

New Study of Prehistoric Skeletons Undermines Claim That War Has Deep Evolutionary Roots*

By [John Horgan](#) | July 24, 2013 |

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When did war begin? Does war have deep roots, or is it a [modern invention](#)? A new analysis of ancient human remains by anthropologists Jonathan Haas and Matthew Piscitelli of Chicago's [Field Museum](#) provides strong evidence for the latter view.



13,000 year old skeletons in mass grave near Nile are oldest evidence of group violence.

But before I get to the work of Haas and Piscitelli, [I'd like to return briefly to my last post](#), which describes a study of modern-day foragers (also called hunter gatherers), whose behavior is assumed to be similar to that of our Stone Age [ancestors](#). The study found that modern foragers have engaged in little or no warfare, defined as a lethal attack by two or more people in one group against another group. This finding contradicts the claim that war emerged hundreds of thousands or even millions of years ago.

Defenders of the Deep Roots Theory have [leveled various criticisms](#) at the forager study. [*See *Clarification* below.] They complain that foragers examined in the study—and modern foragers in general—have been pacified by nearby states. Or the foragers are “isolated,” living in remote regions where they rarely come into contact with other groups. In other words, these foraging societies are atypical.

But you could argue that *all* modern tribal societies are atypical, including those cited by Deep Rooters as evidence for their position. Take, for example, the infamous Yanomamo, an Amazonian society that is extremely warlike, according to [anthropologist Napoleon Chagnon](#), who began observing them in the 1960s.

The Yanomamo practice horticulture, which makes them a poor proxy for nomadic Stone Age hunter gatherers. Atypical. Moreover, even Chagnon acknowledges that some Yanomamo are much violent than others. Of course, Deep Rooters assert that these relatively peaceful Yanomamo are atypical.

When Deep Rooters complain that a society is atypical, they really mean that the society is not as violent as predicted by the Deep Roots theory. They are guilty of egregious confirmation bias, and circular reasoning.

[Deep Rooters display this same trait](#) when it comes to *Pan troglodytes*, our closest genetic relative. Since the mid-1970s, researchers have observed chimpanzees from one troop killing members of another troop—proving, Deep Rooters claim, that the roots of intergroup violence are even older than the *Homo* genus.

Deep Rooters conveniently overlook the fact some *Pan troglodytes* communities have been observed for years without carrying out a lethal raid. Moreover, researchers have never observed a deadly attack by the chimpanzee species *Pan paniscus*, also known as Bonobos. Deep Rooters insist that only the most violent chimps are representative of our primordial ancestry, even though *Pan paniscus* is just as genetically related to us as *Pan troglodytes*.

To be fair, proponents of the view that war is a recent cultural invention—I’ll call them Inventors—also play this game. They find reasons to discount extremely violent behavior—by either chimps or humans—as atypical. For example, both chimp raids and Yanomamo warfare may be responses to recent encroachment on their habitat by outside societies.

But Inventors can also point to a far more persuasive source of data supporting their position: the archaeological record. The most ancient clear-cut evidence of deadly group violence is a mass grave, estimated to be 13,000 years old, found in the Jebel Sahaba region of the Sudan, near the Nile River. Of the 59 skeletons in the grave, 24 bear marks of violence, such as hack marks and embedded stone points.

Even this site is an outlier. The vast majority of archaeological evidence for warfare—which consists of skeletons marked by violence, art depicting battles, defensive fortifications, and weapons clearly designed for war rather than hunting—is less than 10,000 years old.

Deep Rooters try to dismiss these facts by resorting to the old argument that absence of evidence does not equal evidence of absence. They allege, in other words, that there is not significant evidence of *any* human activity prior to 10,000 years ago.

To rebut this charge, Haas and Piscitelli recently carried out an exhaustive survey of human remains more than 10,000 years old described in the scientific literature. They counted more than 2,900 skeletons from over 400 different sites. Not counting the Jebel Sahaba skeletons, Haas and Piscitelli found four separate skeletons bearing signs of violence, consistent with homicide, not warfare.

This “dearth of evidence,” Haas continued, “is in contrast with later periods when warfare clearly appears in this historical record of specific societies and is marked by skeletal markers of violence, weapons of war, defensive sites and architecture, etc.”

Haas and Piscitelli present their data in “The Prehistory of Warfare: Misled by Ethnography,” a chapter in [*War, Peace, and Human Nature*](#), a collection of essays published this year by Oxford University Press. The book was edited by anthropologist Douglas Fry, co-author of the forager study I described in my last post.

“Declaring that warfare is rampant amongst almost all hunters and gatherers (as well as those cunning and aggressive chimpanzees) fits well with a common public perception of the deep historical and biological roots of warfare,” Haas and Piscitelli write. “The presumed universality of warfare in human history and ancestry may be satisfying to popular sentiment; however, such universality lacks empirical support.”

Many people think that war, if ancient and innate, must also be inevitable. President Barack Obama seemed to be expressing this notion in 2009 when he accepted the Nobel Peace Prize, just nine days after he announced a major escalation of the U.S. war in Afghanistan.

“War, in one form or another, appeared with the first man,” Obama said. He added, “We must begin by acknowledging the hard truth: we will not eradicate violent conflict in our lifetimes.”

When will Deep Rooters acknowledge that they are wrong?

Clarification: Some readers might conclude based on my criticism of Deep Rooters that they are all hawks, warmongers, who think that war, because it is innate, is inevitable and perhaps even beneficial in some sense. Such views were once quite common, especially in the era of social Darwinism. President Teddy Roosevelt once said, for example, “All the great masterful races have been fighting races. No triumph of peace is quite so great as the supreme triumph of war.” None of the Deep Rooters I have cited subscribe to such odious balderdash. All fervently hope that humanity can eradicate or at least greatly reduce the frequency of war. Deep Rooters believe that we will be better equipped to solve the problem of war if we accept the Deep Roots theory. Of course, I disagree with them on this point. As indicated by the above comments of President Barack Obama—as well as comments on my blog—the Deep Roots Theory leads many people to be pessimistic about the prospects for ending war, a view that can be self-fulfilling. I would nonetheless accept the Deep Roots theory if the evidence supported it, but the evidence points in

the other direction. That is my main source of disagreement with Deep Rooters. In the interests of constructive dialogue, however, I'm providing a link, sent to me by anthropologist and prominent Deep Rooter Richard Wrangham, to [a column supporting his position](#). In the column, political scientist and self-described "conservative Darwinian" Larry Arnhart asserts that "explaining the evolutionary *propensity* to war in human nature is not to affirm this as a *necessity* that cannot be changed. In fact, understanding war as a natural propensity can be a precondition for understanding how best to promote peace." Okay, so we all want peace. We just disagree on how to get there. More to come.

Photo of Jebel Sahaba grave by Fred Wendorf, <http://www.chaz.org>.

About the Author: Every week, hockey-playing science writer John Horgan takes a puckish, provocative look at breaking science. A teacher at Stevens Institute of Technology, Horgan is the author of four books, including *The End of Science* (Addison Wesley, 1996) and *The End of War* (McSweeney's, 2012). Follow on Twitter [@Horganism](#).