

After merger, chimpanzees learned new grunt for 'apple'

February 5 2015

Chimpanzees have special grunts for particular types of foods, and their fellow chimps know exactly what those calls mean. Now, by studying what happened after two separate groups of adult chimpanzees moved in together at the Edinburgh Zoo, researchers have made the surprising discovery that our primate cousins can change those referential grunts over time, to make them sound more like those of new peers.

The findings, reported in the Cell Press journal *Current Biology* on February 5, suggest that [human language](#) isn't as unique as we thought in its ability to reference external objects with socially learned symbols.

"Our study shows that chimpanzee referential food calls are not fixed in their structure and that, when exposed to a new social group, chimpanzees can change their calls to [sound](#) more like their group mates," says Katie Slocombe of the University of York.

Scientists had generally accepted that the acoustic structure of chimpanzee calls was fixed, with the differences primarily a matter of the animals' arousal state. That apparent lack of flexible control over their referential vocalizations had even been considered a key discontinuity with human language.

However, Slocombe and her colleagues found that the acoustic structure of referential food grunts produced by two groups of adult chimpanzees converged over the course of three years, as its members got to know each other better. That acoustic convergence had nothing to do with

individual food preferences, either.

The researchers used audio analysis to demonstrate the convergence of structure, but they could also hear the difference.

"We think it's quite easy to hear how the two groups called in different ways for apples in 2010, and how by 2013 the Dutch individuals changed their grunts to sound more like Edinburgh individuals," says Stuart Watson, also from the University of York.

The researchers say that the findings "represent the first evidence of non-human animals actively modifying and socially learning the structure of a meaningful referential vocalization" from other members of their species. Given the relatively short evolutionary distance between humans and chimpanzees—five to seven million years—it also suggests that our most recent common ancestor with chimpanzees also shared this "building block" of language.

"It would be really exciting to try and find out why [chimpanzees](#) are motivated to sound more similar to their group mates," adds Simon Townsend of the University of Zurich, who was also involved in the study. "Is it so that they can be better understood? Or is it just to sound more similar to their friends?"

Provided by Cell Press

Citation: After merger, chimpanzees learned new grunt for 'apple' (2015, February 5) retrieved 25 April 2024 from <https://phys.org/news/2015-02-merger-chimpanzees-grunt-apple.html>

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