

# Neanderthals and Cro-magnons did not coincide on the Iberian Peninsula

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These are images of the excavation of Labeko Koba cave, in Arrasate (Basque Country, Spain). Credit: UPV/EHU

The meeting between a Neanderthal and one of the first humans, which we used to picture in our minds, did not happen on the Iberian Peninsula. That is the conclusion reached by an international team of researchers from the Australian National University, Oxford University, the UPV/EHU-University of the Basque Country, University of Maryland,

Universitat de Girona and the University of Oviedo, after redoing the dating of the remains in three caves located on the route through the Pyrenees of the first beings of our species: L'Arbreda, Labeko Koba and La Viña. The paper, entitled *The chronology of the earliest Upper Palaeolithic in northern Iberia: New insights from L'Arbreda, Labeko Koba and La Viña*, has been published in the *Journal of Human Evolution*.

Until now, the carbon 14 technique, a radioactive isotope which gradually disappears with the passing of time, has been used to date prehistoric remains. When about 40,000 years, in other words approximately the period corresponding to the arrival of the first humans in Europe, have elapsed, the portion that remains is so small that it can become easily contaminated and cause the dates to appear more recent. It was from 2005 onwards that a new technique began to be used; it is the one used to purify the collagen in DNA tests. Using this method, the portion of the original organic material is obtained and all the subsequent contamination is removed.

And by using this technique, scientists have been arriving at the same conclusions at key sites across Europe: "We can see that the arrival of our species in Europe took place 8,000 years earlier than what had been thought and we can see the earliest datings of our species and the most recent Neanderthal ones, in which, in a specific regional framework, there is no overlapping," explained Alvaro Arrizabalaga, professor of the department of Geography, Prehistory and Archaeology, and one of the UPV/EHU researchers alongside María-José Iriarte and Aritza Villaluenga.

The three caves chosen for the recently published research are located in Girona (L'Arbreda), Gipuzkoa (Labeko Koba) and Asturias (La Viña); in other words, at the westernmost and easternmost tips of the Pyrenees and it was where the flow of populations and animals between the peninsula

and continent took place. "L'Arbreda is on the eastern pass; Labeko Koba, in the Deba valley, is located on the entry corridor through the Western Pyrenees (Arrizabalaga and Iriarte excavated it in a hurry in 1988 before it was destroyed by the building of the Arrasate-Mondragon bypass) and La Viña is of value as a paradigm, since it provides a magnificent sequence of the Upper Palaeolithic, in other words, of the technical and cultural behaviour of the Cro-magnons during the last glaciation", pointed out Arrizabalaga.

The selecting of the remains was very strict allowing only tools made of bones or, in the absence of them, bones bearing clear traces of human activity, as a general rule with butchery marks, in other words, cuts in the areas of the tendons so that the muscle could be removed. "The Labeko Koba curve is the most consistent of the three, which in turn are the most consistent on the Iberian Peninsula," explained Arrizabalaga. 18 remains were dated at Labeko Koba and the results are totally convergent with respect to their stratigraphic position, in other words, those that appeared at the lowest depths are the oldest ones.

The main conclusion –"the scene of the meeting between a Neanderthal and a Cro-magnon does not seem to have taken place on the Iberian Peninsula"– is the same as the one that has been gradually reached over the last three years by different research groups when studying key settlements in Great Britain, Italy, Germany and France. "For 25 years we had been saying that Neanderthals and early humans lived together for 8,000-10,000 years. Today, we think that in Europe there was a gap between one species and the other and, therefore, there was no hybridation, which did in fact take place in areas of the Middle East," explained Arrizabalaga. The UPV/EHU professor is also the co-author of a piece of research published in 2012 that puts back the datings of the Neanderthals. "We did the dating again in accordance with the ultrafiltration treatment that eliminates rejuvenating contamination, remains of the Mousterian, the material culture belonging to the

Neanderthals from sites in the south of the Peninsula. Very recent dates had been obtained in them –up to 29,000 years– but the new datings go back to 44,000 years older than the first dates that can be attributed to the Cro-Magnons," explained the UPV/EHU professor.

**More information:** R.E Wood, A. Arrizabalaga, M. Camps, S. Fallon, M.-J. Iriarte-Chiapusso, R. Jones, J. Maroto, M. de la Rasilla, D. Santamaría, J. Soler, N. Soler, A. Villaluenga, T.F.G. Higham. The chronology of the earliest Upper Palaeolithic in northern Iberia: New insights from L'Arbreda, Labeko Koba and La Viña, *Journal of Human Evolution* (2014), [dx.doi.org/10.1016/j.jhevol.2013.12.017](https://doi.org/10.1016/j.jhevol.2013.12.017)

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