Summary: 06 The Durée of the Cave Bear

In 1994 a cave containing the oldest cave art in Europe was discovered at Vallon-Pont d'Arc in the Ardèche. Now called Chauvet Cave (http://www.culture.gouv.fr/culture/arcnat/chauvet/en/) it includes extraordinary drawings of bison, lions, horses and other animals dated more than 30 KYA. Most extraordinarily however, the floor of the cave is littered with the bones of cave bears (*Ursus spelaeus*) and its walls covered with paintings of the now extinct species. On a rock, obviously set there by human hand, is the skull of a cave bear and in the mud, even a paw-print. As David Lewis Williams says, *..the sophistication of the images confirmed* [that] *the notion of a linear evolution of art from simple to complex forms is, quite simply, wrong…. It is now clear that all techniques of image making were practised in the Aurignacian.*

It is thought that cave bears lived in Europe for at least 300,000 years before becoming extinct round about 15-10 KYA and so shared the continent with both *Homo sapiens* and *H. Neanderthalensis*.

The Neanderthal Questions: the first is "Are we responsible for the extinction of the Neanderthals?" and the second, "Did modern humans inter-breed with Neanderthals?"

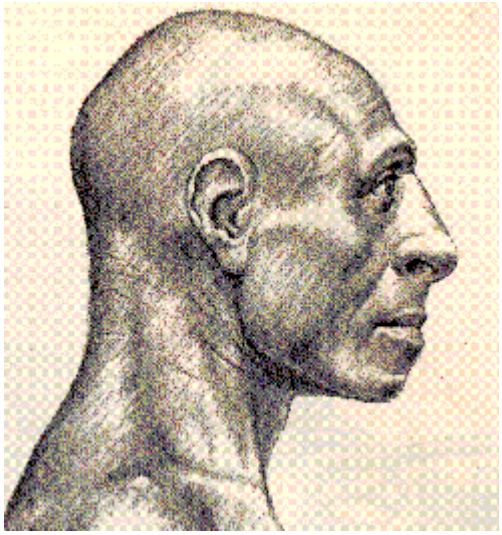
- There is no archaeological evidence of warfare between the species. Rather than intentional elimination, the most probable explanation is that our remote ancestors commandeered their territories and resources.
- In 2006 scientists succeeded in recovering Neanderthal DNA. Results show that the genomes of modern humans and Neanderthals are at least 99.5% identical, but there is no evidence of any significant crossbreeding between the two. If we are cousins, then we last shared a common ancestor 700,000 years ago. Earlier studies in 1999, 2000 and 2003 involving two of the leading scientists in this field Svente Pääbo and Mark Stoneking, showed there were greater mtDNA differences between Neanderthal and humans than there were between humans alone or between Neanderthals alone, indicating that there was little likelihood the two species had inter-bred. The Neanderthals tested were about the same genetic age as the early emigrants from Africa (Aborigines, Africans, some Asians) while Europeans were much younger.
- While the weight of evidence indicates that Neanderthals and our ancestors could not have inter-bred successfully, there are some studies which suggest that at least some of our genes might have come from them. One such study, published in 2006 by Jeffrey D Wall and Michael F Hammer argues that about 5% of our genes could have come from Neanderthal ancestors, thus lending some continuing weight to the "hybridization hypothesis" but not the "multi-regional" theory of the origins of modern humans.
- The remains of a small boy discovered in 1998 at Lagar Velho in the Lapedo Valley in Portugal were hailed as evidence of inter-breeding by some experts and rebutted by others. In all probability, the little boy was just a "chunky child".

Neanderthal Man was probably no less intelligent than we are; he had a larger nose (cold adapted), was stockier in build with more robust bones, no waist (his rib cage was bell-like), and he had bigger, much stronger hands (he probably held tools between his fingertips, not grasped as we do). It is believed he had some capacity for speech but his voice would have been higher-pitched than ours. The absence of milling stones at Neanderthal sites indicates he had a mainly meat diet and so was probably a skilled hunter with short-range weapons (no sling shots, spear throwers etc). There appears to have been little division of labour among Neanderthals — women and children hunting with the men. An absence of needles indicates they probably wore

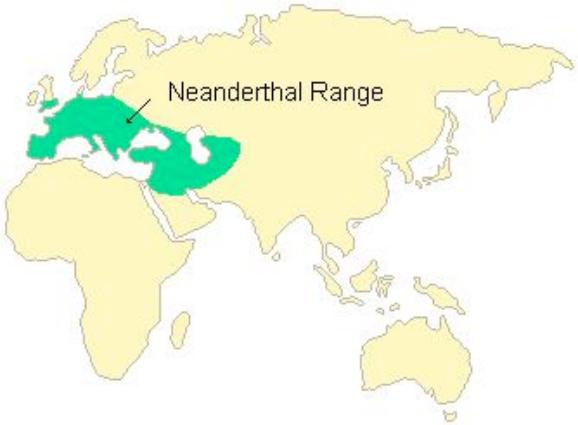
skins for clothing which were only coarsely assembled and perhaps because they were less well protected from the elements, made greater use of caves than did *Homo sapiens*. They also lived through most of the Ice Age, arriving in Europe around 350 KYA and so experienced a much greater range of climate change than *H. sapiens* did.

The last known members of this species died in what is now Portugal and at Gibraltar ~ 28 KYA. So, for about 10,000 years, these two species lived together in Europe and the Near East, the numbers of Neanderthals dwindling in the face of our ancestors' advance from east to west.

But, as the man who has rebuilt a Neanderthal skeleton, Dr. Tattersall, said *"What Neanderthals did, how they managed in extreme environments, they did very well. It was only Homo sapiens, it seems, that they couldn't cope with."*



Modern reconstruction of H. neanderthalensis



An Ancestor: the Man of Twenty Thousand Years Ago
— L'Illustration & Illustrated London News, 1909.