

Chapter 16 Excerpt

In the years since the debate began, evidence has continued to mount that Neanderthals were, indeed, an evolutionary dead-end. On March, 29, 2000, the *New York Times*, announced that “New DNA evidence, extracted from the ribs of a Neanderthal infant, one of the last of its kind, supports the thesis that these hardy, beetle-browed people left little or no genetic legacy in today’s populations.” Neanderthal DNA had been first isolated in 1997, from bones first found in the Feldhofer Cave in the Neander Valley in 1856. Those DNA findings, which showed a pattern very different from modern humans, were greeted skeptically by supporters of the Neanderthal-human assimilation theory.

The confirmation from the second sample forced even Smith to concede, grudgingly and carefully, that the new DNA data were “incredibly important and significant,” and that it “certainly strengthens the fact that there is quite a gap between Neanderthals and recent humans in terms of mitochondrial DNA.” But he and others remain emotionally attached to the proposition that some interbreeding did take place between Neanderthals and modern humans.

Despite beliefs of that type, there can be little doubt that both the fossil record and molecular data point overwhelmingly to Africa as the cradle of mankind, and that the molecular data strongly suggests that anatomically modern man migrated out of Africa about 50,000 years ago, gradually replacing the more primitive types then living in Asia and Europe. Geneticists have been able to construct human family trees, using both mitochondrial DNA and the Y chromosome.

The most detailed of the trees to date is one constructed by Dr. Douglas Wallace of Emory University on the basis of mitochondrial DNA. Wallace discovered that while all other populations were split into various lineage groups, in Africa there is a single main lineage, which he designated L. This L lineage divided into three branches and the youngest branch, L3, which is common in East Africa, is believed to be the source of both the Asian and European lineages.

Wallace also concluded that the most ancient human populations are the Vasikela Kung of the northwestern Kalahari Desert in southern Africa and the Biaka pygmies of Central Africa. Wallace’s theory, which is consistent with the linguistic evidence, was substantially confirmed by another study, this time of the male or Y chromosome. Conducted by Dr. Peter A. Underhill of Stanford University and published in *The American Journal of Human Genetics* in December 2001, the study reported that the earliest mutations in the Y chromosome tree are found at high frequency among the Khoisan and among the Oromo and Amhara peoples of Ethiopia.

Although the mitochondrial DNA and Y chromosome trees led, in some instances, to slightly different African populations, both pointed to the Khoisan since Kung speakers are members of the Khoisan language family. The discrepancy is hardly surprising, as Underhill explained, because many of the earliest lineages in the ancestral population are likely to have been lost and survival was based purely on chance. Far more relevant is Underhill’s observation that the earliest Y chromosome lineages are only found in Africa and are apparently associated with hunter-gatherer-forager lifestyles.

He believes that the men carrying these lineages began spreading across Africa somewhere between 130,000 and 70,000 years ago. Then, about 50,000 years ago, a new lineage arose and a population derived from this lineage left Africa for southern Asia and Australia. Finally, another population from the Asian lineage moved into Europe some 30,000 to 20,000 years ago.

Belatedly, and often skeptically, archaeologists are beginning to catch up with the biologists. After years of objection and denial, some of their most influential members have recently conceded that not

only did anatomically modern man emerge from Africa, but that he did so after more than 30,000 years of modern behavior. The impetus for the change was artifacts discovered at Blombos Cave, 200 miles east of Capetown, South Africa. The people who occupied this cave on a high cliff overlooking the Indian Ocean more than 70,000 years ago were, they have concluded, definitely anatomically modern humans capable of abstract and creative thought, and, very likely, communications, through articulate speech.

Previously, many of the experts in this field were convinced that modern human behavior was a relatively recent development, one that began in a kind of “creative explosion” in (where else?) Europe. Evidence for the European origin of modern behavior was said to be the fine tools and cave art of Upper Paleolithic Europe. Explaining why he no longer accepted the “creative explosion” concept of modern human behavior, Dr. Rick Potts, director of the human origins program at the Smithsonian Institution, told the *New York Times*: “I think the nails are going into the coffin of that hypothesis. We are seeing many elements of modernity that were developing much earlier in Africa, and more gradually.”

There can be now no doubt that these new Africans, with their lighter skeletons, larger brains, softer brows, and newly developed ability to speak, were the first truly modern people. Probably initially numbering no more than a few hundred hunter-gatherers, they would overcome in the centuries ahead every challenge to their survival and multiplication. Slowly, but relentlessly, they would spread across the face of the earth, subduing climate, beasts, and more primitive types of man. And like the other L lineage groups, they were, at the start, dark-skinned and woolly-haired.