

# Chimpanzee language claims lost in translation

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Image: Wikipedia.

Research published earlier this year claiming chimpanzees can learn each others' language is not supported, a team of scientists concludes after reviewing the study.

The scholarship in question, published in the journal *Current Biology* in February, centered on the examination of two sets of [chimpanzees](#) in the Edinburgh Zoo: one that had been captive for several years in the facility and one that had recently arrived from the Beekse Bergen Safari Park in

the Netherlands. Over a three-year period, the researchers claimed that the latter set had altered their sounds to those of the former set when communicating about a common object, apples, resulting in what they saw as a newly shared vocalization.

The original study team, which included faculty from the University of York, the University of Zurich, and the University of St. Andrews, posited that the findings "provide the first evidence for vocal learning in a referential call in non-humans." This was offered as evidence that chimpanzees can learn different calls for the same object, which was widely interpreted as an important finding for the study of language evolution.

But a review of the *Current Biology* study by researchers at the German Primate Center in Göttingen, the University of Kent, and New York University, suggests these conclusions are off-base.

"There are a number of problems with the original study," observes James Higham, an assistant professor in NYU's Department of Anthropology and a co-author of the new analysis, which also appears in *Current Biology*. "Some of these relate to the methods used while others are fundamentally a misrepresentation of what the data actually show."

Higham and his colleagues see the research as flawed in two fundamental ways: one, it may have misread the causes behind changes in vocalization; and two, it doesn't recognize that most initial vocalizations of the two groups were similar to begin with and didn't significantly change over the studied period.

"Our first point relates to changes in arousal, which the authors did not control for and which could prompt false conclusions about the causes behind vocal changes," explains Julia Fischer of the German Primate Center, lead author of the new analysis. "The Dutch chimpanzees may

have given slightly different calls to the Edinburgh chimps, and then changed their calls, due simply to differences in their original feeding environments and diet, and then the subsequent changes in these following their move to Edinburgh."

This factor alone could alter the nature of vocalizations without reflecting a change in the call type given in response to an object. For instance, a higher pitched call may indicate a state of excitement rather than a new way of communicating. The original study's authors argued that the chimpanzees' changes in pitch when referring to apples were not linked to differences in arousal, but, rather, amounted to a new way of communicating about the same object. However, the original study presented no data showing that the state of arousal of the Dutch chimpanzees did not change over time.

In addition, and perhaps more importantly, the authors of the new analysis note that differences in sounds between the two chimpanzee groups are not terribly distinct. In fact, they write, "the majority of calls did not differ in the first place, indicating that irrespective of their provenance, most subjects of both populations had always responded with the general same call type to the presentation of apples." They add that convergence in vocalizations between the two groups of chimpanzees is overstated.

"Closer inspection of the data reveals that both groups largely overlapped in the range of calls they were originally giving in response to apples, with only a few calls of the Dutch chimpanzees outside the range of the calls given by the Edinburgh chimpanzees," says Brandon Wheeler, a co-author of the new analysis and a biological anthropologist at the University of Kent. "There is some statistically significant but biologically weak change of the calls over time following the move of the Dutch chimpanzees to Edinburgh, but such social modulation is a well-known phenomenon in animal vocalizations that has been found in

most primate calls—and even in the calls of goats."

"This process bears little resemblance to chimpanzees 'vocally learning' a different call for the same object - the phenomenon that was claimed by the original authors," adds Higham.

"Unfortunately, it doesn't seem that the original study tells us much new about the evolution of language," notes Fischer, a professor of cognitive ethology.

Provided by New York University

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