

**CHIMPANZEES AND THE ORIGINS OF HUMAN WARFARE**

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Why do humans, uniquely among animals, have war in the sense of “armed conflict between political communities”? War was often thought to be a purely human phenomenon, unconnected to the behavior of non-human primates. For example in the 1960s, when Jane Goodall and Toshisada Nishida launched their pioneering studies of chimpanzees in the wild, scientists tended to treat humans as following general principles of behavioral evolution, rather than exhibiting any significant similarities to the behavior of great apes. The concept that phylogeny is irrelevant to understanding our social behavior is still widespread today.

But that concept is wrong, because the discoveries made by Goodall and Nishida showed that humans behave more similarly to chimpanzees than to other primates, even bonobos and gorillas. Fifty years ago the evolutionary relationship between humans and chimpanzees was not understood to be particularly close. However we now know that chimpanzees and bonobos are our closest relatives, and there is good evidence that the last common ancestor between humans and living apes is well modeled by a chimpanzee. Behaviors shared by chimpanzees and humans are thus good candidates for having an evolutionary history lasting six million years. Based on this framework, phylogenetically old behaviors of humans include some concerned with violence, such as coercive sexual relationships and lethal inter-group aggression.

Although the antiquity of human violence is still uncertain, chimpanzees do offer us the opportunity to understand the fundamental evolutionary dynamics of shared behaviors. I will focus mainly on inter-group aggression in chimpanzees, comparing its pattern with warfare among hunter-gatherers. Similarities between the two species include a tendency for surprise attacks on strangers, violence being perpetrated by the powerful rather than the weak, aggressors having a low rate of injury, a spontaneous reaction of aggression towards vulnerable rivals, adult males being killed at higher rates than other age-sex classes, and a rare occurrence of battles. Human warriors tend to be culturally rewarded in various ways for participating in war, and those who avoid war tend to be punished. By contrast among chimpanzees there is no evidence that participants are socially rewarded, or that non-participants are punished for failing to join in attacks against strangers. This comparison suggests that cultural rewards (which are made possible in humans by language) are responsible for the elaboration in humans of a pattern of warfare with the same essential roots as in chimpanzee inter-group violence.

In chimpanzees success in inter-group violence is considered beneficial to the aggressors because it leads to more resources and therefore to greater genetic fitness. The same applies to humans. According to this analysis, the fact that aggression has evolutionary roots and gives benefits to the successful does not mean that it is inevitable, but it does help solve a long-standing puzzle. Human warfare can now be viewed as a cultural manipulation of a biological tendency that we share with chimpanzees.