

# Better carbon dating revises some history

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Advances in radiocarbon dating are leading scientists to revise estimates of when early modern humans arrived in Europe.

Refinements in the paleontological tool have substantially narrowed the estimated overlap between Europe's earliest modern humans and the Neanderthals that preceded them, the journal *Nature* reported Thursday.

Radiocarbon dating estimates an artifact's age by sampling the radioactive carbon remaining from when it was formed. The new data suggest *Homo sapiens* wrested Europe from their prehistoric counterparts more quickly than had been thought.

Previous estimates suggested at least 7,000 years elapsed between H. sapiens arriving in Eastern Europe more than 40,000 years ago and the disappearance of the last known Neanderthals from western France, Nature.com reported. Newly calculated data shrink the overlap to, at most, 5,000 years.

Archaeologist Paul Mellars of the University of Cambridge told Nature key advances have made carbon dating more reliable.

Mellars notes recent analysis of sea sediments from the Cariaco Basin near Venezuela have provided the most accurate record yet of how carbon-14 levels have fluctuated, allowing the radiocarbon technique to be calibrated to around 50,000 years.

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