Supporting Information
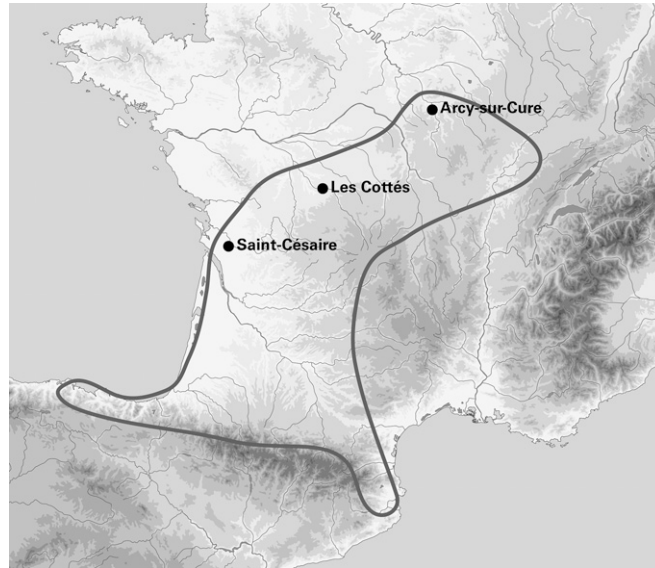
Hublin et al. 10.1073/pnas.1212924109

Fig. S1. Geographical distribution of the Châtelperronian assemblages and location of the three main Châtelperronian sites discussed in the text.
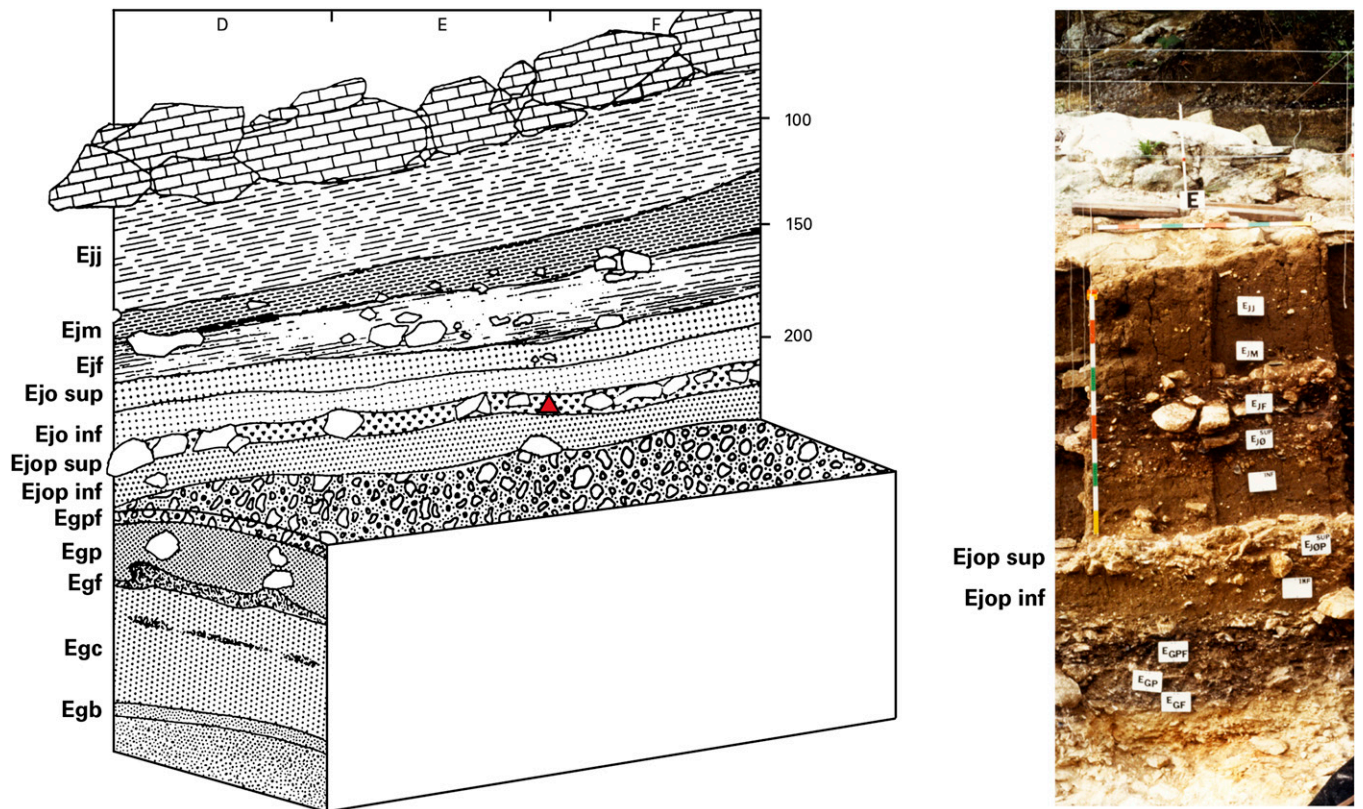
Fig. S2. (*Left*) Schematic stratigraphy of the Saint-Césaire site with indication of the main archeological layers. Numbers indicate thicknesses in centimeters. (*Right*) Photograph of the Saint-Césaire stratigraphy with indication of the layers Ejop sup and Ejop inf. (Scale bar: 1 m.) The partial skeleton of Saint-Césaire was discovered in 1979 by François Lévêque in a rock shelter located a few hundred meters southeast of the village of Saint-Césaire (Charente-Maritime, France) in a location called La Roche à Pierrot (1). (From F.Lévêque et J.C. Miskovsky, ref. 1). The stratigraphy of the site consists of several archaeological layers, initially recognized by the excavators as belonging to two main units underlain by a sterile red formation (Er). These units are the following: (*i*) The upper unit, or yellow sequence, "ensemble jaune (Ej)," is mostly comprised of Upper Paleolithic layers. (*ii*) The lower unit, or gray sequence, "ensemble gris (Eg)," is comprised of three Middle Paleolithic layers. The Neandertal human remains were discovered in the upper part of layer Ejop (Ejop SUP). Their location is marked by a red triangle. Although initially layers Ejop INF and SUP were considered to contain a CP assemblage with a high proportion of Mousterian-like artifacts, further analysis of these assemblages has led (2) to the reassignment of the assemblage from Ejop INF to a late Mousterian and has confirmed the CP nature of the Ejop SUP. Still, side scrapers represent about half of the retouched tools from Ejop SUP. They are associated with artifacts produced with a typical CP technology of blank production. Based on the surface states of the artifacts it is, however, not possible to separate these two components of the assemblage. The high proportion of Mousterian-like side scrapers might be either the result of an MP technological persistence into the CP, or alternatively of a postdepositional admixture of Mousterian objects into the CP assemblage. However, it should be noted that if this type of admixture occurred, it selectively involved retouched objects (2).

1. Lévêque F, Vandermeersch B (1980) Découverte de restes humains dans un niveau castelperronien à Saint-Césaire (Charente-Maritime). *C R Acad Sci Paris* 291(2):187–189.
2. Soressi M (2011) Révision taphonomique et techno-typologique des deux ensembles attribués au Châtelperronien de la Roche-à-Pierrot à Saint-Césaire. *Anthropologie* 115(5):569–584.
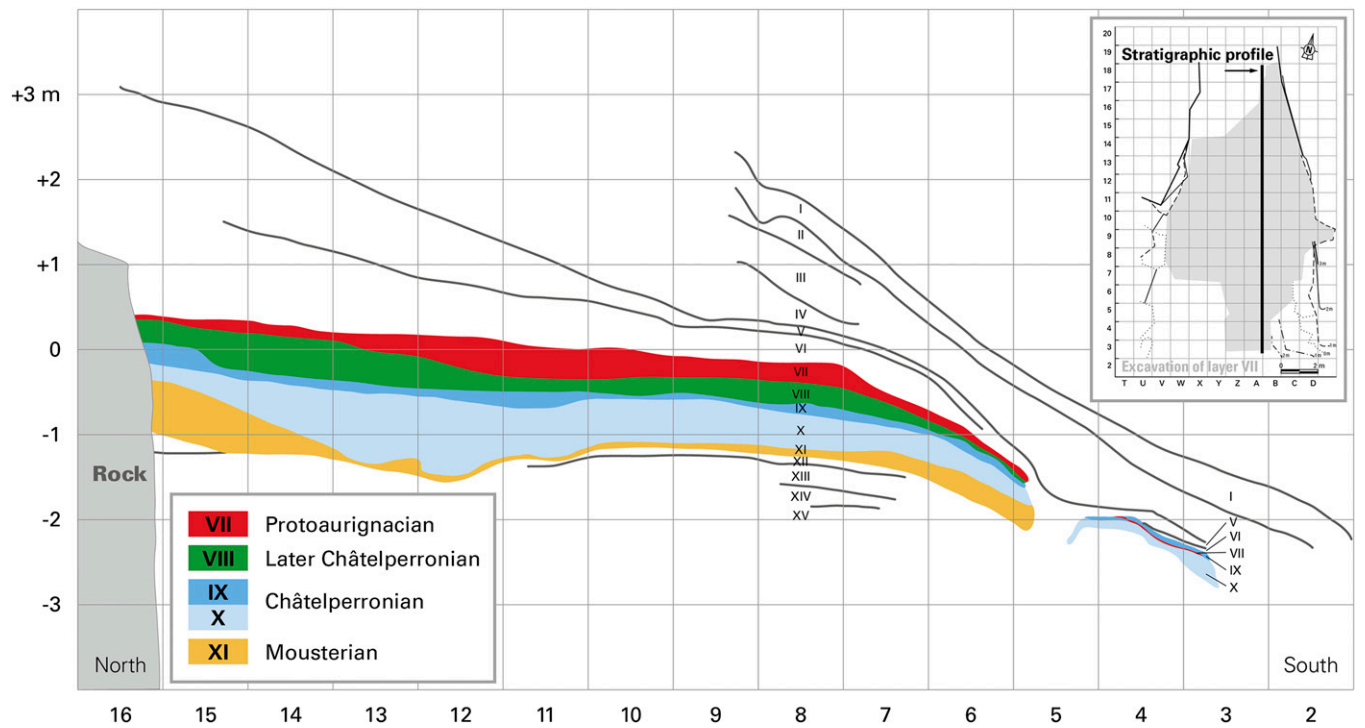
Fig. S3. North–south stratigraphic section of the Grotte du Renne cave site. The layers analyzed in this paper are colored. Each square represents 1 m.
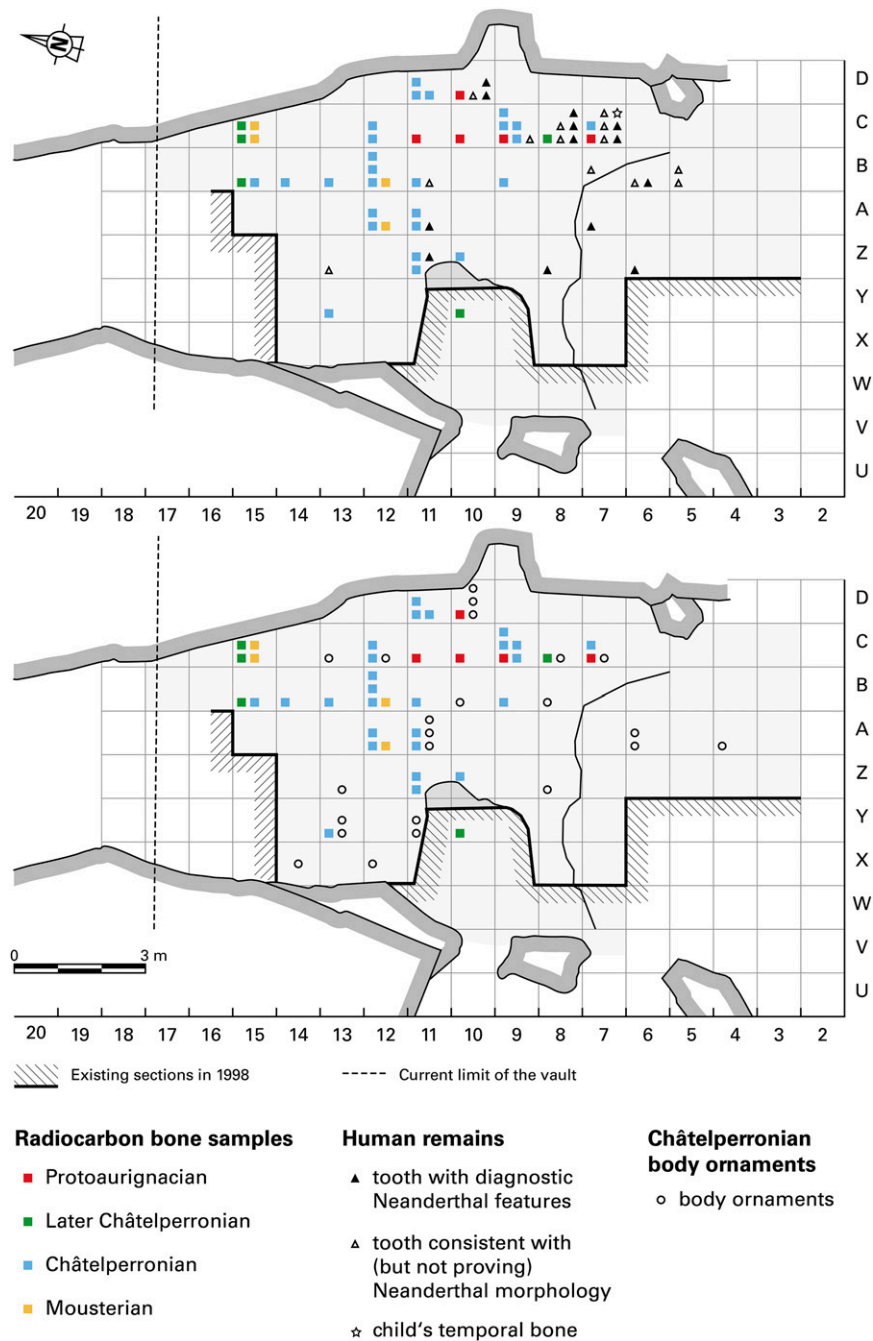
Fig. S4. Plan views of the artifact refits in the Châtelperronian layers at the Grotte du Renne. (*A* and *B*) Between sublayers of layer X. (*C*) Between layer X and layer IX.

Fig. S5. Spatial distribution of the Grotte du Renne radiocarbon samples used in this study. (*Upper*) With the Châtelperronian human remains (1). (*Lower*) With the Châtelperronian body ornaments (2).

1. Bailey SE, Hublin J-J (2006) *Did Neanderthals Make the Châtelperronian Assemblage from La Grotte du Renne (Arcy-sur-Cure, France)? Neanderthals Revisited: New Approaches and Perspectives, Vertebrate Paleobiology and Paleoanthropology Series*, eds Harvati K, Harrison T (Springer, New York), pp 191–210.
2. Caron F, d'Errico F, Del Moral P, Santos F, Zilhão J (2011) The reality of Neandertal symbolic behavior at the Grotte du Renne, Arcy-sur-Cure, France. *PLoS ONE* 6(6):e21545.
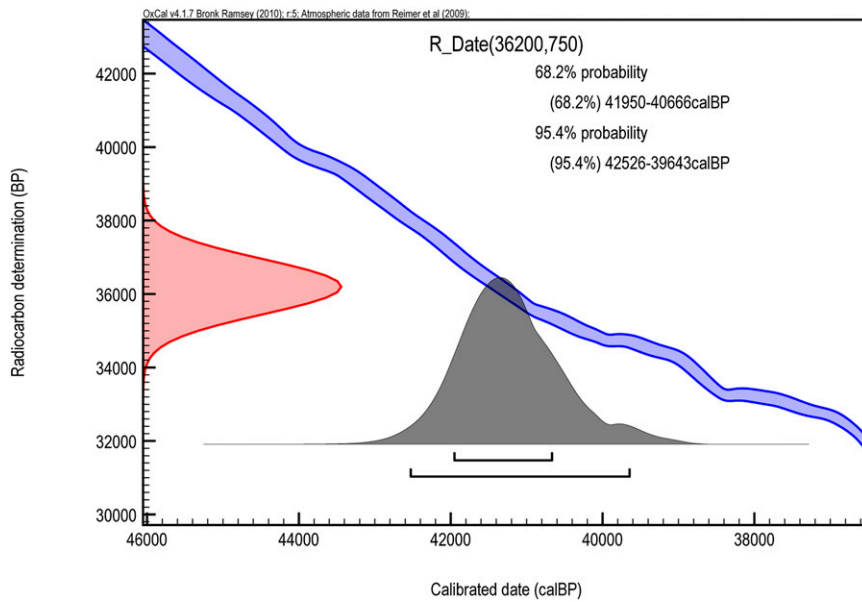
Fig. S6. Radiocarbon and calibrated ages of the Saint Césaire Neandertal tibia using OxCal 4.1 and IntCal 09 (1, 2).

1. Bronk Ramsey C (2009) Bayesian analysis of radiocarbon dates. *Radiocarbon* 51(1):337–360.
2. Reimer PJ, et al. (2009) Intcal09 And Marine09 radiocarbon age calibration curves, 0–50,000 years cal BP. *Radiocarbon* 51(4):1111–1150.

Dataset S1. Calibrated radiocarbon boundaries of the Grotte du Renne layers

Dataset S1

Calculated by the OxCal mode (1) with one and two SD confidence intervals. At the bottom are the confidence intervals of the Saint-Césaire calibrated age (2).

1. Bronk Ramsey C (2009) Bayesian analysis of radiocarbon dates. *Radiocarbon* 51(1):337–360.
2. Reimer PJ, et al. (2009) Intcal09 And Marine09 radiocarbon age calibration curves, 0–50,000 years cal BP. *Radiocarbon* 51(4):1111–1150.

Dataset S2. Prior and posterior outlier probabilities for the Grotte du Renne, results calculated with the Bayesian model

Dataset S2