

Earliest humans not so different from us, research suggests

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"Stone points dating to at least 104,000 years ago from Omo Kibish, Ethiopia. These points, shaped by pressure-flaking and likely used as projectile points are more than 65,000 years older than the oldest similar artifacts from the European Upper Paleolithic Period. The Omo Kibish toolmakers showed equal skill at making similar points out of very different kinds of stone. (Photo courtesy of John Shea, Stony Brook University)

(PhysOrg.com) -- That human evolution follows a progressive trajectory is one of the most deeply-entrenched assumptions about our species. This assumption is often expressed in popular media by showing cavemen speaking in grunts and monosyllables (the GEICO Cavemen being a notable exception). But is this assumption correct? Were the earliest humans significantly different from us?

In a paper published in the latest issue of [Current Anthropology](#), archaeologist John Shea (Stony Brook University) shows they were not.

The problem, Shea argues, is that archaeologists have been focusing on the wrong measurement of early [human behavior](#). Archaeologists have been searching for evidence of "behavioral modernity", a quality supposedly unique to Homo sapiens, when they ought to have been investigating "behavioral variability," a quantitative dimension to the behavior of all living things.

[Human origins](#) research began in Europe, and the European Upper Paleolithic [archaeological record](#) has long been the standard against which the behavior of earlier and non-European humans is compared. During the Upper Paleolithic (45,000-12,000 years ago), Homo sapiens fossils first appear in Europe together with complex stone tool technology, carved bone tools, complex projectile weapons, advanced techniques for using fire, cave art, beads and other personal adornments. Similar behaviors are either universal or very nearly so among recent humans, and thus, archaeologists cite evidence for these behaviors as proof of human behavioral modernity.

Yet, the oldest Homo sapiens fossils occur between 100,000-200,000 years ago in Africa and southern Asia and in contexts lacking clear and consistent evidence for such behavioral modernity. For decades anthropologists contrasted these earlier "archaic" African and Asian humans with their "behaviorally-modern" Upper Paleolithic counterparts, explaining the differences between them in terms of a single "Human Revolution" that fundamentally changed human biology and behavior. [Archaeologists](#) disagree about the causes, timing, pace, and characteristics of this revolution, but there is a consensus that the behavior of the earliest Homo sapiens was significantly that that of more-recent "modern" humans.

Shea tested the hypothesis that there were differences in behavioral variability between earlier and later Homo sapiens using stone tool evidence dating to between 250,000- 6000 years ago in eastern Africa. This region features the longest continuous archaeological record of Homo sapiens behavior. A systematic comparison of variability in stone tool making strategies over the last quarter-million years shows no single behavioral revolution in our species' evolutionary history. Instead, the evidence shows wide variability in Homo sapiens toolmaking strategies from the earliest times onwards. Particular changes in stone tool technology can be explained in terms of the varying costs and benefits of different toolmaking strategies, such as greater needs for cutting edge or more efficiently-transportable and functionally-versatile tools. One does not need to invoke a "human revolution" to account for these changes, they are explicable in terms of well-understood principles of behavioral ecology.

This study has important implications for archaeological research on human origins. Shea argues that comparing the behavior of our most ancient ancestors to Upper Paleolithic Europeans holistically and ranking them in terms of their "behavioral modernity" is a waste of time. There are no such things as modern humans, Shea argues, just Homo sapiens populations with a wide range of behavioral variability. Whether this range is significantly different from that of earlier and other hominin species remains to be discovered. However, the best way to advance our understanding of human behavior is by researching the sources of behavioral variability in particular adaptive strategies.

More information: John Shea, "Homo sapiens is as Homo sapiens was: Behavioral variability vs. 'behavioral modernity' in Paleolithic archaeology." *Current Anthropology* 54:1 (February 2011).

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