

A Case for Neandertal Culture by João Zilhão and Francesco d'Errico

Ever since the discovery nearly 150 years ago of the specimen that defined the Neandertals, researchers have tended to deny Neandertals the behavioral capabilities of modern humans, such as the use of symbols or of complex techniques for tool manufacture. Instead Neandertals were characterized as subhuman, stuck in primitive technical traditions impervious to innovation. And when sophisticated cultural remains were linked to late Neandertals at several sites in western Europe, the evidence was explained away. The most spectacular of these sites, a cave in north-central France named Grotte du Renne (one in a string of sites collectively known as the Arcy-sur-Cure caves), yielded a wealth of complex bone and stone tools, body ornaments and decorated objects, found in association with Neandertal remains. Other sites in France and along the Cantabrian and Pyrenean mountain ranges bore similar artifacts made in this tradition, called the Châtelperronian.

Because early modern Europeans had a comparable industry known as Aurignacian—which often appears at the same sites that contain Châtelperronian materials—some researchers have suggested that the archaeological layers were disrupted, mixing Aurignacian artifacts into the Neandertal-associated levels. Other scholars have interpreted this to mean that Neandertals picked up these ideas from mod-

erns, either collecting or trading for items manufactured by moderns or imitating the newcomers' practices without really grasping the underlying symbolic nature of some of the objects.

Our reassessment of the evidence from the Grotte du Renne shows that the Neandertal-associated personal ornaments and tools found there did not result from a mixing of the archaeological strata, as demonstrated by the presence of finished objects and the by-products of their manufacture in the same stratigraphic level. Moreover, the Châtelperronian artifacts recovered at the Grotte du Renne and other sites, such as Quinçay, in the Poitou-Charentes region of France, were created using techniques different from those favored by Aurignacians. With regard, for example, to the pendants—modified bear, wolf and deer teeth, among others—Neandertals carved a furrow around the tooth root so that a string of some sort could be tied around it for suspension, whereas Aurignacians pierced their pendants. As archaeologist François Lévêque and a colleague have described, even when, as they did on occasion, Neandertals put a hole through a tooth, they took an unusual approach, puncturing the tooth. Moderns, on the other hand, preferred to scrape the tooth thin and then pierce it.

Similarly, the new knapping techniques and tool types that appear

among late Neandertals at other sites in France, Italy and Spain fail to show any influence from the Aurignacian. Instead they maintain affinities with the preceding local traditions, of which they seem to represent an autonomous development.

If the Neandertals' Châtelperronian culture was an outcome of contact with moderns, then the Aurignacian should predate the Châtelperronian. Yet our reanalysis of the radiometric dates for the archaeological sequences reveals that apart from a few debatable instances of mixture, wherever both cultures are represented at the same site, the Châtelperronian always underlies the Aurignacian, suggesting its priority. Furthermore, consideration of the hundreds of datings available from this period in Europe and the Near East shows that wherever the context of the dated samples is well known, the earliest occurrences of the Aurignacian are apparently from no earlier than around 36,500 years ago. The same radiometric data, however, indicate that by then Neandertals were already



Yet hints that Neandertals thought symbolically had popped up. Neandertal burials, for example, are well known across Europe, and several, it has been argued, contain grave goods. (Other researchers maintain that for Neandertals, interment merely constituted a way of concealing the decomposing body, which might have attracted unwelcome predators. They view the purported grave goods as miscellaneous objects that happened to be swept into the grave.) Evidence for art, in the form of isolated pierced teeth and engraved bone fragments, and red and yellow ochre, has been reported from a few sites, too, but given their relative rarity, researchers tend to assign alternative explanations to these items.

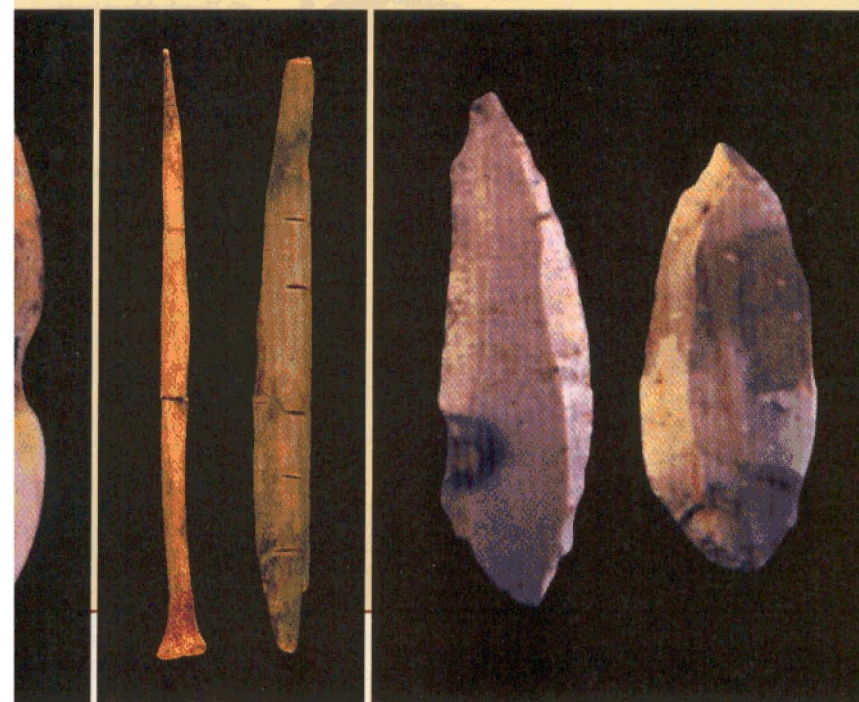
The possibility that Neandertals might have engaged in modern practices was taken more seriously in 1980, when researchers reported a Neandertal from the Saint-Césaire rock-shelter in Charente-Maritime, France, found in association with stone tools manufactured according to a cultural tradition known as the Châtelperronian, which was assumed to have been the handiwork of moderns. Then, in 1996, Hublin

and his colleagues made an announcement that catapulted the Châtelperronian into the archaeological limelight. Excavations that began in the late 1940s at a site called the Grotte du Renne at Arcy-sur-Cure near Auxerre, France, had yielded numerous blades, body ornaments and bone tools and revealed evidence of huts and hearths—all hallmarks of the Upper Paleolithic. The scant human remains found amid the artifacts were impossible to identify initially, but using computed tomography to examine the hidden inner-ear region preserved inside an otherwise uninformative skull fragment, Hublin's team identified the specimen as Neandertal.

In response, a number of scientists suggested that Neandertals had acquired the modern-looking items either by stealing them, collecting artifacts discarded by moderns or perhaps trading for them. But this view has come under fire, most recently from archaeologists Francesco d'Errico of the University

of Bordeaux and João Zilhão of the Portuguese Institute of Archaeology, who argue that the Châtelperronian artifacts at the Grotte du Renne and elsewhere, though superficially similar to those from the Aurignacian, reflect an older, different method of manufacture [see "A Case for Neandertal Culture," above].

PENDANTS, BONE TOOLS AND KNIVES from the Grotte du Renne site seem to be the handiwork of Neandertals. That the advanced items underlie early modern human cultural remains from the same site and are manufactured according to methods different from those favored by the moderns suggests that some Neandertals independently developed a modern culture.



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Most researchers are now convinced that Neandertals manufactured the Châtelperronian tools and ornaments, but what prompted this change after hundreds of thousands of years is unclear. Cast in this light, "it's more economical to see that as a result of imitation or acculturation from modern humans than to assume that Neandertals invented it for themselves," reasons Cambridge archaeologist Paul A. Mellars. "It would be an extraordinary coincidence if they invented all these things shortly before the modern humans doing the same things arrived." Furthermore, Mellars disagrees with d'Errico and Zilhão's pro-

posed order of events. "The dating evidence proves to me that [Neandertals] only started to do these things after the modern humans had arrived in western Europe or at least in northern Spain," he asserts. (Unfortunately, because scientists have been unable to date these sites with sufficient precision, researchers can interpret the data differently.)

From his own work on the Grotte du Renne body ornaments, New York University archaeologist Randall White argues that these artifacts reflect manufacturing methods known—albeit at lower frequencies—from Aurignacian ornaments. Given the complicated stratigraphy of the Grotte du Renne site, the modern-looking items might have come from overlying Aurignacian levels. But more important, according to White, the Châtelperronian does not exist outside of France, Belgium, Italy and northern Spain. Once you look at the Upper Paleolithic from a pan-European perspective, he says, "the Châtelperronian becomes post-Aurignacian by a long shot."

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in traditional societies, reflects various social roles within Neandertal cultures. Thus, "modern" behavior seems to have emerged in different regions and among different groups of humans, as would happen later in history with the invention of agriculture, writing and state society.

An alternative explanation, taking into account the broadly simultaneous appearance of personal ornaments in many parts of the Old World, is that contacts between modern and archaic humans challenged each group's personal, social and biological identities, igniting an explosion of production of symbolic objects by all those involved. On the strength of the available data, however, we favor the hypothesis of independent invention.

Regardless of which is eventually proved correct, the behavioral barrier that seemed to separate moderns from Neandertals and gave us the impression of being a unique and particularly gifted human type—the ability to produce symbolic cultures—has definitively collapsed.

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