WHERE DID WE COME FROM?

Evangelical Lutheran Church in America
God's work. Our hands.

By: George L. Murphy

Evolution would cause far less controversy if scientists left humanity out of it. Evolution of horses or trees would be opposed by people insistent on a historical reading of Genesis, but problems would be relatively minor, and most Christians would accommodate evolution as they have heliocentrism. Darwin realized that human evolution would provoke special opposition. His 1859 *Origin of Species* made only brief reference to the idea, and his *Descent of Man* wasn't published until 1871.

But leaving humanity out of the evolutionary story makes no scientific sense. The same kinds of evidence from fossils, comparative anatomy, and biochemistry that indicate that other species have evolved point in that direction for *Homo sapiens*, too.

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Humanity has certainly developed through an evolutionary process in which Christians will see God's creative activity. When we start to look at details, however, we find that there are scientific controversies. In part, that's because we are more concerned about the particulars of our own development than about any given species of insect or flower. But there are debates about purely scientific issues. Some have to do with the different approaches of those who study fossils and other ancient remains and those who deal with genetic evidence.

There is general agreement that the present great apes — chimpanzees, bonobos, gorillas, and orangutans — are our closest living relatives. We have not, however, "descended from apes," let alone monkeys. We are more like cousins of today's apes. Modern apes and humans are thought to have descended from a common ancestor living in Africa perhaps seven million years ago, an estimate from biochemical divergences between the two branches. (The differences between humans and apes amount to only a few percent.)

Bipedalism

An important feature distinguishing our family, the hominids, from the pongids (apes) is bipedalism. Chimpanzees will walk on two legs for short distances, but full-fledged bipedal primates have some significant advantages. They are more able to carry things and grasp and make use of things like stones or sticks, and this led eventually to the development of tools.

Evolution does not proceed by long-term planning, however. Natural selection says that traits become established in a population because they give organisms that possess them an advantage, in terms of producing a greater average number of viable offspring. Why bipedalism became established among some primates is debated. Was it because they could travel over relatively open ground between trees more quickly and thus be safer from predators? Could males walking on two legs have been able to carry food to females and thus have a better chance of producing offspring? (If this suggestion sounds sexist, don't blame me.) In any case, erect walking did develop and survive and is one thing that differentiates hominids from apes.

Human evolution is often pictured with a series of figures beginning with a lumbering apelike creature and progressing through "cavemen" to a modern human as the culmination of the process. But this is incorrect, as Stephen Jay Gould argued forcefully in his *Wonderful Life* (W.W. Norton, 1989; chapter 1, which criticizes this "ladder" picture of evolution, has several such pictures). We should not expect to find remains in the fossil record of a series of species clearly marked out to produce the rulers of the world. Until quite recently there were other members of the genus *Homo* sharing the earth with us. The recent discovery of evidence for a diminutive *Homo floresiensis*, which may have survived until perhaps 13,000 years ago, has caused a stir. (See Kate Wong, "The Littlest Human," in the February 2005 *Scientific American*.)

Of course there were significant changes after bipedalism developed, the most important in the long run being an increase in brain size.Among our extinct "cousins," hominids not in our ancestral line, are several australopithecine species. There is evidence from around two million years ago in Africa of a species perhaps in our line, *Homo habilis*, "handy human." While *Homo habilis* was not the first to use objects like sticks and stones, here we find a clear use of stone tools, something made possible by the freeing of the hands and increased intelligence together.

Abundant evidence has been found in Africa for a later species probably ancestral to ours, *Homo erectus*. But it was not limited to that continent: Well over a million years ago *Homo erectus* had spread to the Middle East and Asia, and some of its most famous fossils, "Java Man" and "Peking Man," are from the Far East.

Transitions and Dispersion

The fossil record is incomplete, and we cannot pinpoint a precise time when our species appeared. There seem to have been a few hundred thousand years of transition from *Homo erectus* to the appearance of *Homo sapiens*. At around 125,000 years ago we have evidence of anatomically modern humans in Africa, Asia, and Europe. The picture is confused by the presence of the Neanderthals, who survived until about 30,000 years ago. (They weren't as slow-witted and brutish as they are sometimes portrayed.) There has been extensive debate about relationships between Neanderthals and our species. The evidence now seems to indicate that they did not interbreed with our ancestors and were a separate species, *Homo neanderthalensis*.

How the dispersion of modern humans took place is hotly debated. Nobody denies that our very distant ancestors lived in Africa. But did modern humans emigrate fairly recently from Africa and outcompete populations of Homo erectus and *Homo neanderthalensis*, eventually becoming the sole survivors of the genus *Homo*? This "Out of Africa" model has gotten some popularity from evidence about an apparent "mitochondrial Eve." Or did modern humans develop in widely separated places from *Homo erectus*, a "Regional Continuity" model? Out of Africa runs into trouble with the fact that there are discernible anatomical resemblances between, for example, "Peking Man" and modern Asian humans. But with Regional Continuity it is hard to see why a single species would have arisen: Geographical isolation is a factor often leading to speciation. A compromise, in which later emigrants from Africa interbred with earlier populations, has also been proposed.

Theological Concerns

This, in a nutshell, is the scientific material that theologians must consider. The status before God of other species such as *Homo erectus* is one issue. Here Colossians 1:20 and other texts remind us that God's incarnation as *Homo sapiens* nevertheless has "all things" in view.

The major question for Western theology concerns its traditional understanding of "original righteousness," that the first humans could trust and obey God completely. Qualities favored by natural selection and behaviors of our surviving relatives suggest that the first humans would have had tendencies toward selfish attitudes and actions. This suggests a view of the original human condition like that of some Greek fathers, in which Adam and Eve were created in an immature state. Original righteousness in the traditional sense would then be an eschatological hope rather than historical fact.

Richard Leakey and Roger Lewin, *Origins Reconsidered* (Doubleday, 1992) and Ian Tattersall, *Becoming Human* (Harcourt Brace, 1998), and the lectures on *Biological Anthropology* by Barbara J. King, available from The Teaching Company in audio or video, are helpful resources. Philip Hefner's *The Human Factor* (Fortress, 1993) is one theological anthropology that takes human evolution into account.

***George L. Murphy**, an ELCA pastor and physicist living in Tallmadge, Ohio, is an adjunct faculty member at Trinity Lutheran Seminary in Columbus and a pastoral associate at St. Paul's Episcopal Church in Akron. His e-mail address is gmurphy@raex.com.*