large, semi-circular gestures. This large figure overlaps to other mammoths to the right that are closely connected to the first, as if the animals are facing or passing each other (figure 10).

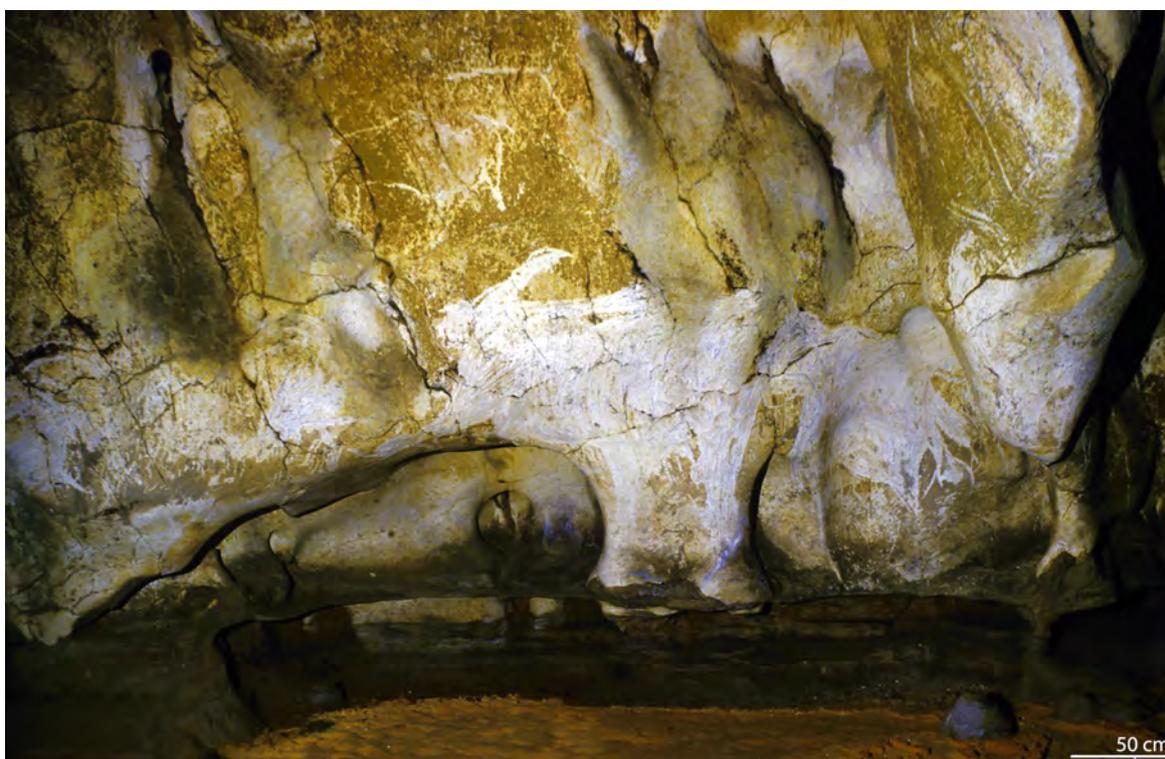


Figure 9 - Salle du Crâne, Panneau des Mammouths raclés. From afar, the panel looks like a large, light-colored surface, but the mammoths are not visible (photo: C. Fritz).

There are also engravings in which the deepest points of the lines present fine striations, but the sides are steeper than those created with a fingertip (figure 11). In these cases, the tool employed was probably a fragment of wood or bone. In other cases, the engravings were made with fine, pointed tools such as burins or flakes of flint. When these fine lines are optimally preserved, they stand out in white against the brown-to-ochre background like the fingertip traces, but are less clearly visible (figure 12). These fine engravings are more abundant than was thought at the outset of research in 1998; over the course of the research seasons, their number has increased in all sectors examined, from the first decorated chambers to the last (figure 13).



Figure 10 - *Salle du Crâne, Panneau des Mammouths raclés*. Schema representing a chronological reading of the panel: view of the ensemble of the finished panel (A), the first mammoth drawn to the right (B), the second mammoth to the right, drawn over the first (C), the third, to the left (D) drawn over the two others (photos and CAD: M. Azéma and B. Gély).



Figure 11 - *Salle du Crâne, Alcôve des Bouquetins*. The engravings of this ibex differ from the fingertip traces and show striations attributable to a tool (photo: C. Fritz).



Figure 12 - *Galerie des Panneaux rouges, Panneaux des Mains négatives*. Detail of a large, finely engraved horse, in the upper portion of the panel (see also figure 13). The fine lines defining the lower outline of the neck (indicated in the image by arrows) are only visible by oblique light (photo: C. Fritz).



Figure 13 - *Galerie des Panneaux rouges, Panneaux des Mains négatives*. Rendering (relevé) of the engraved horse in the upper portion of the panel (drawing: C. Fritz and G. Tosello).

B - Red

The second color in the compositions at Chauvet Cave is the red that, among other things, is the preferred pigment for the abstract signs and symbols and handprints. There are also numerous animals in red, for the most part limited to the first half of the cave but present all the way through to the “Salle du Fond”. In spite of a large and nuanced palette of tones, all of the reds pigments are composed of hematite (figure 14).



Figure 14 - *Galerie des Panneaux rouges, Panneau de la Panthère.*
Shown in its entirety, displaying the nuanced diversity of reds in the cave (photo: C. Fritz).

The rarest of these techniques is spraying of the colorant in powder form, either directly from the mouth or with the use of a tube, as exemplified in the large dots and on the panel of negative handprints and the negative handprints themselves (figure 15). This technique is identified by the morphology of the resulting spots of pigment, which are more concentrated at the center and thin out toward the edges. The effect is similar to that obtained today by using an airbrush or spray-paint. On one of the negative handprints, “spatter” is visible (pronounced spots of red that interrupt the gradation of the pigment) and indicated either that the pigment was not ground uniformly or that it was not homogeneously mixed with water (figure 16).

The color red was often applied in a liquid form, though more or less thick. The simplest method is to dip the finger or hand into the pigmented mixture and apply it directly to the rock face. This was the method used to create the five positive handprints known in the cave (figure 17). The artists also employed a variation of this technique by which solely to the palm of the hand, covered with pigment, made contact with the wall. The resulting motif, the “palm-print”, was in some cases repeated to form surfaces of palm-prints with zoomorphic outlines (Baffier, Feruglio, 1998). The presence of complete handprints showing “phantom” (accidental) first phalanges have lent support to the restitution of this technique (figure 18).



Figure 15 - *Galerie des Panneaux rouges, Panneaux des Mains négatives*. Large red dot made by spraying pigment (photo: C. Fritz).



Figure 16 - *Galerie des Panneaux rouges, Panneaux des Mains négatives*. Negative handprint made by blowing pigment in a mixture of liquid and pigment that includes larger particles of pigment (indicated by arrows) (photo: C. Fritz).



Figure 17 - *Galerie des Panneaux rouges, Panneaux des Mains positives.*
The five positive handprints in the cave (photo: C. Fritz).



Figure 18 - *Galerie des Panneaux rouges, Panneaux des Mains positives.* Red dots made by pressing the palm of the hand, covered in paint, to the wall and avoiding all contact between the fingers and the wall. In certain places, the observation of accidental traces of the first phalanges confirm the reconstruction of this technique (photo: C. Fritz).

The most frequent technique employed in the creation of red animal figures is the simple outline, usually fairly broad. On one small horse figure, dripping occurred while the paint was still fresh, indicating a mixture of pigment and water that was a bit too fluid (figure 19). With the exception of this case, it seems that the pigment mixtures used were generally rather thick. Close observation shows that the densest concentration of particles of pigment are concentrated along zones of micro-relief, leaving bare zones at the millimetric scale. As a result, many of the red lines have variations in color density, and even gaps when they are perceived from a distance, as is generally the case (figure 20).

Some red lines show signs of partial rubbing with fingers. This detail is particularly visible on the bears (in the “Diverticule” and “Cactus”). The result is a strengthened outline that is also more regular, as the redistributed pigment fills in any gaps left in the initial deposition of color. On red animals, the use of a blending stump is primarily evident on the heads and forelegs (figure 21).

The question of the use of brushes arises in certain rare cases, such as that of the small rhinoceros in the “Panneau des Chevaux”. The regularity of the stroke (with visible parallel striations in the curves of the line) and the presence of downstrokes and upstrokes could indicate the use of a hair or fur brush in the application of the paint (figure 22).

A recent discovery has revealed that fine engraving sometimes accompanies the red pigment, as is evidenced on a large rhinoceros whose woolly coat has been carefully illustrate with fine parallel incisions that are barely perceptible in oblique light (figure 23).

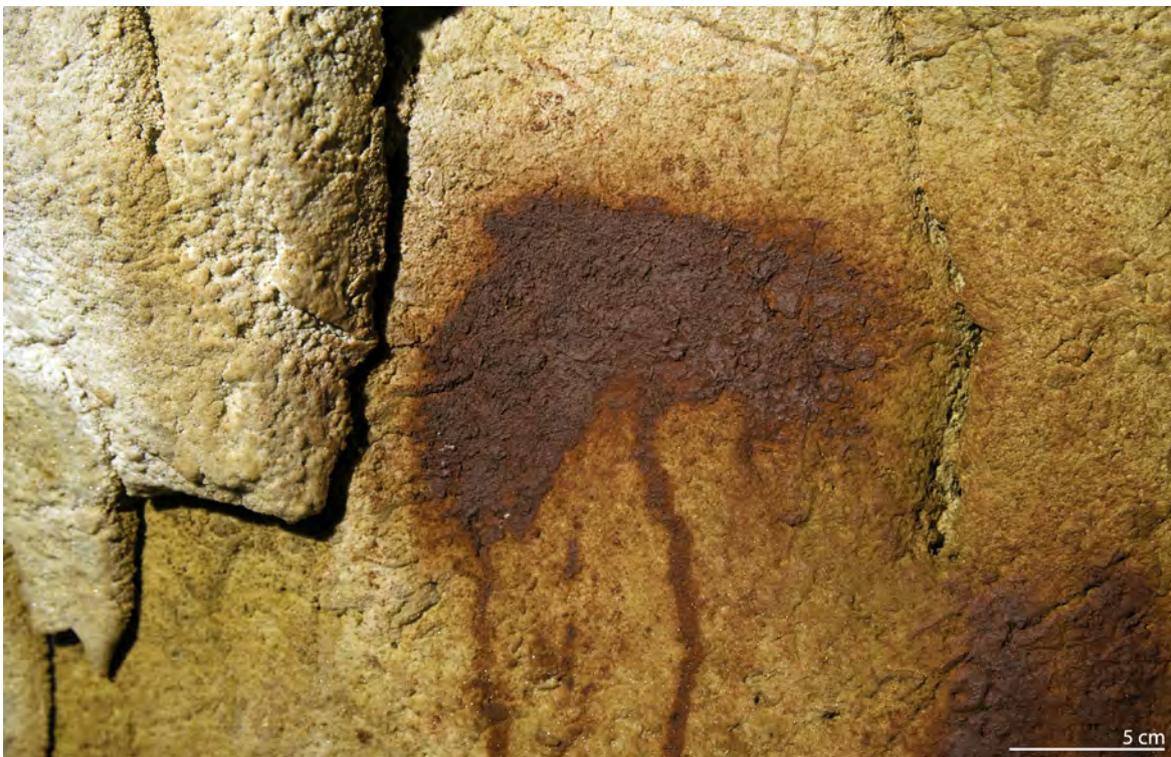


Figure 19 - Salle Brunel, *Panneau des Chevaux jaunes*. The dripping lines visible on the head of this schematic horse indicate that the mixture of pigment was too fluid when it was applied to the wall (photo: C. Fritz).



Figure 20 - *Galerie des Panneaux rouges, Panneau du petit Ours*. The contour of this bear was smoothed out with fingertips to render the outline more regular (photo: C. Fritz).



Figure 21 - *Salle Brunel, Diverticule des Ours (A)* and the *Galerie du Cactus (B)*. The comparison of these two painted bears in these distant sectors of the cave show technical similarities of technique, notable blending on the muzzle and the throat (photo: C. Fritz).



Figure 22 - *Salle Hillaire, Panneau des Chevaux*. This small, schematic head of a rhinoceros at the far right of the panel is one of the rare red paintings in the deepest sectors of the cave (photo: C. Fritz).



Figure 23 - *Galerie des Panneaux rouges, Panneaux des Mains positives*. Illustration of a large, red rhinoceros (1.08 m) enhanced by finely engraved lines. Top: detail of the engravings (arrows) (photo and drawing: C. Fritz and G. Tosello).

C - Black

Black pigment is almost exclusively composed of wood charcoal from the single species of Scots pine (*Pinus sylvestris L.*), selected for its lighting properties in caves (Théry-Parisot, Thiébault, 2005). The charcoal found in the cave derives either from torches or from hearths lit on the cave floor in the deeper areas of the cave (figure 24). The execution of figures in black reflects what one might call an opportunistic state of mind on the part of the artist or, if one prefers, a keen sense of adaptation to the state and form of the cave walls. The technical principles employed are simple, but their use in combination and/or succession can result in complex gestural sequences. The term “figures in black” encompasses a great diversity of works.

There are some drawings traced directly on limestone surfaces free of clay deposits. The outline is sometimes retraced with the fingers, which crushes the charcoal grains and increases the density of the black. This is the first stage of blending (figure 25).

The operational sequence becomes more complicated in places where the cave wall is covered with a thin layer of brown clay. Drawing with a stick of charcoal is difficult or even impossible because the charcoal mixes with the damp clay as it is deposited, which results in lines that are faint, diffused, and difficult to see. In these cases, the artists at Chauvet began with a wiping or scraping procedure aimed at removing the fine layer of clay and revealing the white limestone beneath (figure 26). This process presents a two-fold advantage: it allows for smooth application of the charcoal and also reveals a white background that was not apparent before. The drawings in black benefit from an increased contrast that intensifies their visibility and expressive power (figure 27).

Another result of this procedure is that once scraped clean, the more resistant white limestone can be finely engraved with pointed tools in hard materials, such as flint flakes or burins (figure 28).

In numerous cases, the artists left thin zones of brown clay on the surface, which mixed with and diffused the charcoal. The result is a nuanced palette of colors that ranges from light gray to beige or dark brown, depending on the dominance of the clay (brown) or charcoal (black). Macro photographs show granules of charcoal mixed with particles of clay and the white of the wall (figure 29).

Drawings achieved with this mixed technique (preparation by scraping, drawing with charcoal, blending, mixture of pigments on the wall, and engraving) are the most representative of the site. They are often assembled in monumental frescoes, such as that on the *Panneau des Chevaux* (figure 30).

Studies of the “*Panneau des Cheveaux*” have revealed a composition by species (rhinoceros, aurochs, horse). The group of horses, at the center of the composition, were executed at the final stage and their position was reserved for them in earlier stages (figure 31). These studies also revealed an “anomaly” in the sequence of composition: with his/her final gestures, the artist re-touched the horn of a certain rhinoceros, one of the first figures completed in the lower portion of the panel, causing it to overlap the final plane of the image, as if it were slipping under the belly of the fourth horse. This graphic modification reveals a conceptual link between the unit of the two rhinoceroses and the four horses (figure 32). In the “*Alcove des Lions*”, located just to the right of the “*Panneau des Chevaux*”, the interweaving of figures is even more elaborate (figure 33). In fact, the outline of the body of one large lion is broken at three points to leave space for two horses, creating successive visual planes. Remarkably, the head of a third horse emerges from the belly of the lion, its muzzle passing outside the outline of the lion, as if it is trying to escape the grasp of the beast. This lion is superimposed or underlying another horse, depending on which lines one examines, which at first blush seems paradoxical (figure 34).

A final example of a “contradictory” chronology within the compositions occurs in the *Salle du Fond*. On the left section of the large “*Panneau des Lions*”, a reindeer with multiple hooves was painted and engraved over a group of four lions. Assessment of the arrangement of the lines in this composition show that the antler of the reindeer overlaps the back of one lion; on the other hand, the hind feet of the deer are crosscut by the line of the same lion’s belly (figure 35).



Figure 24 - *Galerie des Mégacéros*. At the foot of the wall decorated with a horse (engraved and drawn in charcoal), the ground is covered in a scatter of charcoal and rubified fragments of stone (photo: C. Fritz).



Figure 25 - *Salle Hillaire, Panneau des Rennes*. Red deer drawn in charcoal and partially blended (chest, fetlock) on a bare limestone wall, not coated with clay (photo: C. Fritz).



Figure 26 - Salle du Fond, *Grand Panneau des Lions*. More than 2 m above the floor, these lion heads were drawn in charcoal on surfaces that were first scraped by hand to remove the clay that covered them (photo: C. Fritz).



Figure 27 - Salle Hillaire, *Secteur des Chevaux*. The white, scraped surfaces accentuate the contrasts between the drawings in black and make them more expressive, especially when seen from a distance (photo: C. Fritz).



Figure 28 - *Salle Hillaire, Panneau des Chevaux*. The head of a horse drawn in charcoal and then blended has been entirely traced in fine engravings to define the outline (photo: C. Fritz).

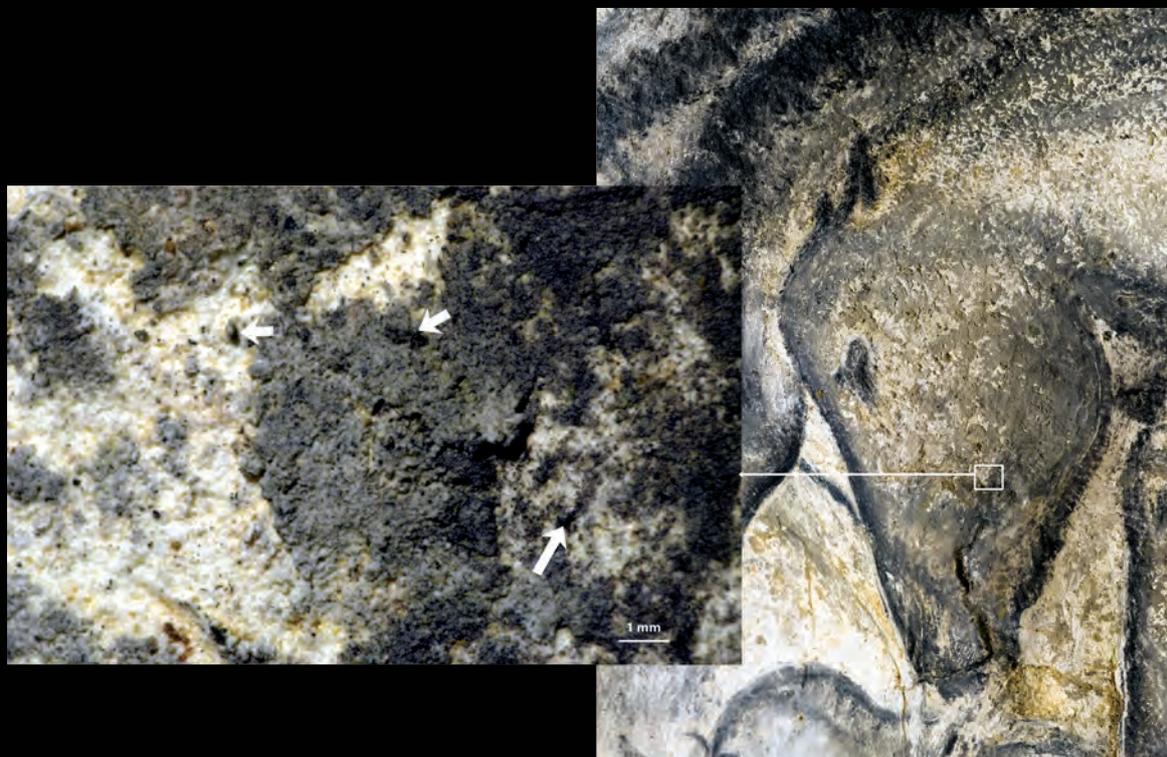


Figure 29 - *Salle Hillaire, Panneau des Chevaux*. Cheek of a second horse. Macrophotography (12×) shows a mixture of charcoal fragments and clay from the wall that produced the shades of gray, as with the mixing of paint. Micro-charcoal (arrows) are still visible (photo: C. Fritz).



Figure 30 - Salle Hillaire, *Panneau des Chevaux*. Rendering (relevé) of the panel in its entirety (drawing: C. Fritz and G. Tosello).

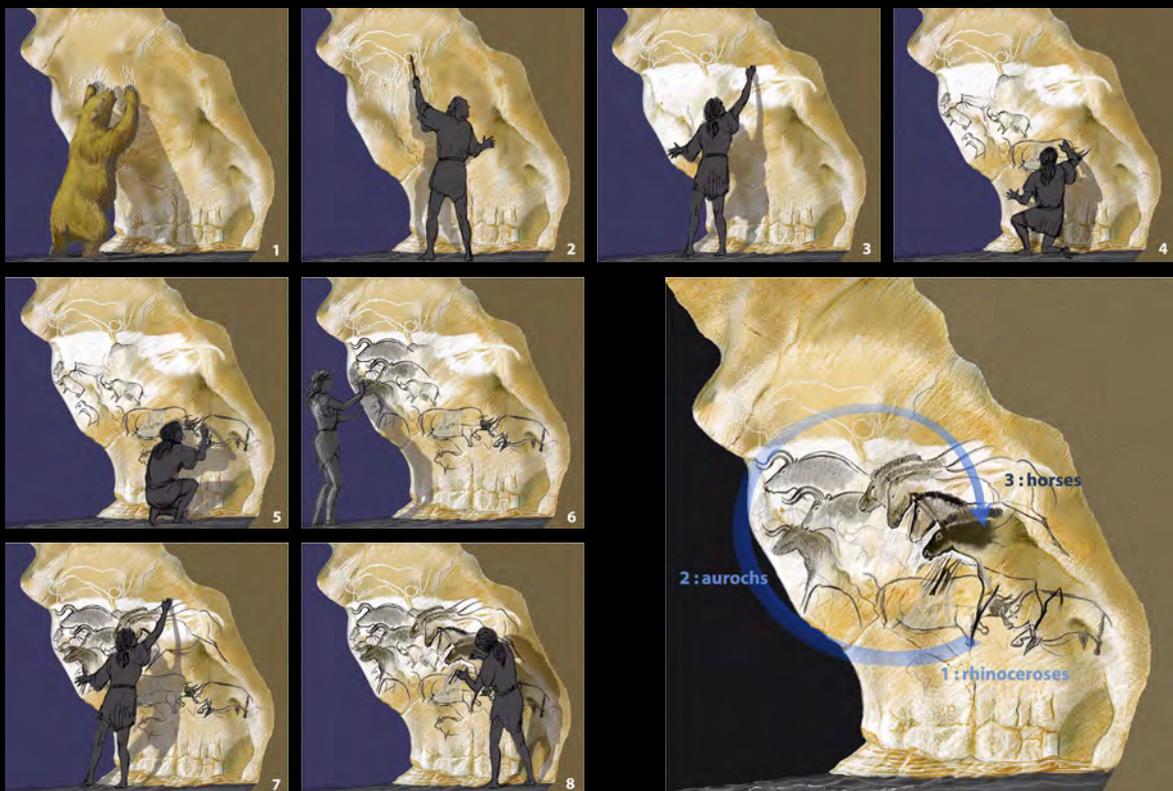


Figure 31 - Salle Hillaire, *Panneau des Chevaux*. Chronology of the primary stages of creating the panel. 1: initial state of the wall; 2: engravings on the upper section; 3: scraping of the surface in the central area; 4-5: the opposing rhinoceroses; 6: the aurochs; 7-8: the horses. The chronology of the panel reveals a composition of the figures organized by species, in a clock-wise sense (drawings: C. Fritz and G. Tosello).



Figure 32 - *Salle Hillaire, Panneau des Chevaux*. Detail showing the superposition of the horn of one of the opposing rhinoceroses on the belly of the last horse to be drawn. This superposition (which goes against the chronological sequence of the composition as a whole) can be interpreted as a final touch by the artist, a detail that supports the argument for a single hand in the creation of the composition (photo: C. Fritz).



Figure 33 - *Salle Hillaire, Alcôve des Lions*. Partial view of the left wall (photo: C. Fritz).

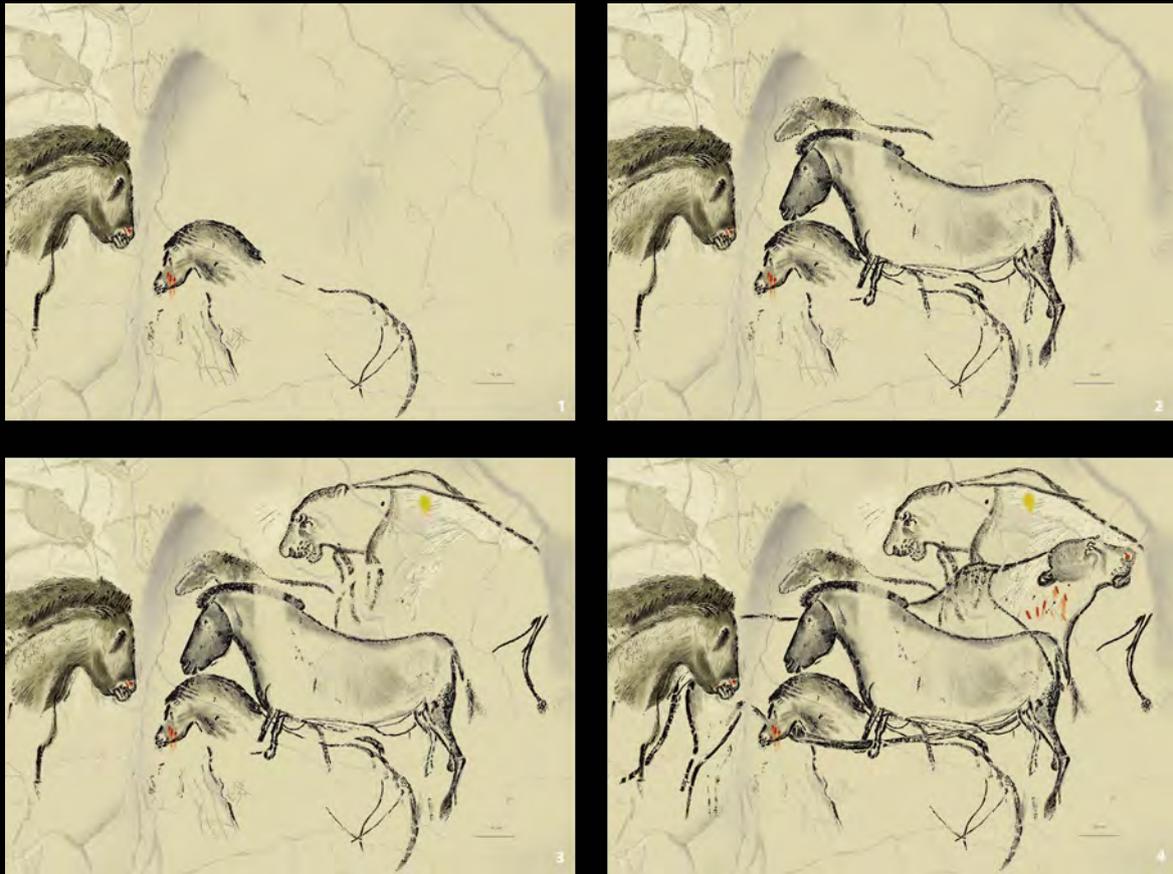


Figure 34 - *Salle Hillaire, Alcôve des Lions*. The left section of the right wall. Four stages in the chronology of the composition of two lions and four horses. The large male feline appears to be the last figure drawn, but the outline of his body lies over those of the horses in some places, and is cut through by them in others (drawings: C. Fritz and G. Tosello).



Figure 35 - *Salle du Fond, Grand Panneau des Lions*, left section. The reindeer with multiple feet at times superimposed on (antlers) and at times underlies (hind foot) one of the lions (photo: C. Fritz).

These apparent contradictions are resolved if one considers each of these compositions as an autonomous ensemble. Through these final alterations, the artist disturbed the order of succession of the figures, as if she wanted to bring a story to a close by reinforcing the graphic ties between the characters.

2 - Codified images in the service of a story

A survey of the different techniques and colors in the Chauvet paintings demonstrates the diversity of the parietal art in the cave. Nonetheless, there are similarities in these works that reveal closely-related processes and concepts. For example, spreading the red paint with the fingertips and crushing the pigment so that it penetrates cracks in the limestone is an approach very similar to the blending of charcoal in the drawings in black, in terms of both the gestures and the results obtained.

As already mentioned, the animals display stylistic similarities and graphic conventions that transcend the techniques of their execution (Clottes, 2001; Tosello, Fritz, 2005). Thus the rhinoceroses, whether engraved, red, or black, have ears represented by a double-curve motif, a line on the cheek, and a distinct band at the center of the body (figure 36). The aurochs all have sinuous and parallel horns that project forward, whereas the horns of the bison are symmetrically positioned to either side of a central, circular “chignon”. Finally, the lions, in spite of their individualization, present numerous points of commonality: squared muzzles drawn in triple-curved motifs; small, round ears; tear-ducts...



Figure 36 - Beyond the inevitable idiosyncrasies, the rhinoceroses of Chauvet possess stylistic similarities, graphic conventions that transcend the diversity of techniques (drawings: C. Fritz and G. Tosello).

This “family resemblance” is also evident in the themes and the compositional processes of the more complex panels.

In the “Salle du Fond”, the center of the “Panneau de Lions” displays a composition of some thirty animals primarily represented by the heads and forelegs. Nearly all of these animals face the left (figure 37). The lions grouped on the right stalk a herd of bison, regarding them with intensity. The bison flee; four of them are seen face-on as if they are turning toward the viewer. This panel can be interpreted as a hunting scene, with the entrance of the predators on the right and the flight of prey to the left (Azéma, 2011) (figure 38).

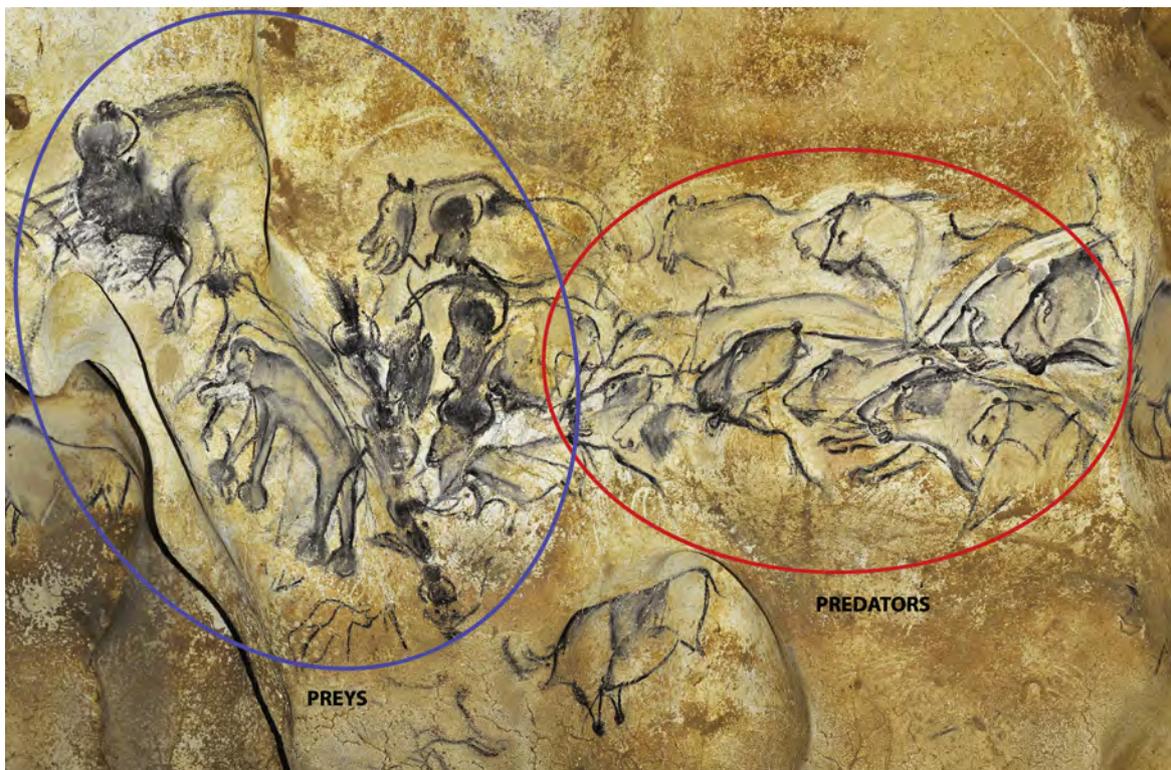


Figure 37 - Salle du Fond, Grand Panneau des Lions, central section.
Hunting scene: big cats track a herd of bison fleeing toward the left (photo: C. Fritz).

In another sector of the cave, the “Galerie des Panneaux rouges”, the red paintings are situated in the upper sector of the large panel (more than 7 m long in all) sharply inclined above the cave floor (figure 39). The presence of archeological vestiges and cave-bear bones at the foot of the wall prevents approach and the view from the walkway presents significant distortions. The reconstitution of the decorated section on a textured 3-D model allowed for a better understanding and interpretation of this the relationships between the representations of the animals and the different species. The scene is read from left to right, as in the “Salle du Fond”. Seven felids appear to stalk a herd of rhinoceroses fleeing in two groups, in two opposing directions (figure 40). The red felines, mostly represented by the heads, lack detail; they are distinctly less expressive than their counterparts drawn in black.



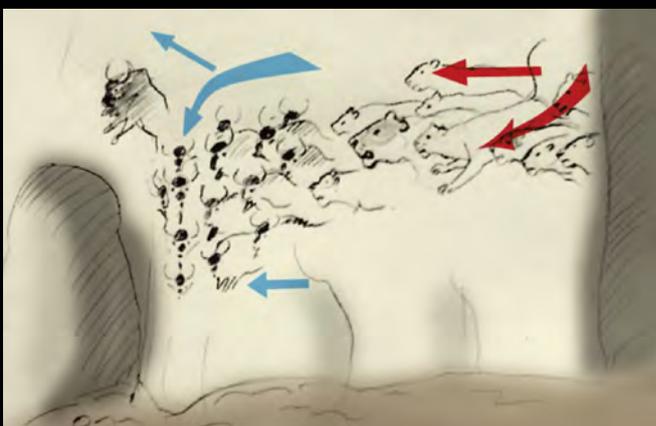
1 - The lions leap into pursuit of the bison



2 - Sketch of the position of the predators and prey



3 - Among the bison fleeing to the left, four of them are seen head-on as if they are turning toward the viewer



4 - The lions leap into the scene, gazes fixed on their prey

Figure 38 - Salle du Fond, Grand Panneau des Lions, central section (drawings: C. Fritz and G. Tosello).



Figure 39 - *Galerie des Panneaux rouges, Panneaux des Mains positives*. Global view of the central portion of the panel (photo: C. Fritz).



Figure 40 - *Galerie des Panneaux rouges, Panneaux des Mains positives*. Hunting scene. 1: sketch of the location of the rhinoceroses; 2: sketch of the location of the lions; 3: structure of the composition and interpretation. The lions have divided the rhinoceros herd into two groups that flee in opposite directions (drawings: C. Fritz and G. Tosello).

At the entrance to the “Salle du Crâne”, opposite the “Panneau des Chevaux”, a herd of ibex engraved with fingertip traces and deeper engravings coexist with an animal whose squared muzzle, elongated body, and long tail suggest a felid (figure 41). The ensemble of figures is represented in a summary manner: only two of the ibex are represented with bodies, while the rest are suggested only by the horns. If one analyses this composition, it appears to be yet another hunting scene, even more schematic in its representation than the red panel (figure 42).

Conclusion: shared myths?

In terms of chronology, the study of parietal art since 1998 has considerably enriched our overall view of the subject. What one can call the Aurignacian phase, dated to around 36 000 cal BP, has been revealed to be longer and more diverse than the ¹⁴C dates, based solely on the figures in black, allowed us to perceive. This phase undoubtedly consists of a succession of overlapping parietal compositions, grouped into distinct or common spaces in the cave, possibly associating panels of several techniques and colors. This long time span is corroborated by the early disappearance of cave bears and further supported by the analysis of motifs and figures that share common stylistic conventions, themes, and modus operandi. In this varied but coherent ensemble, the place of the “second” phase as revealed by the ¹⁴C dates has proven difficult to discern, even though is highly improbable that the Gravettian visitors would have left no traces in the cave aside from the torch-marks that yielded the relevant dates; they must logically have been the authors of some (minor?) part of the panels, even if we cannot isolate definitive formal or thematic indications. It is rather the opposite that emerges in our analyses. In anticipation of new radiometric dates, are we to imagine that the groups of people related to these distinct phases shared similar techniques, graphic conventions, even the same conceptual universe?

One of the most striking aspects of the parietal art in Chauvet cave is unquestionably the organization of individual figures in complex compositions, conceived as narrative elements tied to ethology (scraped mammoths, rhinos in confrontation) or carrying some enigmatic significance through the association of different interwoven and overlapping species (*Panneaux des Cheveaux*). This complex elaboration leads us to hypotheses involving spatial relations or symbolic complementarities (Leroi-Gourhan 1958a-c, 1971; Sauvet *et al.*, 1977; Sauvet, Sauvet, 1979). Chauvet-Pont d'Arc presents a more distinct legibility than is encountered in the majority of decorated caves, and, above all, a unique thematic aspect.

The hunt, by predatory animals, was the central preoccupation of the artists. The most clearly intelligible is the large panel of Lions. In fact, this scene provides the interpretive keys for other, less explicit, compositions following the same theme, such as the hunt of horses (black), of rhinoceroses (red) or of ibex (engraved). In passing, one notes that the three colors and the diverse techniques and animal species of the cave are all represented. Even if the black panels display a more elaborate *mise-en-scène*, it is no less the case that a comparable narrative structure can be proposed in the other cases.

If we believe the parietal depictions, cave lions, the largest predator of the epoch, practiced coordinated hunts (as do African lions today) and attacked large prey such as steppe bison and even woolly rhinoceroses. This beast of prey must have been simultaneously feared and admired by the humans who shared their territories. It is conceivable that this combination of fear and admiration (awe) inspired in these artists, themselves hunters, a certain fascination and that they symbolically staged themselves in these scenes, in the form of these big cats. The scenes in their entirety though, are limited neither to the hunt, nor to impending slaughter.



Figure 41 - Salle du Crâne, Alcôve des Bouquetins. Global view of the panel of engravings and fingertip traces (photo: C. Fritz).

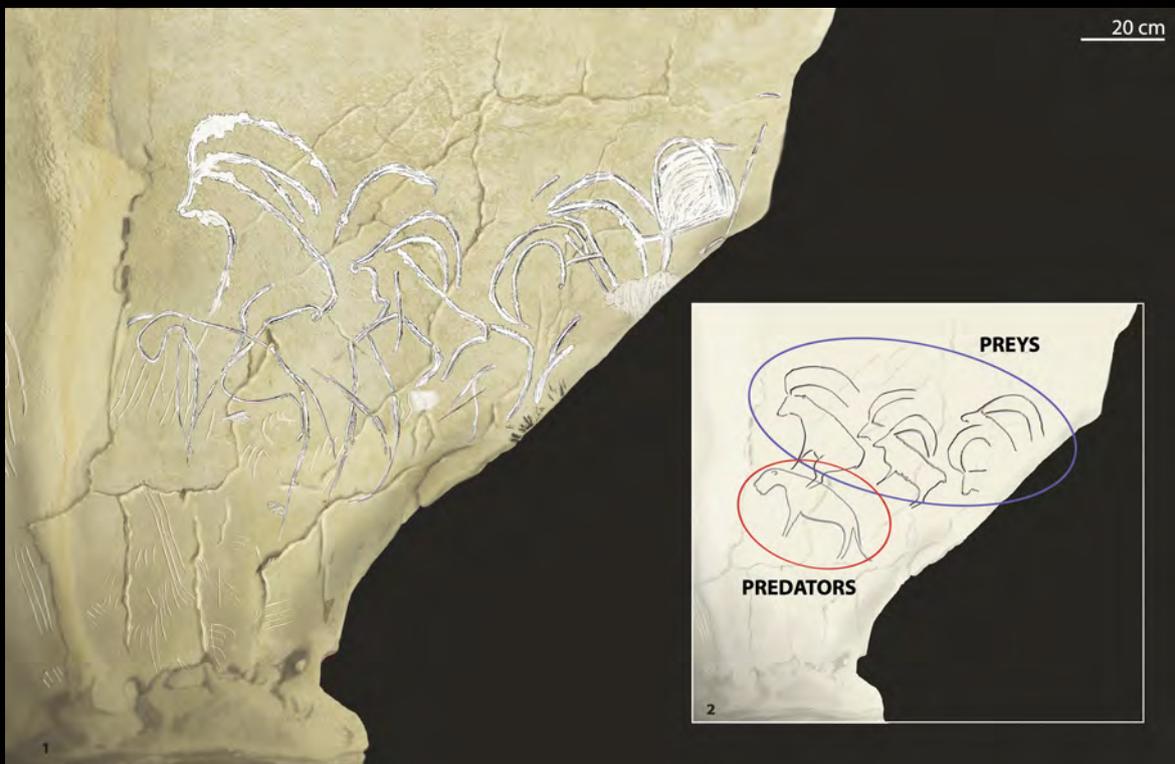


Figure 42 - Salle du Crâne, Alcôve des Bouquetins. 1: Rendering (relevé) of the entire panel of engravings and fingertip traces; 2: sketch of the position of the lion and the ibex. Interpretation of the panel as a hunting scene (drawings: C. Fritz and G. Tosello).

On the “Pendant de la Vénus”, to the right of the fresco of Lions, the artists positioned a female image, centered on the sexual and procreative function (figure 43). Accordingly, the two fundamental principles of the human condition, imminent death and life to come, are found assembled in one place, in one action, like the phases of an eternal cycle (Godelier, 2013). Such an oppositional life / death structure leads us back to a representational discourse whose final function is the mediation of these two extremes, whose component parts and variations could correspond to the sociological and economic existential conditions of these hunting groups, the actors in these images.

Beyond just a story in pictures, the Aurignacians have left us a vision of their world in Chauvet-Pont d'Arc, a repeated story that attains the status of myth.



Figure 43 - *Salle du Fond*. To the right of the fresco of Lions, a limestone stalactite decorated with the pelvis and legs of a woman drawn in black (photo: C. Fritz).

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