

§ 10. Doctrine of Man
Lecture 15
Were Neanderthals Humans?

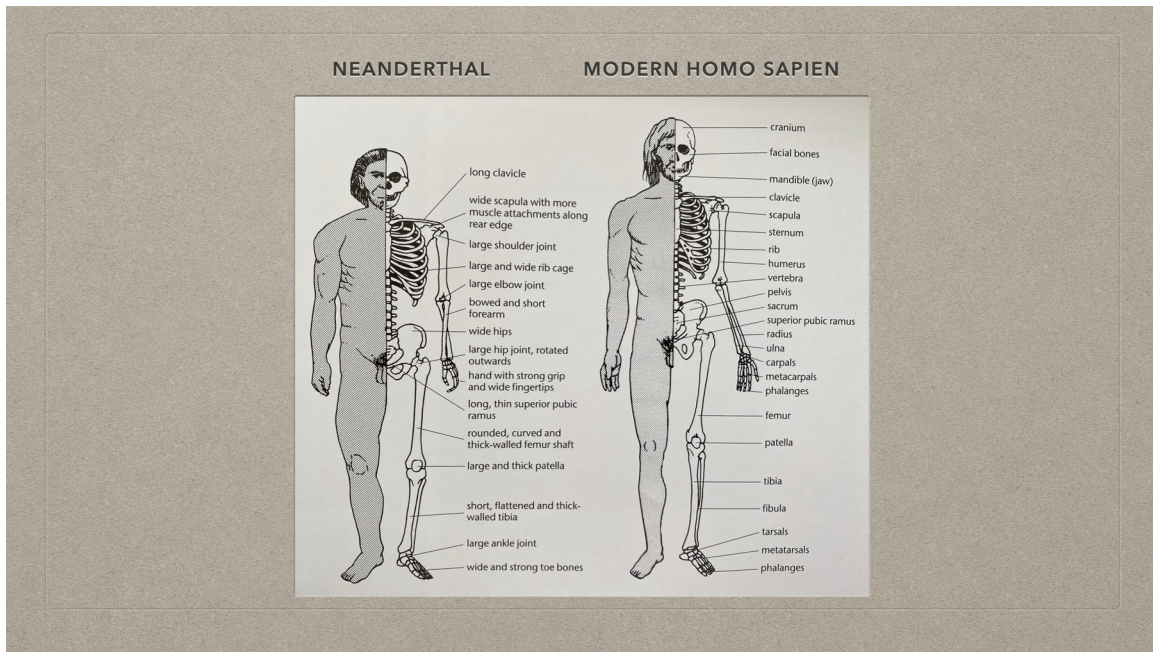
Welcome to Defenders class! Coming to you from my home office during this time of quarantine, I almost feel as though we should rename the class Defenders-in-Exile! But we are all doing well. Jan and I are well in the midst of this time of sequestration, though the COVID-19 virus has touched the Reasonable Faith family. One of our staff members in Oklahoma who is involved in this live stream of the Defenders class came down with the virus and has been feeling pretty crummy. But he's soldiering through and is actually helping with the live stream this morning as we go out.

I received a question on Facebook concerning last week's lesson that I thought worth addressing this morning before we move to the lesson today. Someone said, "Why do you associate absolute brain size with increased cognitive capacity or intelligence? Aren't there other mammals, for example elephants, that have much larger brains than human beings and yet they are not more intelligent than human beings?" The answer is that in hominins in particular brain size is positively correlated with increased cognitive capacity and intelligence. With respect to other mammals who have larger brains than human beings like whales or elephants, what is crucial here is to also consider not simply the absolute size but what's called the encephalization quotient which is a sort of ratio between brain size and body mass. When you calculate that you find that the encephalization quotient for whales and elephants is very small whereas for human beings it is somewhere about 7. So when you look at the so-called "EQ" as well as the absolute brain size this confirms that the increased brain size in hominins is positively correlated with an increase in cognitive capacity and intelligence.

In our lesson last time we saw that human beings in the full sense of that word originated on this planet somewhere between one million years ago at the earliest and 50,000 years ago at the very latest. By pushing these boundaries inward if we can, we can try to determine more exactly the point of human origins.

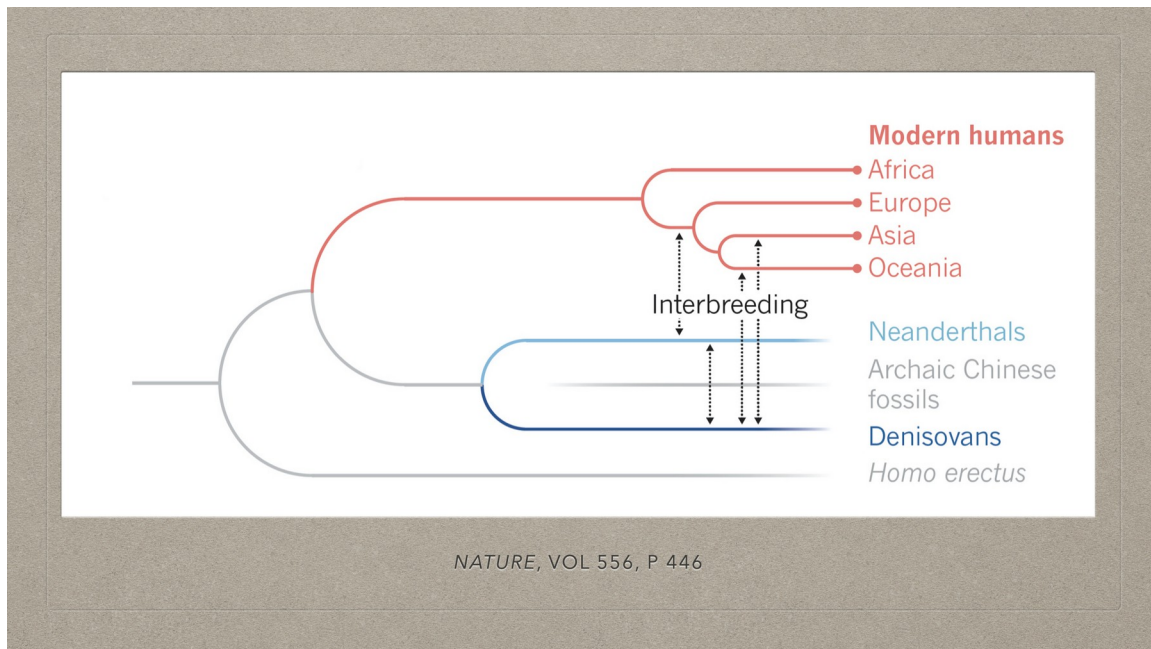
The key question to be answered here with respect to the time of human origins is whether Neanderthals were human. Neanderthals lived in the Middle East and Europe between about 350,000 years ago down to 30,000 years ago. They lived in both warmer climates and then later through the ice ages. They were shorter and wider than modern *Homo sapiens*, more like modern peoples who are adapted to the cold climate, such as the Inuit Indians.

Here you see a slide that exhibits the anatomical similarities between Neanderthals and *Homo sapiens*. I think you can see that although there are certainly differences, these differences are not major.



According to Stringer and Andrews in their book, *The Complete World of Human Evolution*, “in response to their demanding, and at times, dangerous lives, the Neanderthal skeleton was strongly reinforced with thick bone, particularly in the shape and strength of the leg bones. Their physique has been described as combining that of a powerful wrestler with the endurance of a marathon runner!” As we have seen Neanderthals had a brain capacity equal to that of modern man.

In 2010 scientists were able to reconstruct the complete Neanderthal genome from fossil remains and then to compare Neanderthal DNA with that of modern *Homo sapiens*. What they discovered is that *Homo sapiens* had interbred with Neanderthals over a very considerable time and also with another ancient hominin called Denisovans. As a consequence, around 2% of the DNA from people today outside Africa is derived from Neanderthals, and Oceanic populations have an additional 2%–4% of their DNA from ancient Denisovans.



The simple fact of interbreeding carries implications for the humanity of Neanderthals and Denisovans. They interacted repeatedly with anatomically modern human beings over tens of thousands of years. Such social and sexual intercourse plausibly requires communication, and, hence, language. Kai Whiting comments,

it seems quite unreasonable to assume that all sexual encounters between the different Homo species were of the non-consensual variety. It is much more likely that at least some of the instances of interbreeding between co-existing Homo species, including anatomically modern humans, were the result of communication and a degree of affection or appreciation. Regardless of the exact dynamics of sexual relations, we know for certain that some resulted in offspring that could claim kinship to more than one set of human species.¹

And we are descended from these people today.

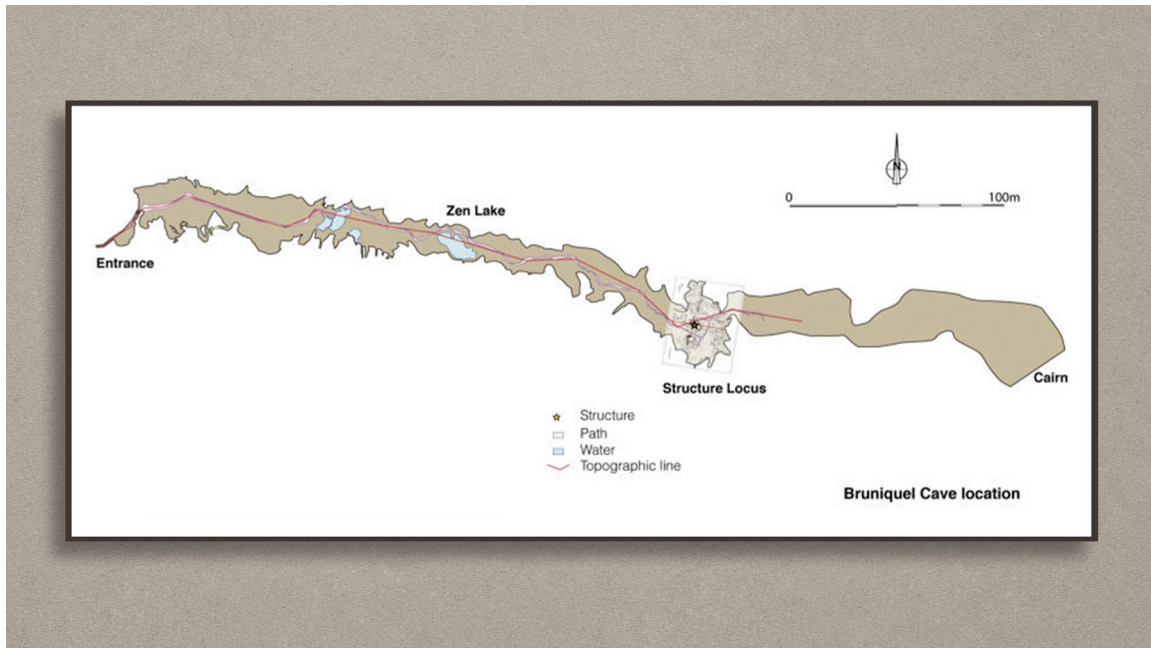
There is thus a strong presumption, I think, in favor of Neanderthals' humanity.

Let me home in now on just three archaeological discoveries that confirm this conclusion.

1. The constructions at Bruniquel Cave in France. In 2016 French archaeologists reported on strange circular constructions found deep inside Bruniquel Cave in southwestern France. No humans had entered the cave since its natural closing in the Pleistocene Epoch and its re-opening in 1990, guaranteeing that the structures inside are undisturbed. The cave itself is a long, snaking corridor 10 to 15 meters wide and 482 meters long. The

¹ Kai Whiting et al, "Were Neanderthals Rational? A Stoic Approach," *Humanities* 7 (2018): 39; doi:10.3390/h7020039

structures are found in a room at the astonishing depth of 336 meters from the cave entrance, which places them in complete darkness. They consist of about 400 whole or partial stalagmites with lengths of 34 centimeters for the long ones and 29 centimeters for the small ones. The pieces are arranged in two large rings and four smaller heaps. The two rings are composed of one to four stacked layers of aligned stalagmites. Traces of fire are to be found on all six structures.



Uranium-series dating gives a reliable age of 176,000 years to these structures, making them among the oldest constructions made by man ever discovered. Neanderthals were the only humans living in Europe at that time. Jacques Jaubert, the lead archaeologist at the site, comments on the significance of these constructions:

This type of construction implies the beginnings of a social organization: This organization could consist of a project that was designed and discussed by one or several individuals, a distribution of the tasks of choosing, collecting and calibrating the speleofacts [stalagmites], followed by their transport (or vice versa) and placement according to a predetermined plan. This work would also require adequate lighting. . . . The complexity of the structure, combined with its difficult access (335 m from the cave entrance), are signs of a collective project and therefore suggest the existence of an organized society that was already on the path to 'modernity'.

No one knows what would prompt these early humans to penetrate deep into the interior of a cave, torches in hand, to build such structures. Such activity may well betoken ritualistic or symbolic behavior, thus underlining the human status of the individuals involved. This is but one piece of evidence that we and Neanderthals are both members of the human family descended from Adam.

2. The discovery of Neanderthal art. Up until very recently all the prehistoric art discovered seemed to belong to *Homo sapiens*. Now hand stencils have been identified in Maltravieso Cave in Spain, along with other instances of non-figurative paintings in La Pasiega Cave and Ardales Cave. Uranium-thorium testing of calcium carbonate crusts overlying the hand stencil dated it to at least 66,700 years ago and dated the paintings collectively at a minimum of 64,800 years ago, predating the arrival of *Homo sapiens* in Europe by some 20,000 years. “The implication is, therefore, that the artists were Neanderthals.”²

Reflecting on the significance of this finding, Hoffman and his colleagues (the lead excavators) state,

This cave painting activity constitutes a symbolic behavior by definition, and one that is deeply rooted. At Ardales, distinct episodes over a period of more than 25 ka corroborate that we are not dealing with a one-off burst but with a long tradition that may well stretch back to the time of the annular construction found in Bruniquel cave, France, dated to 176.5 ± 2.1 ka ago. Dating results for the excavation site at Cueva de los Aviones, Spain, which place symbolic use of marine shells and mineral pigments by Neandertals at >115 ka ago, further support the antiquity of Neanderthal symbolism.³

Given that the use of imagery and representation in art is a signature of modern human behavior among *Homo sapiens*, it would prejudicial to deny the humanity of the Neanderthal artists. The contemporaneous presence of similar cave art in both Spain and Indonesia half the world away implies an origin of symbolic behavior and hence, humanity, which is vastly older still.

3. The Schöningen spears. Excavations during the 1990s at the site of an open pit coal mine near Schöningen, Germany, unearthed eight remarkable wooden spears. The coal mine from which the spears were excavated has six sequences of multiple layers of sedimentary deposits. The spears were found in the fourth layer of the second sequence, dated to the third interglacial period between 400,000 and 300,000 years ago! These spears aren't anything like the sticks that chimpanzees sharpen with their teeth and use to stick things. Rather, these are over 6 or 7 foot long sculpted spears designed for throwing.

² D. L. Hoffmann, et al., “U-Th dating of carbonate crusts reveals Neandertal origin of Iberian cave art,” *Science* 359 (23 Feb 2018), pp. 912-915, DOI: 10.1126/science.aap7778.

³ Ibid., p. 915.

Here you see some photographs of these spears. They have suffered severe deformation from the weight of the sedimentary layers overlying them over hundreds of thousands of years.



SCHÖNINGEN SPEAR



SCHÖNINGEN SPEARS

The circumference of the first third of the spear is greater, so that it tapers off toward the butt. As a result, most of the weight is forward, to assist in throwing like a javelin. In fact,

wooden reproductions of these spears have been made and tested for accuracy, distance, and penetration by Olympic athletes. And these spears were found to be on a par with modern Olympic javelins! Hartmut Thieme, the lead excavator at Schöningen, says, “Found in association with stone tools and the butchered remains of more than ten horses, the spears strongly suggest that systematic hunting, involving foresight, planning and the use of appropriate technology, was part of the behavioral repertoire of pre-modern hominids.” The mention of foresight and planning is especially significant, since these are commonly thought to be indicative of a truly human consciousness which is freed from the immediate here and now and can therefore imagine possibilities.

Big game hunting, such as the hunters at Schöningen were engaged in, is a risky business which would have required cooperation and perhaps even language ability, which is uniquely human. Possible big game hunting has also been suggested at sites such as Boxgrove (ca. 500,000 years ago) and Clacton (ca. 300,000 years ago), England. At Clacton, a fragment of such a wooden spear was found. I’m persuaded that the Schöningen spears, along with the remains of *Homo heidelbergensis* (or Heidelberg Man) at Boxgrove, England, are enormously significant in demonstrating incredibly early “modern” cognitive behavior. The remains at Boxgrove from several rhinoceros and horse skeletons bear butchery marks from stone tools, and microscopic analysis of the wear on stone scrapers from sites such as Clacton indicate that a number of these tools were used for hide-scraping. Hides could then have been used for blankets, simple clothing, cords for stitching or tying things together, or carrying items.

Homo heidelbergensis (Heidelberg Man), widely regarded as the ancestor of both *Homo sapiens* and Neanderthals already then exhibits human behavior and modern cognitive capacity.

In sum, humanity should not be thought to comprise only *Homo sapiens*. Rather, Neanderthals, too, exhibit the cognitive signs of human behavior and so should be regarded as part of the human family.

Next time we will see what implications this has for locating the historical Adam. Until then, stay safe.⁴