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The Latest Neanderthal

New evidence indicates that Neanderthals roamed central Europe far more recently than researchers thought

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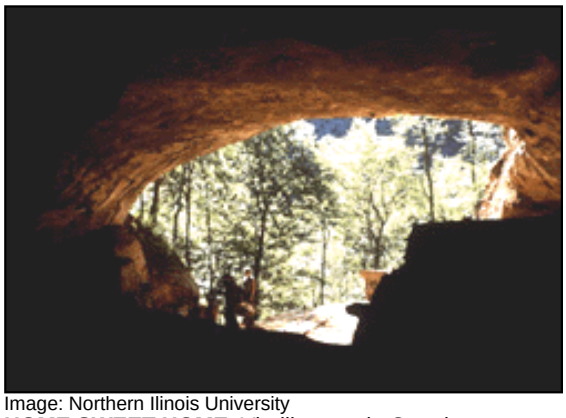

Image: Northern Illinois University
HOME SWEET HOME. Vindija cave in Croatia was inhabited by Neanderthals as recently as 28,000 years ago.

Theories abound about the fate of the Neanderthals. The most common picture painted by researchers is that they were not quite as bright as modern man (even though they had larger brain cavities), were rather brutish and were driven to extinction by the more facile and nimble modern *Homo sapiens* who flooded into Europe from Africa. Far from intermarrying or trading with their newly arrived cousins, the stocky, thick-browed Neanderthals may even have been slaughtered by them. As the story goes, the last few Neanderthals huddled in caves on Europe's Iberian Peninsula during the last great Ice Age and disappeared quietly about 34,000 years ago.

But new findings from a cave in Vindija, Croatia, combined with other recent discoveries, may upset some scholars' hereditary applecarts. In a paper published in the October 26 issue of the *Proceedings of the National Academy of Sciences,* a team of investigators report that the most recent remains found in the Vidija cave, which is located about 34 miles north of the Croatian capital of Zagreb, indicate that Neanderthals and modern man must have coexisted in central Europe for at least six millennia. "Most scientists would have expected to find the latest Neanderthal in southwest Europe, rather than in central Europe," said paleontologist Fred H. Smith, a research team member and chairman of the anthropology department at Northern Illinois University.

Image: Hunterian Museum

Using direct accelerator mass spectrometry radiocarbon dating, team member and colleagues at the University of Oxford in England determined that two pieces of Neanderthal skulls from the Vindija site are between 28,000 and 29,000 years old, compared with the most recent findings of 33,000 to 34,000 years for Neanderthal remains found in Spain.

Other findings from Vindija are even more intriguing. It appears that the two groups, at the very least, traded with each other--and may even have interbred. For example, Neanderthals are commonly associated with stone tools, while early modern humans made more sophisticated stone and bone tools. But those unearthed at Vindija were both kinds of tools, including a beveled bone probably used as the tip of a spear. "The big question is: 'Why do we have a combination of tools?' " Smith says. "It's possible Neanderthals developed all these tools or got the bone tools through trade with moderns." Both possibilities run counter to the generally accepted idea that Neanderthals could not produce implements from bone or use more sophisticated stone and bone tools.

In earlier work, Smith also argued that late Neanderthal fossils from the Vindija cave had some modern human anatomical characteristics. These conclusions also reinforce findings published by another team member, Erik Trinkaus, an anthropologist at Washington University in St. Louis. Last June, Trinkaus and European colleagues described the fossil of a 24,500-year-old early modern human child unearthed in Portugal. They observed that it had distinctive Neanderthal characteristics--an indication of interbreeding.

Moreover, the new Croatian dates indicating thousands of years of coexistence between Neanderthals and early modern humans in central Europe cast in a different light a study in which scientists compared the DNA

COMPARATIVE ANATOMY. Neanderthal skull*(top)* is characterized by thick brow ridges and a low sloping forehead. Those of modern humans *(bottom)* are thinner and more rounded with a higher forehead and a projecting chin.

of a Neanderthal with the DNA of contemporary humans. Published two years ago, the study concluded that, while Neanderthals and early modern humans may have coexisted in Europe, they probably didn't mate.

"The new dates, in my opinion, add some support to the idea that there was probably a good deal of genetic exchange between Neanderthals and modern humans," Smith said. "When you look at the anatomy of early modern Europeans, you also find a number of features that are hard to explain unless you allow the Neanderthals some ancestral status."

So, once again, new facts are changing the way we look at the past. The first depictions of Neanderthals shortly after the prototypical specimen was dug up in Germany's Neander Tal gorge in 1856 were definitely not the kind of person that you'd want in your neighborhood. A 1909 depiction based on the examination of a complete skeleton by the French paleontologist Marcellin Boule showed a stooped, club-carrying brute. Recent reconstructions show that they weren't really much more apelike than the early modern humans, who began appearing in Europe about 30,000 years ago.

Image: Neanderthal-- A Cyber Perspective

BEAST. Idea that Neanderthals were ape-like brutes prevailed for nearly 50 years.

In addition, it appears that the average Neanderthal was a skilled hunter and possessed a sophisticated kit of stone-flake tools with which he certainly made other wooden implements like spears. In the midst of a fearsome ice age he adapted well to the cold conditions and was adept at fire making and cooking. And judging from floral offerings in deliberate burial sites he may even have had some concept of the hereafter.

"The extinction of the Neanderthals by early modern humans, whether by displacement or population absorption, was a slow and geographically mosaic process," Trinkaus observes. "The differences between the two groups in basic behavior and abilities must have been small and rather subtle."

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