

# Why don't chimpanzees like to barter commodities?

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For thousands of years, human beings have relied on commodity barter as an essential aspect of their lives. It is the behavior that allows specialized professions, as one individual gives up some of what he has reaped to exchange with another for something different. In this way, both individuals end up better off. Despite the importance of this behavior, little is known about how barter evolved and developed.

This study (published in PLoS ONE on January 30) is the first to examine the circumstances under which chimpanzees, our closest relatives, will exchange one inherently valuable commodity (an apple slice) for another (a grape), which is what early humans must have somehow learned to do. Economists believe that commodity barter is one of the most basic precursors to economic specialization, which we observe in humans but not in other primate species.

First of all, the researchers found that chimpanzees often did not spontaneously barter food items, but needed to be trained to engage in commodity barter. Moreover, even after the chimpanzees had been trained to do barter with reliable human trading partners, they were reluctant to engage in extreme deals in which a very good commodity (apple slices) had to be sacrificed in order to get an even more preferred commodity (grapes).

Prior animal behavior studies have largely examined chimpanzees' willingness to trade tokens for valuable commodities. Tokens do not exist in nature, and lack inherent value, so a chimpanzee's willingness to

trade a token for a valuable commodity, such as a grape, may say little about chimpanzee behavior outside the laboratory.

In a series of experiments, chimpanzees at two different facilities were given items of food and then offered the chance to exchange them for other food items. A collaboration of researchers from Georgia State University, the University of California, Los Angeles, and the U.T. M.D. Anderson Cancer Center found that the chimpanzees, once they were trained, were willing to barter food with humans, but if they could gain something significantly better – say, giving up carrots for much preferred grapes. Otherwise, they preferred to keep what they had.

The observed chimpanzee behavior could be reasonable because chimpanzees lack social systems to enforce deals and, as a society, punish an individual that cheats its trading partner by running off with both commodities. Also because of their lack of property ownership norms, chimpanzees in nature do not store property and thus would have little opportunity to trade commodities. Nevertheless, as prior research has demonstrated, they do possess highly active service economies. In their natural environment, only current possessions are “owned,” and the threat of losing what one has is very high, so chimpanzees frequently possess nothing to trade.

“This reluctance to trade appears to be deeply ingrained in the chimpanzee psyche,” said one of the lead authors, Sarah Brosnan, an assistant professor of psychology at Georgia State University. “They’re perfectly capable of barter, but they don’t do so in a way which will maximize their outcomes.”

The other lead author, Professor Mark F. Grady, Director of UCLA’s Center for Law and Economics, commented: “I believe that chimpanzees are reluctant to barter commodities mainly because they lack effective ownership norms. These norms are especially costly to enforce, and for

this species the game has evidently not been worth the candle. Fortunately, services can be protected without ownership norms, so chimpanzees can and do trade services with each other. As chimpanzee societies demonstrate, however, a service economy does not lead to the same degree of economic specialization that we observe among humans.”

The research could additionally shed light on the instances in which humans also don’t maximize their gains, Brosnan said.

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