Context and dating of Aurignacian vulvar representations from Abri Castanet, France

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We report here on the 2007 discovery, in perfect archaeological context, of part of the engraved and ocre-stained undersurface of the collapsed rockshelter ceiling from Abri Castanet, Dordogne, France. The decorated surface of the 1.5-t roof-collapse block was in direct contact with the exposed archaeological surface onto which it fell. Because there was no sedimentation between the engraved surface and the archaeological layer upon which it collapsed, it is clear that the Early Aurignacian occupants of the shelter were the authors of the ceiling imagery. This discovery contributes an important dimension to our understanding of the earliest graphic representation in southwestern France, almost all of which was discovered before modern methods of archaeological excavation and analysis. Comparison of the dates for the Castanet ceiling and those directly obtained from the Chauvet paintings reveal that the "vulvar" representations from southwestern France are as old or older than the very different wall images from Chauvet.

Paleolithic art | Vézère Valley | vulva | rock engravings

Scientific understanding of the origins and early evolution of graphic and plastic imagery underwent a revolution in the 1990s and 2000s with the discovery and dating of Aurignacian (1) wall images in the Grotte Chauvet (2, 3) and the Grotte d'Aldène (4, 5), new ivory sculptures from southwestern Germany (6–9), and painted limestone blocks from Fumane, Italy (10). Although a rich corpus of Aurignacian (*ca.* 40,000–28,000 y ago uncalibrated) wall painting, engraving, and bas-relief sculpture had been recognized and studied since before World War I in the Vézère Valley of southwestern France (11–14), our understanding of the chronological and cultural context of that early-discovered symbolic record has been limited by the crude archaeological methods and anecdotal descriptions of that pioneering era.

In 2007, we excavated part of the engraved and ocre-stained undersurface of the collapsed rockshelter ceiling from Abri Castanet, Dordogne, France. The decorated surface of this 1.5-t roof-collapse block was in direct contact with the exposed archaeological surface onto which it fell. There was no sedimentation between the engraved surface and the archaeological layer upon which it collapsed. The meticulous extraction of the block enabled us to study the preserved negative of the engraving imprinted on the layer's surface. Aurignacian lithic artifacts on the surface immediately beneath the block were exploded in place by the impact of the ceiling collapse. The Aurignacian occupants of the shelter were clearly the authors of the ceiling imagery.

Background: Archaeological and Historical Context

Abri Castanet. The Abri Castanet is a collapsed rockshelter located in the Vallon de Castel-Merle, 9 km downstream from Montignac-Lascaux in the Vézère Valley of southwestern France (Fig. 1). Since Peyrony's early excavations in 1911–1913 and 1924–1925 (12), it has been known as one of a half-dozen key sites in Eurasia with respect to the Paleolithic origins of European parietal and portable art and personal adornment. Peyrony's premodern excavations, like those of Didon in the contiguous site of Abri Blanchard (11, 14), brought to light numerous personal ornaments, paintings, and engravings.

The assemblage of artifacts was attributed by Peyrony (Fig. 2) to two stratigraphic levels, A and C. The integrity of layer C, the uppermost archaeological layer, has been previously questioned (15), and our own work has demonstrated its nonexistence across the entire area of our excavations as well as in the stratigraphic profile left by Peyrony in 1925. In sum, the Castanet stratigraphy consists of a single, laterally variable archaeological level situated directly on bedrock. The analysis of more than two dozen micromorphological thin sections indicates that vertical variation within the layer can be attributed to changes through time in the organization of human activities and to relatively minor taphonomic alterations (16).

Castanet is the type site for the Castanet facies of the Early Aurignacian in southwestern France, characterized by a rarity of burins and an abundance of end scrapers and carinate scrapers (Fig. S1, 5), at least some of which are cores for the production of bladelets (17). The Castanet Aurignacian also contains a rich repertoire of osseous tools and weapons composed of split-based projectile points in reindeer antler (Fig. S1, 1), smoothing tools on

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Data deposition: All annual reports from excavation, including original datasets, have been deposited with the Services Régionaux de l'Archéologie in Bordeaux and all collections from the Castanet excavations are deposited in the Musée National de Préhistoire in Les Eyzies-de-Tayac-Sireuil, France.

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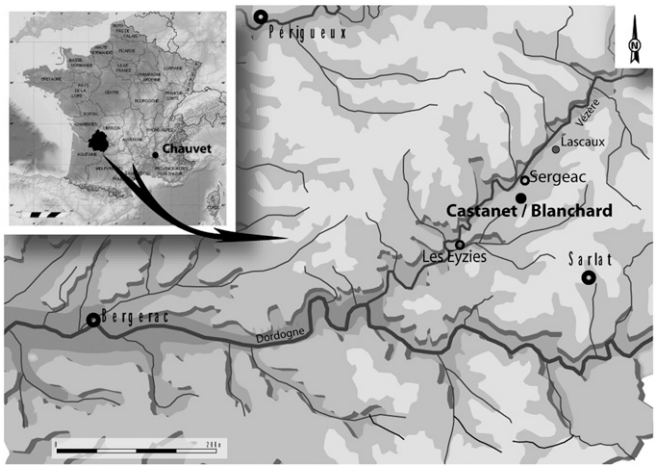

Fig. 1. Geographic location of Abri Castanet and Abri Blanchard (map by N. Maumont and C. Cretin, courtesy of Centre National de Préhistoire, Ministère de la Culture et de la Communication, France).

reindeer and horse ribs (Fig. S1, 4), and bone awls executed in reindeer metapodia (Fig. S1, 2).

Several hundred personal ornaments (Fig. S1) have been recovered at Castanet (18–20) as have a series of sizable engraved and/or painted limestone slabs (Figs. S1, 8 and S2) bearing "vulvar" and animal forms (21). Thirty "anneaux" [rings carved into isolated blocks of limestone or into the ceiling (22) of the shelter] on 18 different blocks have been identified (Fig. S2*B*), some of these coming from our excavation of Peyrony's backdirt. The premodern quality of the early excavations and the perfunctory nature of Peyrony's publication leave doubt about the origin of engraved and painted limestone blocks (manuports or roof-collapse blocks?).

Northern and Southern Sectors: A Single Archaeological Layer Under a Low-Hanging Shelter. In 1994, we undertook a one-season evaluation of the Abri Castanet to ascertain the archaeological potential of the remaining deposits. Peyrony had excavated the northern extremity of a talus cone that had sealed the archaeological deposits in the wake of the collapse of the shelter ceiling. We chose to undertake excavations at the opposite end of the talus cone 10 m south of Peyrony's section. (Fig. S3).

Ten seasons of excavation yielded 18,000 piece-plotted flint artifacts and animal bones and ornaments in ivory, talc, mammal tooth, and marine shell. Unfortunately, the collapsed shelter had been partially bulldozed during unauthorized roadwork in 1963. Three blocks were recovered out of context: one with five anneaux and engraved lines, one with a single anneau, and one with a distinct engraved vulva and cup marks.

The new excavations confirmed the existence of a single archaeological layer, with a thickness of 20–25 cm, situated directly on a bedrock platform and containing a series of fire features dug into the limestone bedrock (Fig. S4). Analysis of the limestone back wall of the shelter allowed us to demonstrate that the latter was at least 6 m deep and the ceiling was ∼1.5–2 m above the floor, thus within arms' reach of the Aurignacian occupants (Fig. S5).

A fully coherent series of accelerator mass spectrometry (AMS) dates was acquired for this new "Southern" sector (Tables 1 and 2). No internal radiocarbon or typological sequence was observable within the layer, leading us to conclude that the site was intensely occupied over a relatively short period. The archaeological layer was sealed by the collapse of the entire shelter ceiling, which fell directly on to the exposed archaeological surface. Above the roof collapse, a very weak archaeological signal, composed of a few dozen bone and lithic objects transported downslope by gravity from the plateau above, yielded a date of 24,950 ± 240 y BP uncalibrated (Tables 1 and 2).

Discovery of the Decorated Block. In 2007, in an attempt to understand how the "Northern" (Peyrony) sector fit into a pattern of lateral sedimentary variation observed in the Southern sector (Fig. S3), we returned there to excavate a fragment of the primary archaeological layer preserved beneath a massive block estimated to weigh 1.5 t. To control the archaeological context of this block in case of engravings, and in consultation with French archaeological authorities, we removed it in pieces by controlled breakage using mason's wedges. As the operation proceeded, we observed significant traces of color and deep engravings on the block's undersurface, which rested directly on the archaeological layer.

This context-oriented approach to excavation bore fruit because the imprint of the engraved image was clearly preserved on the surface of the archaeological layer (Fig. 3). Immediately beneath the block were numerous, unfortunately undiagnostic flint artifacts fractured in place (Fig. S6), confirming the massive impact of the roof collapse and the status of the engraved surface as a portion of the ancient ceiling of the shelter. There was no intervening deposition/occupation between the underside of the block and the occupational surface, implying that very little time

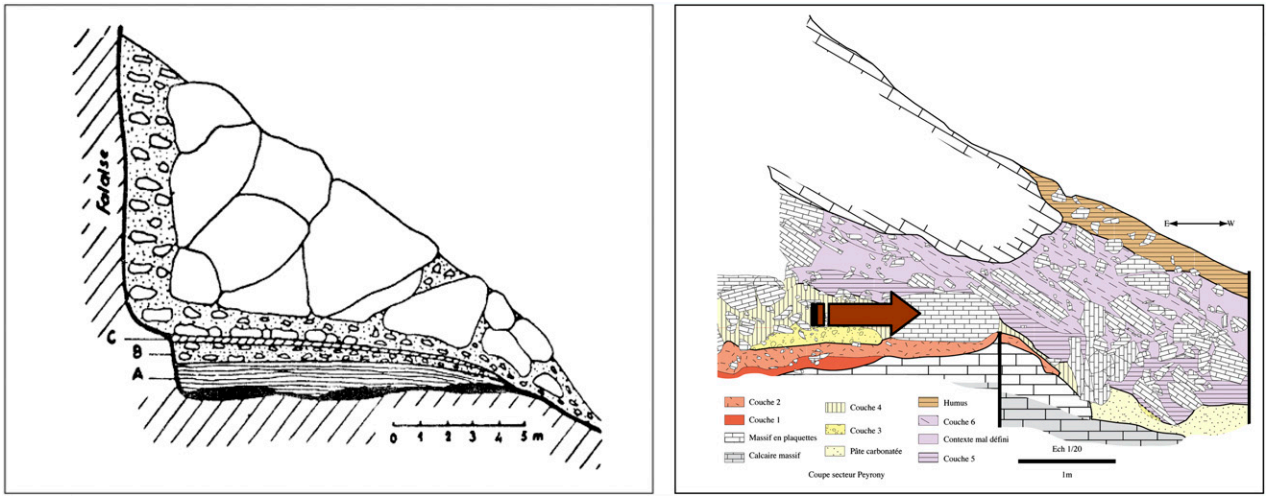

Fig. 2. (*Left*) Peyrony's stratigraphic section, drawn in 1913 and published in 1935. A and C are the archaeological levels recognized by Peyrony. (*Right*) Our stratigraphic analysis in the same sector showing existence of only one level on bedrock. Arrow indicates engraved and red-stained block K.

Table 1. Oxford AMS determinations from Abri Castanet Southern and Northern sectors

OxA no.	Sample	Stratigraphic unit	Species	Date, y BP	±, y BP	Bone use wt, mg	Yield, mg[†]	% Yield[‡]	% C[§]	$d^{13}C$ values	C:N[¶]
21558	South G11A 177	114	Reindeer	32,350	450	920	13.9	1.5	43.4	−18.8	3.2
21559	South G11A 179	114	Reindeer	33,250	500	920	24	2.6	43.5	−18.7	3.2
21560	South G11A 180	114	Reindeer	32,800	450	920	40.4	4.4	44.4	−19.2	3.2
21561	South G12A 242	110	Unid	32,050	450	886	12.1	1.4	44	−19.3	3.2
21562	South G12A 244	110	Reindeer	32,550	450	980	83.1	8.5	45.1	−18.6	3.2
21563	South G12C 122	110	Reindeer	32,600	450	920	69.8	7.6	44.5	−18.9	3.2
21564	South G12C 129	110	Reindeer	32,950	500	980	41.9	4.3	45.3	−19.0	3.2
21566	South G12A 252	110	Medium-sized herbivore	32,550	600	860	7	0.8	42.3	−19.9	3.2
21639	North, engraved surface		Unid bone	32,900	500	1,100	30	2.7	45.9	−20.3	3.1
21640	North SS6C-80	Purple layer	Unid bone	31,900	450	1,120	25	2.2	46	−19.1	3.2
21641*	North SS6C-25	Purple layer	Unid bone	31,950	450	1,200	16	1.3	42.3	−19.8	3.2
21642*	North SS6C-25	Purple layer	Unid bone	32,500	450	1,040	14.1	1.4	42.8	−19.8	3.2
21643	North RR6B-1	Purple layer	Unid bone	32,200	450	1,120	13.73	1.2	43.9	−19.6	3.2
21644	North RR5C-8	Purple layer	Unid bone	32,350	450	1,070	27	2.5	45.5	−20.1	3.2
21645	North J13C-22	Purple layer	Unid bone	32,000	450	1,080	5.77	0.5	43	−20.2	3.2

All analyses were obtained by using the Oxford gelatinization and ultrafiltration protocols. Stable isotope ratios are expressed in ‰ relative to Vienna Pee Dee Belemnite (VPDB) with a mass spectrometric precision of ±0.2‰. OxA, ORAU-assigned numbering; Unid, unidentified.

*Split sample.

[†]Yield represents the weight of gelatin or ultrafiltered gelatin in milligrams.

[‡]% yield is the percentage yield of extracted collagen as a function of the starting weight of the bone analyzed.

[§]% C is the carbon present in the combusted gelatin.

[¶]C:N is the atomic ratio of carbon to nitrogen, and the acceptable range is between 2.9 and 3.5.

passed between the engraving and the collapse of the ceiling onto the exposed surface. A *terminus ante quem* date for the archaeological layer should therefore be a good proxy for the engraved undersurface of the collapsed ceiling.

Results

Analysis of the Engraved and Colored Surface. We exercised extreme prudence in cleaning the decorated surface, being instructed by the recent discoveries of painted surfaces on Aurignacian limestone blocks from Fumane in Italy (10). From the moment of the removal of the first portion of the new Castanet block, we took the precaution of not cleaning the surface, awaiting X-ray fluorescence (XRF) mapping of the surface to monitor for various mineral pigments. This XRF analysis allowed informed cleaning of the decorated surface. The "painted" nature of the block's surface remains to be confirmed, and initial XRF testing suggests that the red coloring may well be derived by transfer from the hematite-rich layer onto which it fell.

Specific Observations. The surface of the ceiling block (Fig. 4) measures 131 × 91 cm and is relatively flat with several artificial modifications to create relief. The surface being but a small portion of the larger decorated ceiling, certain of the engraved reliefs are incomplete, extending off the edges of the block. The clearest engraving observable on the newly discovered ceiling fragment (Fig. 4) fits morphologically into the category of vulvar images, like those recovered during excavations at Abri Castanet between 1910 and 1925. There is no possibility that this is a wall fragment because the back of the shelter is some 5 m distant.

Adjacent to the vulva, a line executed in bas-relief suggests the contour of an unfinished zoomorphic figure (Fig. 4), the internal details of which were not represented. This figure is composed of the head and forequarters, a pointed front leg, and the ventral line. The rear of the animal (bison?) seems never to have been represented. On the upper portion of this surface, two shallow depressions are visible, showing the typical figure-eight form of a residual anneau of which the "bridge" has been broken away (Fig. 4).

Virtually the entire surface of the block shows artificial modification in the form of tool impact scars (Fig. S7). Engravings and zones of bas-relief were produced by the accumulation of more or less contiguous chisel scars, probably produced by indirect percussion: the directing of hammer blows onto the proximal end of an intermediary "chisel."

Radiometric Dates. A series of unburned bone samples were taken from the archaeological surface beneath the engraved block in the Northern sector, including one bone fragment adhering to the engraved surface itself. These samples were dated only at the Oxford Radiocarbon Accelerator Unit (ORAU), Oxford, United Kingdom. The resulting dates (Tables 1 and 2, Fig. 5, and Fig. S8) average 32,400 y BP (uncalibrated) and are perfectly coherent with the dates obtained on bone samples from the Southern sector 10 m to the south. The latter samples were dated

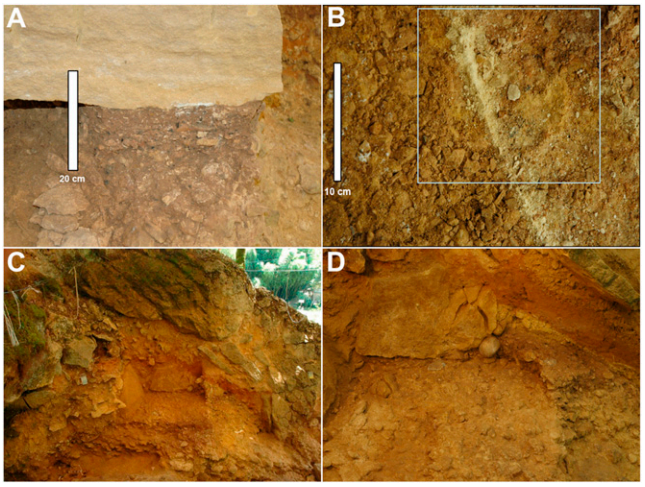

Fig. 3. Context of the in situ engraved and red-stained roof-collapse block, sitting directly on the exposed Aurignacian surface. (*A*) Contact between layer and engraved surface. (*B*) Negative "imprint" of the principal engraving on the surface of the archaeological layer beneath. (*C*) emplacement of block after removal, showing extension of the collapsed ceiling eastward and southward. (*D*) The falling 1.5-t block was broken by its contact with the large hammerstone (12-cm diameter) shown in the center of the photo.

Table 2. Laboratoire des Sciences du Climat et de l'Environnement AMS determinations from the Abri Castanet Southern sector

GifA no.	Sample	Stratigraphic unit	Species	Mass C, mg	Date, y BP	±, y BP
97313	I11 A13 243	131	Unid bone	1.18	32,750	460
97312	I11 A13 290	131	Unid bone	1.41	32,460	420
99166	H12 D14 131	131	Unid bone	1.26	34,320	520
99165	I12 D22 158	114	Unid bone	1.19	31,430	390
99179	H12D14138	122	Unid bone	0.51	32,310	520
99180	H12 D14 156	122	Unid bone	1.80	32,950	520
97330	K13 AO' 1416	101	Burnt bone	0.56	24,950	240

The C content of the collagen amino acids was extracted by using the ninhydrin method (23, 24). GifA, Laboratoire des Sciences du Climat et de l'Environnement (Gif-sur-Yvette)-assigned numbering.

in two laboratories (*SI Materials and Methods*). Samples from the 1995–1998 excavations were dated at the AMS facility (Tandétron) at the Laboratoire des Sciences du Climat et de l'Environnement, and those from the 2005–2010 excavations were dated at the ORAU (see *SI Materials and Methods* for ^{14}C procedures applied at both laboratories).

The results of the dating are shown in Tables 1 and 2. The analytical data (Tables 1 and 2) shows that the collagen extracted

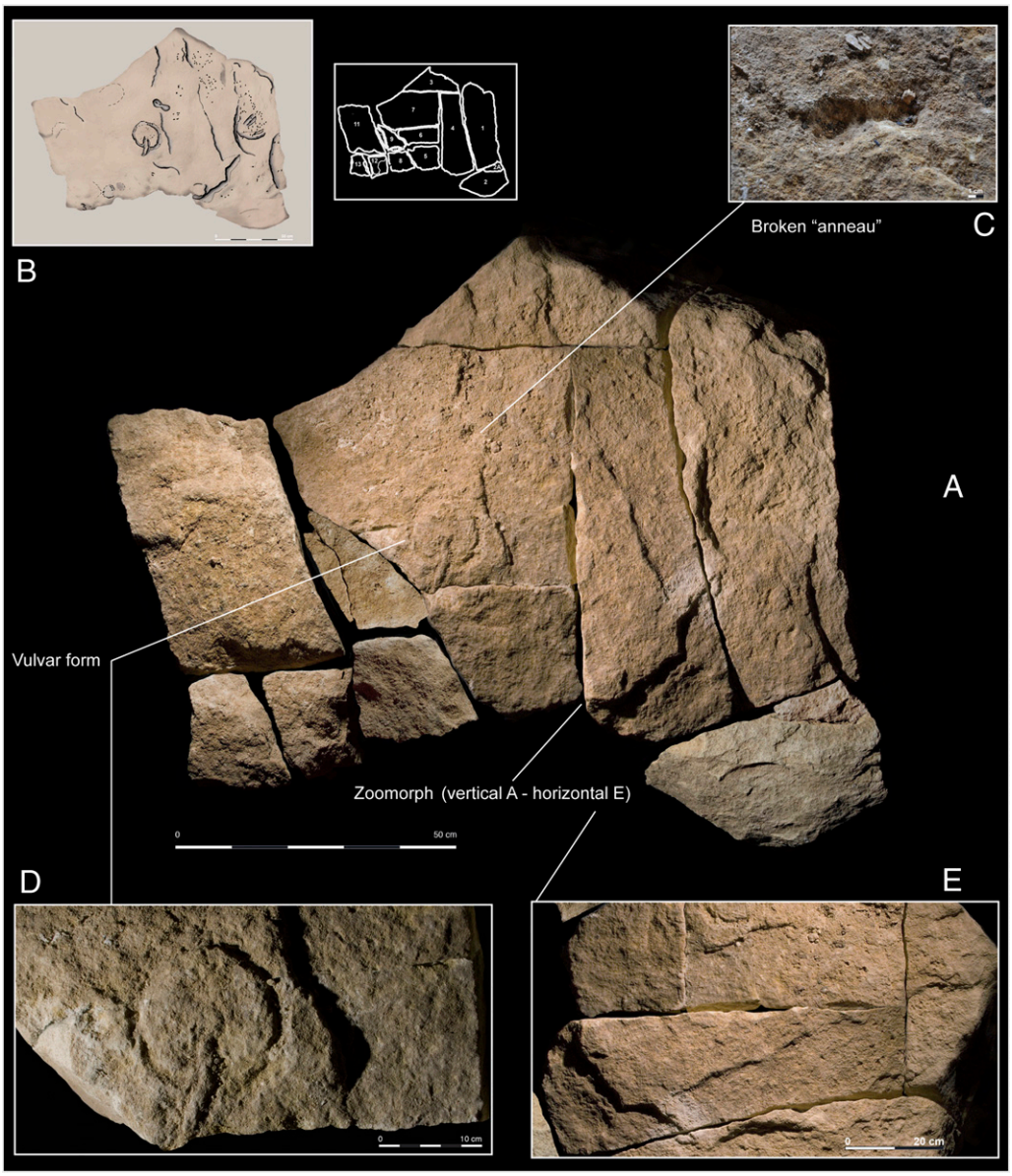

Fig. 4. Block K. (*A* and *B*) Arrangement of fragments 1–13 of the engraved surface in contact with the archaeological layer. (*C*) Broken anneau. (*D*) The principal engraved figure. (*E*) Detail of zoomorphic figure (rotated 90°).

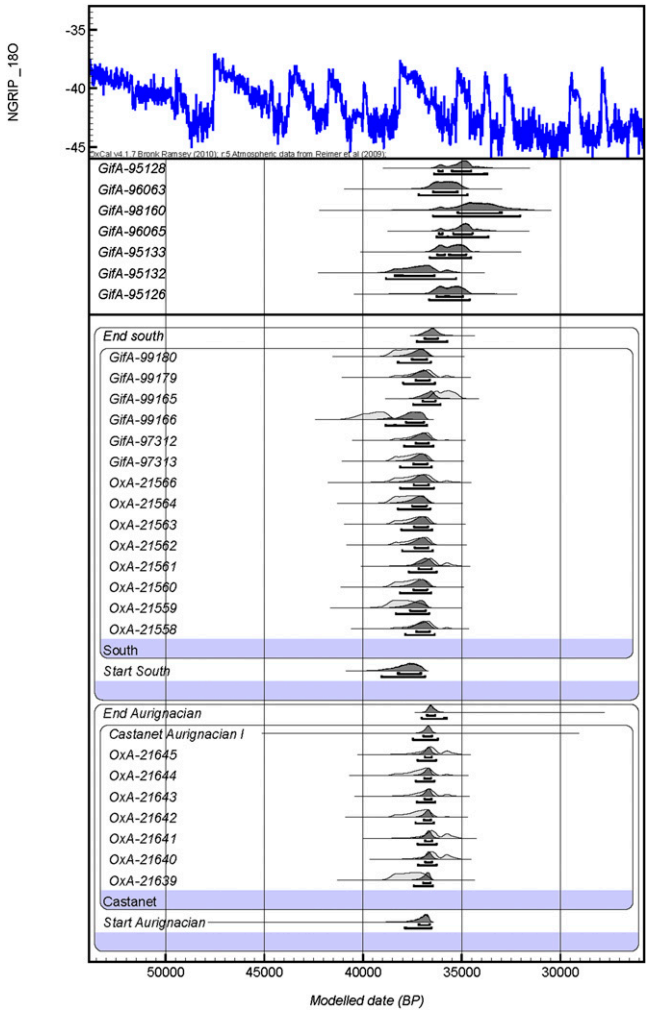

Fig. 5. Bayesian model of the Castanet Northern and Southern sector results as well as the direct dates from Chauvet produced with OxCal 4.1. The radiocarbon ages are compared against the IntCal09 dataset of Reimer et al. (28). Individual radiocarbon likelihoods are shown by the light-shaded distributions, whereas the darker outlines represent posterior probability distributions.

was of a good quality, and the bone was acceptably well-preserved. The determinations from both areas of the site are statistically indistinguishable from one another as well as from the majority of previous determinations from the south area dated in Gif-sur-Yvette (23, 24). We used Bayesian modeling (Table 3, Fig. 5, and Fig. S8) to assess the chronology of the Northern sector occupation(s) further with OxCal 4.1 (25–27) and the IntCal09 (28) calibration curve. We presume a single phase of occupation(s) at the site, as attested by the results of the excavations. A uniform distribution of all radiocarbon ages is assumed within the phase. A boundary is placed at the beginning and end of the phase. Although undated by radiocarbon, these boundaries provide probability distribution functions (PDFs) for the start and end dates of these phases. The results of the analysis show that the boundary marking the beginning of occupation at Castanet is 37,190–36,630 y BP calibrated (cal BP) (68.2% probability) and 37,880–36,530 y cal BP (95.4% probability). The occupation ended between 36,760–36,330 y cal BP (68.2% probability) and 37.000–35,770 y cal BP (95.4% probability). When current calibration curves are applied in combination with Bayesian modeling, the results indicate a very brief period of activity, covering a range within 36,940–36,510 y cal BP (68.2% probability).

Discussion

These dates, compared with direct dates on the Chauvet paintings, reveal the Castanet images to be among the oldest parietal representations so far discovered in Europe. More than 50 dates have been obtained on charcoal samples collected on the soil of the different chambers or on the wall (punctuations and torch rubbings) of the Chauvet cave. Most of the ^{14}C dates, including the dated drawings, range from 30,000 to 32,500 y BP (uncalibrated), whereas a younger occupation occurred between 26,000 and 28,000 y BP (29–31). We present here (Table 4) only direct dates on wall paintings that fall within the known range of dates for the Aurignacian culture. When these dates are modeled and compared with the dates for Castanet (Fig. 5), the Chauvet dates trend younger than those from the undersurface of the engraved block from the Castanet Northern sector even if, statistically, they are indistinguishable.

Aurignacian vulvar imagery from Castanet, Blanchard, and other sites such as La Ferrassie and Abri Cellier in the Vézère Valley inspired debate (32) and interpretation from the moment that the Abbé Henri Breuil first read engravings from Abri Blanchard as "*Pudendum muliebre*" in 1911 (letter from Breuil to Didon dated January 25, 1911, in ref. 33). A century after the discovery of Aurignacian engraved and painted representations on limestone blocks, we now have the modern-quality recovery of one of these artifacts. This discovery confirms that some of these representations were executed on the shelter ceiling 2 m above the occupational surface. Moreover, we have important radiometric dates for the archaeological level corresponding to the ceiling representations, showing this early imagery to be as old or older than the oldest of the Chauvet paintings (2) and

Table 3. Calibrated and age-modeled results from the Abri Castanet Northern sector excavations

	Calibrated				Modeled			
	Age range (68.2% probability), y BP		Age range (95.4% probability), y BP		Age range (68.2% probability), y BP		Age range (95.4% probability), y BP	
OxA no.	From	To	From	To	From	To	From	To
End of Aurignacian					36,760	36,330	37,000	35,770
21645	37,120	35,590	37,880	35,190	36,880	36,510	37,250	36,300
21644	37,560	36,450	38,540	35,650	36,910	36,540	37,310	36,380
21643	37,400	36,300	38,410	35,480	36,890	36,530	37,270	36,340
21642	37,680	36,510	38,610	36,300	36,920	36,550	37,350	36,400
21641	36,930	35,550	37,580	35,150	36,870	36,500	37,220	36,270
21640	36,900	35,550	37,520	35,160	36,860	36,500	37,210	36,270
21639	38,390	36,890	38,730	36,600	36,960	36,570	37,430	36,450
Start of Aurignacian					37,190	36,630	37,880	36,530

Individual radiocarbon calibrations are on the left-hand side of the table. On the right are the results after the Bayesian modeling.

Table 4. Previously obtained direct dates on wall paintings from Grotte Chauvet

GifA no.	Sample	Date, y BP	± (1σ), y BP
Hillaire Chamber, horse panel			
95126	Left rhinoceros	30,940	610
95132	Right rhinoceros	32,410	720
95133	Right rhinoceros	30,790	600
96065	Running cow	30,230	530
98160	Horse (humic fraction)	29,670	950
Megaceros Gallery, entrance			
96063	Giant deer	31,350	620
Salle du fond			
95128	Large bison	30,340	570

those from the less-publicized site of Aldène (4, 5) in the Hérault region of southeastern France.

The fact that the most recognizable image on the newly discovered surface falls broadly within the range of ovoid forms traditionally interpreted as vulva leads us to suppose that the above dates apply to other such images from Castanet, many of which were located within a few meters of the engraving described here. The vulvar tradition in the Vézère Valley seems to constitute a distinct regional variant within a mosaic of graphic and plastic expression across Europe in the Early Aurignacian.

Materials and Methods

Our study of the decorated surface involved the following procedures: photographic coverage of the surface of each constituent block; creation of a photo mosaic reuniting all constituent surfaces of the block; tracing on transparent plastic film of all of the graphic elements visible on the photographs; GigaPan robotic photography yielding ultrahigh-resolution images; XRF analysis of 17 points (4 × 6 mm) across the surface to monitor for surface paint; three XRF soundings taken at each point (uncleaned, dry-brushed, and water-cleaned); meticulous soft-brush cleaning of the entire surface of block K; microtopographic study of the engraved surface of the block and of the imprint of the engraved motif in the archaeological level beneath; 3D light scanning with the Minolta Vivid 910 3D light scanner, permitting the virtual refitting of the various block fragments; 3D piece-plotting of all artifacts (and refitting of artifacts) beneath the collapsed block; experimental replication of Aurignacian engravings, anneaux, and cup marks; and radiometric dating by traditional AMS ^{14}C methods and ultrafiltration, accompanied by Bayesian modeling and calibration of the ^{14}C estimates obtained.

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Supporting Information

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SI Materials and Methods

Radiocarbon Materials and Methods. At the Oxford Radiocarbon Accelerator Unit (ORAU), Oxford, United Kingdom, each of the bones was sampled with an NSK Electer GX drill with a tungsten carbide drill bit. Then, 800–1,200 mg of bone was sampled for analysis. Samples were pretreated by using the manual Oxford method (1), which includes a decalcification with 0.5 M HCl, the removal of humates with 0.1 M NaOH, and a final reacidification with 0.5 M HCl, with each step interspersed with distilled water rinses. Gelatinization was undertaken in water adjusted to pH 3 solution at 75 °C in an incubator (for 20 h). We recovered the supernatant with an EziFilter and ultrafiltered it with a Vivaspin 30-kDa molecular mass cut-off ultrafilter. We recovered the >30-kDa fraction and freeze-dried it before accelerator mass spectrometry (AMS) dating.

Ultrafiltered gelatin from each of the dated bones was combusted with a Europa Scientific ANCA-MS system consisting of a 20/20 IR mass spectrometer interfaced to a Roboprep CHN sample converter unit operating in continuous-flow mode using an He carrier gas. In Table 1, we report $d^{13}C$ values with respect to Vienna Pee Dee Belemnite (VPDB), nitrogen and carbon contents, and C:N ratios. CO_2 from the sample combustion was graphitized by a reduction reaction over an iron catalyst in an excess H_2 atmosphere at 560 °C (2, 3) and then AMS-dated with the Oxford HVEE 2.5-MV accelerator. The radiocarbon dates in this paper were corrected by using a unique background subtraction model that sets the measurement limit at 49,900 y BP (4).

The bone preparation at the Laboratoire des Sciences du Climat et de l'Environnement (Gif-sur-Yvette) was based on the specific reaction between collagen amino acids and ninhydrin (5, 6). Each dating required ~2,000 mg of cortical bone, which was crushed after being sand-blasted with carbon-free alumina. After a decalcification using 0.5 M HCl, the carbonate-free sample was treated with ninhydrin at 100 °C for 10 min to eliminate any "free" amino acids introduced from the archaeological sediment. After the collagen had been hydrolyzed with 6 M HCl at 100 °C overnight, the solution of amino acids was filtered and collected in a glass reactor where the filtrate was evaporated at 80 °C under nitrogen. Then the reactor was connected to a vacuum line. When the vacuum reached $\sim 2.10^{-4}$ mb, a second treatment with ninhydrin allowed extracting the CO_2 from the carboxylic groups of amino acids. The released CO_2 is dried by "water traps," trapped in liquid nitrogen, and quantified into a calibrated volume. Finally, the extracted CO_2 was reduced to graphite (7), which was submitted to the Tandétron AMS Facility (UMS 2004, Gif-sur-Yvette). Bone "blank" specimens were prepared and measured alongside the archaeological samples. The $^{13}C/^{12}C$ ratios measured during the AMS dating fell in the range of values obtained for bone; no other measurements were done on a mass spectrometer.

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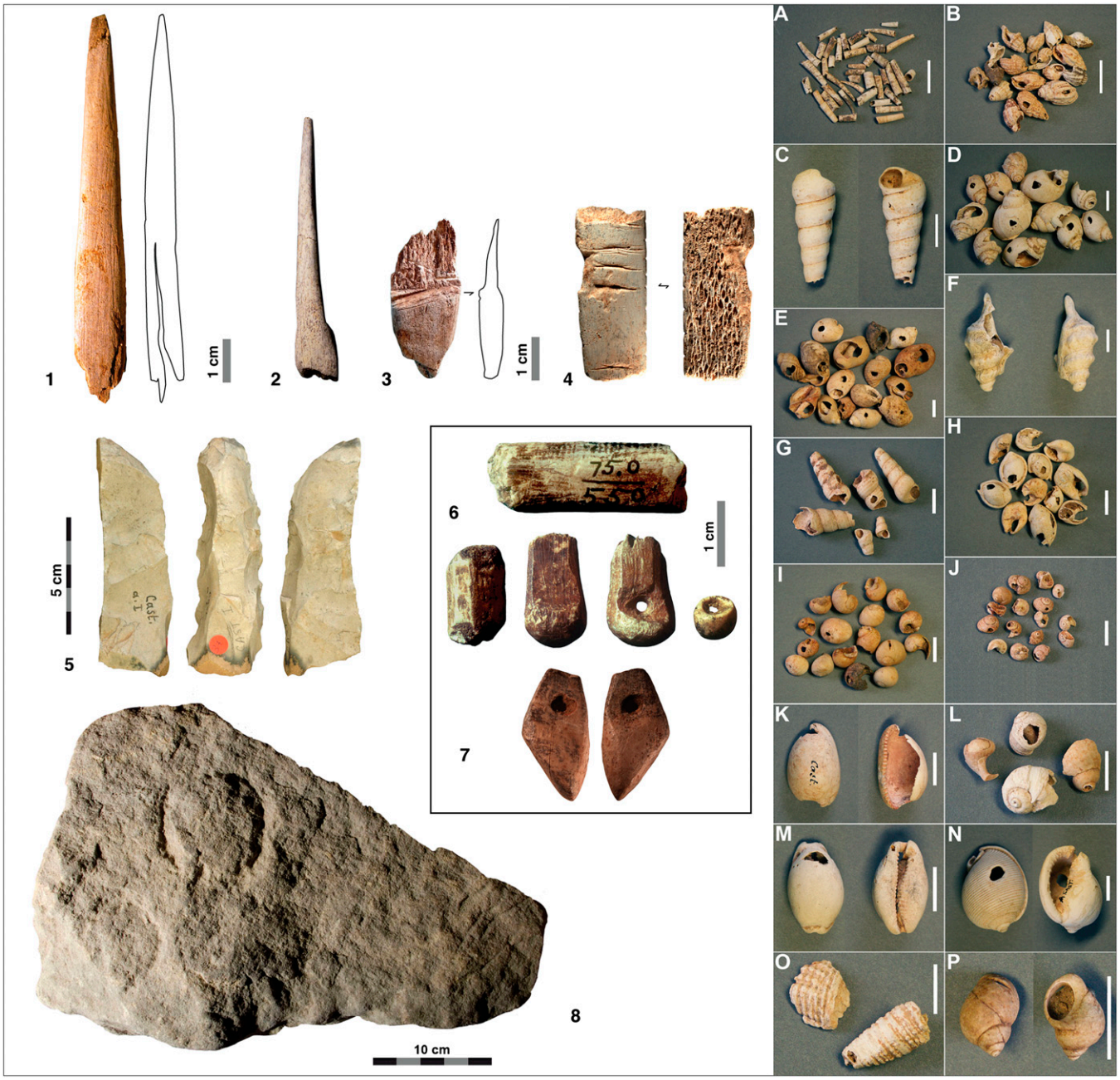

Fig. S1. Artifacts characterizing the Castanet-type Aurignacian. (*Left*) 1, Split-based antler point. 2, Bone awl. 3, Tongued piece in antler. 4, Decorated smoothing tool in herbivore rib. 5, Carinate scraper. 6, Basket-shaped beads and production stages. 7, Facsimile in ivory of a red deer vestigial canine, perforated for suspension. 8, Limestone block engraved with "vulvar" images. (*Right*) Different species of Atlantic and Mediterranean gastropod species represented in the ornament assemblage at Abri Castanet.

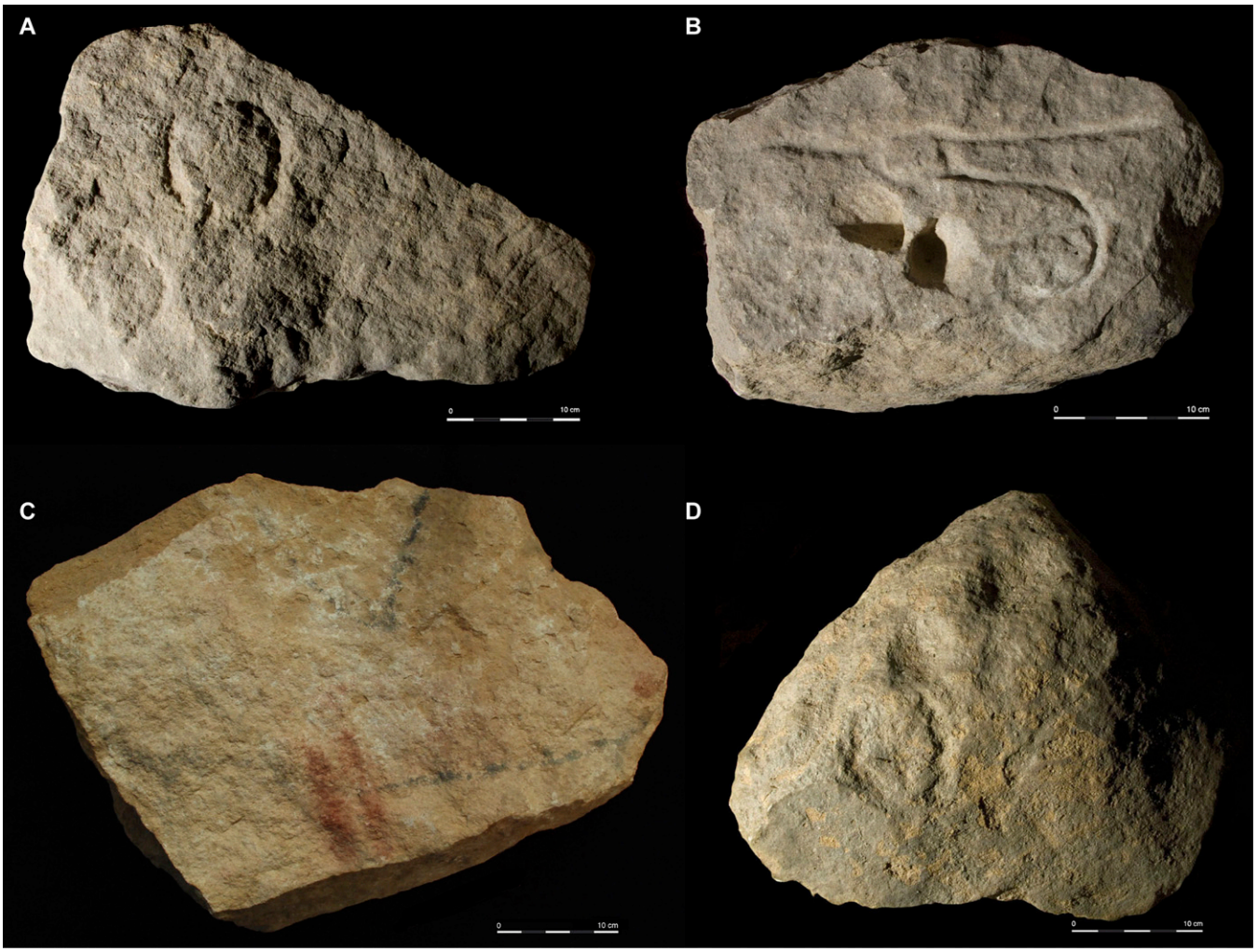

Fig. S2. Abri Castanet blocks from Peyrony excavations. (*A*) Vulvar engravings. (*B*) Juxtaposition of engraved "phallus" and an "anneau" gouged into the block's surface. (*C*) Bichrome painting. (*D*) Vulvar engraving and cup marks.

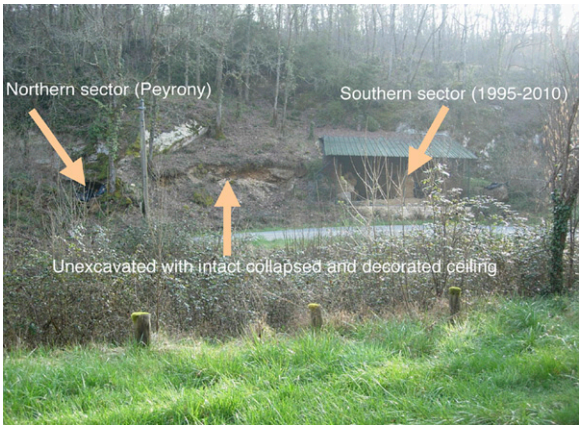

Fig. S3. The locations of the two sectors of Abri Castanet discussed in the text.

Fig. S4. Abri Castanet, Southern sector. Multicomponent fire feature during excavation.

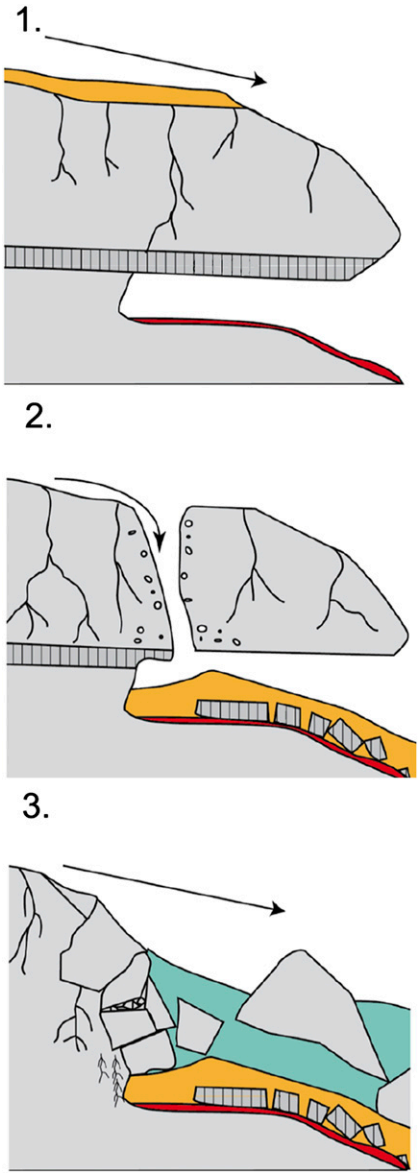

Fig. S5. Reconstruction of Abri Castanet overhang and process of collapse. The collapsed engraved ceiling sits directly on the archaeological layer indicated in red.

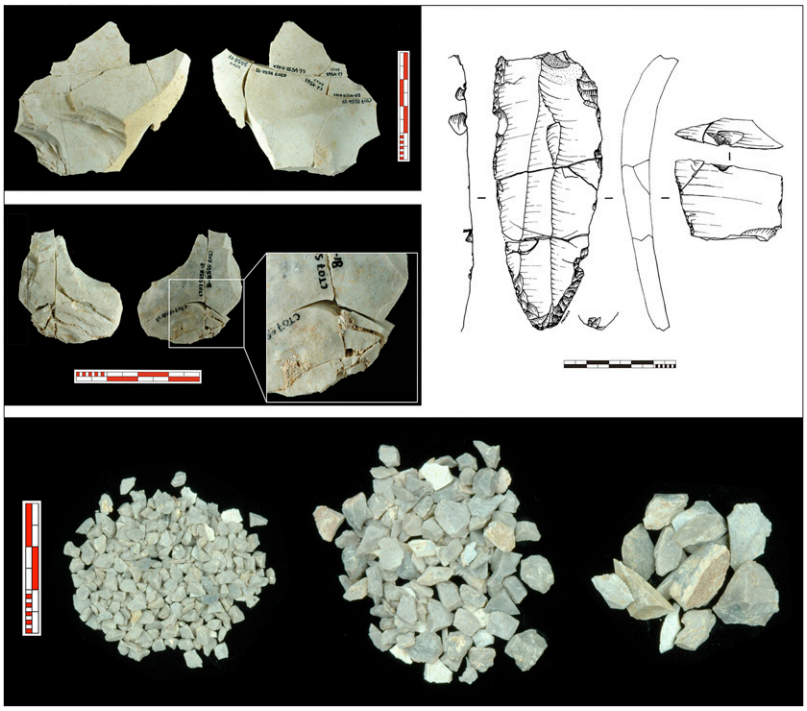

Fig. S6. Refitting of lithic artifacts shattered in place by impact of the ceiling collapse. At bottom, flint objects so pulverized by the roof collapse so as to be reduced to "gravel."

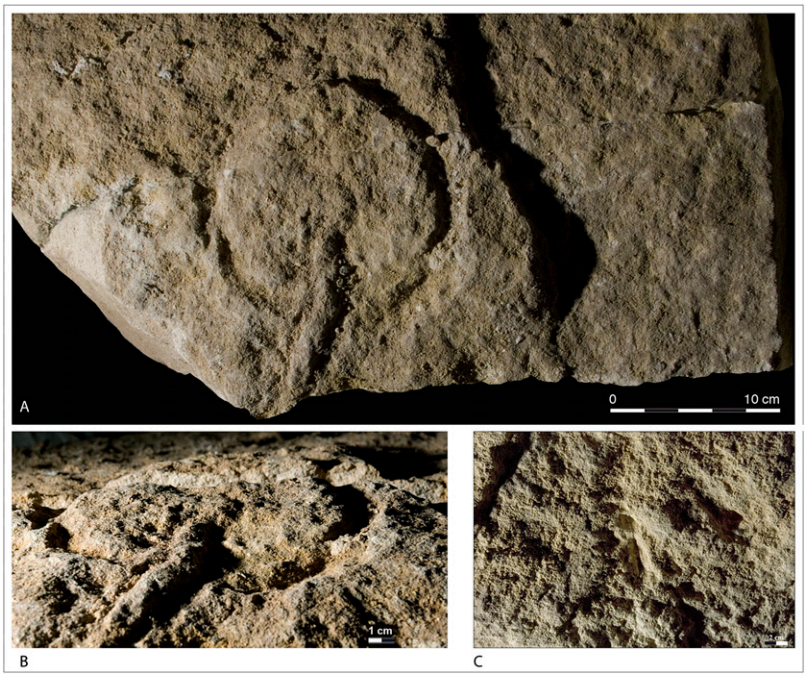

Fig. S7. The principal engraved figure (*A*) with macro views of engraving (*B*) and surface preparation (*C*).

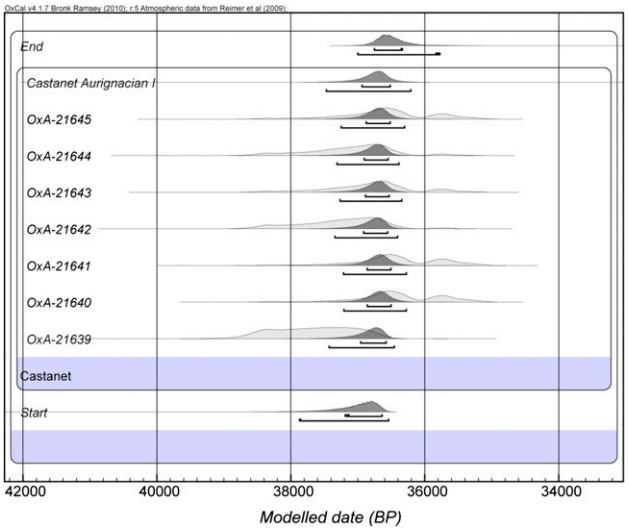

Fig. S8. Bayesian model of the Castanet Northern sector results produced with OxCal 4.1 (1). The radiocarbon ages are compared against the IntCal09 dataset of Reimer et al. (2). The model is based on the assumption that the archaeological sequence consists of a single excavated phase. Individual radiocarbon likelihoods are shown by the light-shaded distributions, whereas the darker outlines represent posterior probability distributions. Note that the probability distribution function (PDF) for Castanet Aurignacian I is equivalent to the total date span for the occupation.

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