

Researchers argue publicly on how well monkeys could talk if their brains were able

July 10 2017, by Bob Yirka



Photo of Vervet taken in Dar es Salaam, Tanzania by Alexander Landfair.
Credit: Wikipedia.

(Phys.org)—A very public argument has erupted between researchers involved in attempting to understand why monkeys cannot speak—in the pages of respected journals. The argument traces its roots back several decades when a group led by Philip Lieberman conducted research on rhesus macaques to better understand why they cannot speak in a human-like manner. They concluded that the vocal abilities of the monkeys were far too limited to allow the monkeys to talk anything like humans—even if they had the proper brain wiring.

Then, late last year, another team led by W. Tecumseh Fitch, published a report on the open access site *Science Advances* outlining their research which suggested that perhaps some [monkeys](#) did have enough vocal abilities to speak many human-like words. That report caused Lieberman to pen a Technical Comments piece for *Science Advances* criticizing the work by Fitch and his team. The rebuke by Lieberman appeared to upset the Fitch team—they subsequently published a Technical Comment of their own, also in *Science Advances*, pointing out the differences in their work and what Lieberman had found.

Fitch and his group argue that they used techniques not available several decades ago when Lieberman and his group were doing their monkey throat studies, which included making plaster casts of the throat and other vocal parts. The newer work involved making X-ray videos of live macaques as they engaged in activities like eating or making noises. Fitch and his team claimed their studies proved that monkeys were capable of making far more sounds than Lieberman and his team claimed—enough sounds to put together words. They acknowledged that the vocal abilities would be limited, but likely strong enough to convey meaningful dialog.

For his part, Lieberman claims that no amount of additional research could prove that monkeys could talk because they lack some of the basic physical architecture required to do so.

The back and forth between the two groups eventually led to an argument over whether a monkey could pronounce long E—as in reed, read or even Reid. Liberman contends that surgery would be required for a monkey to speak any word with a long E in it because they do not have the tongue for it. Meanwhile, Fitch and his group suggested that the importance of long E use in language is still debatable, further incensing Liberman by calling it mythical. It is still not clear how the argument will end, or if either side will convince the other.

More information: 1. Philip Liberman. Comment on "Monkey vocal tracts are speech-ready", *Science Advances* (2017). [DOI: 10.1126/sciadv.1700442](https://doi.org/10.1126/sciadv.1700442)

Abstract

Monkey vocal tracts are capable of producing monkey speech, not the full range of articulate human speech. The evolution of human speech entailed both anatomy and brains. Fitch, de Boer, Mathur, and Ghazanfar in *Science Advances* claim that "monkey vocal tracts are speech-ready," and conclude that "...the evolution of human speech capabilities required neural change rather than modifications of vocal anatomy." Neither premise is consistent either with the data presented and the conclusions reached by de Boer and Fitch themselves in their own published papers on the role of anatomy in the evolution of human speech or with the body of independent studies published since the 1950s.

2. W. Tecumseh Fitch et al. Response to Liberman on "Monkey vocal tracts are speech-ready", *Science Advances* (2017). [DOI: 10.1126/sciadv.1701859](https://doi.org/10.1126/sciadv.1701859)

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