

New doubts about the Neanderthal provenance of Nerja cave art

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The researcher José Luis Sanchidrián at the Nerja Cave. Credit: University of Cordoba

Dating cave art is a key issue for understanding human cognitive development. To understand the complexity of human evolution, it is

vital to know whether the ability for abstraction and conveying reality involved in artistic development is unique to Homo sapiens or if it was shared with other species, or at what moment these abilities developed.

Currently in Spain, researchers largely conduct U-series dating when trying to find out the age of artistic expressions in caves. The process uses the two elements uranium and thorium in the underlying and overlapping layers of calcite in the paint itself.

However, the timeline this system proposes seems to provide evidence for erroneous ages and an inverse relationship between the concentration of uranium and the apparent ages. In order to test the reliability of this dating method, University of Córdoba Prehistory Professor José Luis Sanchidrián Torti and associate researcher in prehistory María Ángeles Medina Alcaide performed a study in which they analyzed the reliability of uranium-thorium dating and refute Neanderthals being the creators of the Paleolithic art in Spanish caves via the Nerja Cave., The researchers do not doubt the cognitive abilities of the Neanderthals, but rather adhere to scientific rigor. The key, according to the Cordoba team, seems to be in the mobility of uranium, which would have assigned older (and inaccurate) ages to the [cave](#) art in some Spanish caves, thus ascribing the art to Homo neanderthalensis.

The research team analyzed several samples of calcite related to the chronometric test of a set of rocks in the Nerja Cave, obtaining proof of the complexity of the dating on calcite for the study of the chronology of cave art. In this way, they directly question the generally accepted conclusions to date about the artistic manifestations in several caves being the work of Neanderthals, which had been determined based solely on the uranium-thorium dating method.

In order to reconstruct the timeline of the history of [cave art](#), Sanchidrián and Medina's research proposes an action protocol for

dating Paleolithic art samples that uses data from three measuring systems: uranium-thorium testing, carbon-14 testing, and a second mineralogical study of the sample before dating.

It is essential to study in more detail the evolution of these artistic works in order to establish a rigorous and reliable chronological framework that allows researchers to understand and comprehend human artistic development.

More information: Edwige Pons-Branchu et al, U-series dating at Nerja cave reveal open system. Questioning the Neanderthal origin of Spanish rock art, *Journal of Archaeological Science* (2020). [DOI: 10.1016/j.jas.2020.105120](https://doi.org/10.1016/j.jas.2020.105120)

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