

NEANDERTHAL MAN—ANOTHER LOOK

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For many years, evolutionists taught that Neanderthals (sometimes spelled Neandertals) were brawny, prehistoric creatures that used primitive stone tools, whereas “modern” humans were more sophisticated. If we were to spot a Neanderthal walking the streets of a modern city, we probably would recognize him by his prominent brow ridges, low forehead, flat skull, weak chin, jutting mid-facial region, very large nose, forward-sloping face, and short, muscular limbs—to name some of the more visible characteristics (Stringer and Gamble, 1993, pp. 76-77). *The American Heritage Dictionary of the English Language* uses words such as crude, boorish, and slow-witted to describe this species. However, as the facts slowly are becoming known, they are requiring a renovation of that definition.

After discovering the first Neanderthal skullcap in 1856 in the Neander Valley near Dusseldorf, Germany, German anatomist Rudolph Virchow said in essence that the fossil was the remains of a modern man afflicted with rickets and osteoporosis. In 1958, at the International Congress of Zoology, A.J.E. Cave stated that his examination of the famous Neanderthal skeleton established that it was simply an old man who had suffered from arthritis. Francis Ivanhoe authored an article that appeared in *Nature* titled “Was Virchow Right About Neanderthal?” (1970). Virchow had reported that the Neanderthal’s ape-like appearance was due to a condition known as rickets, which is a vitamin-D deficiency characterized by overproduction (and deficient calcification) of bone tissue. The disease causes skeletal deformities, enlargement of the liver and spleen, and generalized tenderness throughout the body. Dr. Cave noted that every Neanderthal child’s skull that had been studied up to that point in time apparently was affected by severe rickets. When rickets occurs in children, it commonly produces a large head due to late closure of the epiphysis and fontanelles.

Even though Ivanhoe was an evolutionist, he nevertheless went on to note that the wide distribution of Neanderthal finds in various parts of the world explained the differences seen in bone configuration. The extreme variation in locations of these Neanderthal discoveries probably played a role in the diversity of the fossils assigned to the Neanderthal group. The differences likely were a result of different amounts of sunlight for a given area, which prevented or retarded vitamin D production (vitamin D is manufactured in the skin upon exposure to sunlight). In adults, a lack of vitamin D causes osteomalacia, a softening of the bones that often results in longer bones “bowing” (a condition reported in many Neanderthal fossils).

Scientists have debated long and hard concerning whether there exists any difference between Neanderthal specimens and modern humans. One of the world’s foremost authorities on the Neanderthals, Erik Trinkaus, concluded:

Detailed comparisons of Neanderthal skeletal remains with those of modern humans have shown that there is nothing in Neanderthal anatomy that conclusively indicates locomotor, manipulative, intellectual or linguistic abilities inferior to those of modern humans (1978, 87[10]:58).

In the March 2, 2001 issue of *Science*, Ann Gibbons authored an article titled *The Riddle of Coexistence* (Gibbons, 2001). She began with a dramatic opening by asking the reader to imagine forty thousand years ago when “our ancestors wandered into Europe and met another type of human already living there, the brawny, big-brained Neandertals.” She then went on to state that “such a collision between groups of humans must have happened many times” (291:1725). Can’t you just picture that meeting? “Hi, I’m Neanderthal Man.” Reply: “Nice to meet you Mr. Neanderthal, I’m Modern Man.”

The admission that such a “collision” of the two groups very likely took place was necessitated by recent fossil findings that put Neanderthals and modern humans in the same place at the same time. Scientists dated the remains of anatomically modern humans from caves at Qafzeh and Skhul in Israel, and found them to be 92,000 to 100,000 years old (according to their dating techniques). **However, such dates place modern humans earlier than the Neanderthals who, according to the fossil record, inhabited the neighboring cave of Kebara (only 100 meters away**

from Skhul) 40,000 years later! This obviously is problematic (a mild understatement!) to those who accept the standard evolutionary view that Neanderthals were the dimwitted forerunners (or distant cousins) of humans.

NEANDERTHALS, MODERN HUMANS, AND DNA RESEARCH

Creationists defend the view that Neanderthals were nothing more than *Homo sapiens*—man. Evolutionists disagree, based mainly on studies of Neanderthal DNA. The July 11, 1997 issue of the journal *Cell* contained an article by Krings, et al., titled “Neanderthal DNA sequences and the Origin of Modern Humans” (Krings, et al., 1997). In that article, Dr. Krings and his coworkers explained how they successfully extracted mitochondrial DNA (mtDNA—which resides in the cell’s mitochondria or “energy factories”) from the humerus (right arm bone) of the original Neanderthal fossil discovered in 1856. The scientific team doing the research, led by Svante Pääbo of the University of Munich, chose to search for mtDNA rather than nuclear DNA, due in large part to the fact that whereas there are only two copies of DNA in the nucleus of each cell (one from each parent), there are 500 to 1,000 copies per cell of mtDNA. Hence, the possibility was much greater that some of the ancient mtDNA might have been preserved. Unlike nuclear DNA, mtDNA is passed on in an unchanged form from a mother to her offspring; the father’s mtDNA is left behind. Thus, since changes in mtDNA are the result of mutations rather than genetic mixing, evolutionists believe that mtDNA is a more accurate reflection of evolutionary history.

At the conclusion of their research, the scientists involved suggested that fewer differences in the mtDNA exist between modern humans, than exist between modern humans and the Neanderthal specimen. Based on those differences, evolutionists have suggested that the Neanderthal line diverged from the line leading to modern humans about 550,000 to 690,000 years ago, and that Neanderthals became extinct without contributing any genetic material to modern humans through intermarriage. As Marvin Lubenow explained:

The implications are that the Neandertals did not evolve into fully modern humans, that they were a different species from modern humans, and that they were just one of many proto-human types that were failed evolutionary experiments. We alone evolved to full humanity (1998, 12[1]:87).

When the first Neanderthal fossil was discovered, the creature was classified as *Homo neanderthalensis*, and as such was considered a separate species within the genus *Homo*. However, when additional evidence became available (in 1964) to suggest that Neanderthals were, in fact, humans, the Neanderthals were reclassified as *Homo sapiens neanderthalensis* (i.e., a sub-species of humans), and modern humans were given a sub-species designation as well—*Homo sapiens sapiens*. Now, there is a clamoring among evolutionists—based on the mtDNA evidence—to return to the original *H. neanderthalensis* designation. In his 1999 book, *The Human Inheritance*, Bryan Sykes of the Institute of Molecular Medicine at Oxford University, wrote:

The mitochondrial DNA pattern of the Neanderthal does indeed show that human mtDNA diversity was much greater in the past, and allows a calibration of the divergence time of the Neanderthal pattern from that characterising modern humans of about 600 ka [thousand years ago—BT]. Gene divergence precedes population and species divergence, but this figure is certainly compatible with interpretations from the fossil record that the Neanderthal lineage separated from our own at about 300 ka. Equally, it is incompatible with suggestions that Neanderthals were either uniquely ancestral to recent Europeans through evolution, or were partly ancestral through hybridisation (pp. 43-44).

In his 2000 book, *Genes, People, and Languages*, Luigi Cavalli-Sforza, professor emeritus of genetics at Stanford University and director of the International Human Genome Project, commented:

There is a considerable difference between the mtDNA of this Neanderthal and that of practically any modern human. From a quantitative evaluation of this difference it was estimated that the last common ancestor of Neanderthal and modern humans lived about half a million years ago. It is not quite clear where those common ancestors lived, but modern humans and Neanderthal must have separated early and developed separately, modern humans in Africa and Neanderthals in Europe. The results of mitochondrial DNA show clearly that Neanderthal was not our direct ancestor, unlike earlier hypotheses made by some paleoanthropologists (p. 35).

We beg to differ! The results of mtDNA research **do not** “show clearly that Neanderthal was not our direct ancestor.” Truth be told, a closer examination of the mtDNA research shows that it is not all it has been cracked up to be. The Krings study compared various DNA sequences from **1669** modern humans with **one** Neanderthal. Statistically, this not only is insignificant, but also incorrect. As Lubenow wrote in regard to this mtDNA research:

Statistics has been used to cloud the relationship between Neanderthals and modern humans. It is improper to use statistical “averages” in situations where many entities are being compared with only one entity. In this case, 994 sequences from **1669 modern humans** are compared with **one sequence from one Neanderthal**. Thus, there is no Neanderthal “average,” and the comparison is not valid (1998, 12[1]:92, emp. added).

The original study showed that the Neanderthal individual had a minimum of 22 mtDNA substitution differences when compared to modern humans. **Yet mtDNA substitution differences among modern humans range from 1 to 24.** As Lubenow correctly noted:

That means that there are a few modern humans who differ by 24 substitutions from a few other modern humans—two substitutions more than the Neanderthal individual. Would not logic demand that those few modern humans living today should also be placed in a separate species? To state the question is to reveal the absurdity of using such differences as a measure of species distinctions (12[1]:92).

Furthermore, as Maryellen Ruvolo of Harvard has pointed out, the genetic variation between the modern and Neanderthal sequences is within the range of substitutions within other single species of primates. She concluded: “. . . [T]here isn't a yardstick for genetic difference upon which you can define a species” (as quoted in Kahn and Gibbons, 1997, 277:177). Geneticist Simon Easteal of Australian National University, noting that chimpanzees, gorillas, and other primates have much more intra-species mtDNA diversity than modern humans, wrote: “The amount of diversity between Neanderthals and living humans is not exceptional” (as quoted in Wong, 1998, 278[1]:32). In an article in *Scientific American* titled “Ancestral Quandary: Neanderthals Not Our Ancestors? Not So Fast,” Kate Wong observed: “The evolutionary history of mtDNA, a lone gene, is only so informative.” She then went on to quote geneticist Alan R. Templeton of Washington University, who admitted: “You can always construct a gene tree for any set of genetic variation. But there's a big distinction between gene trees and population trees” since a population tree comprises the histories of many genes (278[1]:30). D. Melnick and G. Hoelzer of Columbia University even went so far as to state: “Our results suggest serious problems with the use of mtDNA to estimate ‘true’ population genetic structure. . .” (1992, p. 122). Why is this the case? Luigi Cavalli-Sforza himself admitted that “. . . the mitochondrial genome represents only a small fraction of an individual's genetic material and may not be representative of the whole” (Mountain, et al., 1993, p. 69).

In an article titled “Recovery of Neanderthal DNA: An Evaluation,” Marvin Lubenow (1998, 12[1]:95) offered several different alternative interpretations for the mtDNA data which have been used to suggest that Neanderthals and humans do not belong in the same species. Among those were the following.

1. Perhaps the single individual from whom the mtDNA was extracted was from a small, isolated group of Neanderthals. After all, the Neander Valley in Germany (where the fossil was discovered in 1856) is one of the northernmost Neanderthal sites, close to ice-age glaciers. Of the 345 Neanderthal individuals discovered thus far, only 14 are from Germany, and 12 of them were far to the south of where this individual was found.

2. Perhaps the single Neanderthal individual from whom the mtDNA sequences were derived was at one extreme of a diverse spectrum in Neanderthals that included other more modern-like sequences. Future recovery of mtDNA from other Neanderthals (if that is possible) could help confirm whether or not this is true.

3. Perhaps our Neanderthal ancestors underwent a population “bottleneck” that wiped out a great deal of the original genetic variation. In support of such a concept, Kahn and Gibbons wrote in *Science*: “Living humans are strangely homogeneous genetically, presumably because. . . their ancestors underwent a population bottleneck that wiped out variations” (1997, 277:175).

Over the past several years, the scientific community has witnessed (not always to its liking, I might add) a serious “redefining” of the Neanderthal people. Some anthropologists of the past depicted them as culturally stag-

nant, if not outright stupid, individuals. In 1996, however, researchers were forced to reevaluate their long-held views on Neanderthals, due to the discovery of musical instruments and items of personal ornamentation (similar to our jewelry) [see: Hublin, et al., 1996; “Neanderthal Noisemaker,” 1996; Folger and Menon, 1997]. Furthermore, almost all anthropologists recognize burial rituals as being not just strictly associated with humans, but as a distinctly religious act as well. That being the case, the strongest evidence to date that the Neanderthals were, in fact, human, is that at four different sites where Neanderthal fossils were found, **Neanderthals and modern humans were buried together!** As Lubenow noted: “That Neanderthals and anatomically modern humans were buried together constitutes strong evidence that they lived together, worked together, intermarried, and were accepted as members of the same family, clan, and community. . . . If genuine mtDNA was recovered from the fossil from the Neander Valley, the results have been misinterpreted” (1998, 12[1]:89). Indeed they have! In his book, *The Evolution Wars*, Michael Ruse noted: “Modern humans, that is *Homo sapiens* like us, were at one point thought all to come after Neanderthals, but now the thinking is that our remains date back almost as far, and **there is evidence in some places that modern humans lived together with Neanderthals. . . .** A new skeleton, apparently a **modern human/Neanderthal hybrid**, has just been discovered (Duarte 1999)” [2001, pp. 187-188, emp. added]. As archaeologist Randall White of New York University said regarding the Neanderthals: “The more this kind of evidence accumulates, the more they look like us” (as quoted in Folger and Menon, 18[1]:33). Indeed they do. And so they should!

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