

Wild bonobos use referential gestural system to communicate their intentions

September 11 2015



Social interactions among bonobos - pointing gestures and pantomime, too, are deployed in communication. Credit: LuiKotale Bonobo Project/ Zana Clay

Pointing and pantomime are important components of human communication but so far evidence for referential communication in

animals is limited. Observations made by researchers Pamela Heidi Douglas and Liza Moscovice of the Max Planck Institute for Evolutionary Anthropology in Leipzig, Germany, make important contributions to this research topic: To solve social conflicts female bonobos invite other females to engage in a socio-sexual behaviour by using pointing gestures and mimicking hip swings. This observation raises new questions about the evolution of referential communication and human language.

One important feature of [human language](#) is the ability to use arbitrary vocal and gestural signals to symbolically represent or refer to objects, actions or events. Two examples of symbolic gestural communication are pointing, which directs someone else's attention to an external object in the environment, and pantomime, or acting out parts of actions to communicate desires or goals even in the absence of the relevant objects.

It has long been believed that forms of referential gesturing, such as pointing, and forms of iconic gesturing, such as pantomime, are unique to humans. In a recent study of wild bonobos at the Luikotale field site in the Democratic Republic of Congo, researchers from the Max Planck Institute for Evolutionary Anthropology documented regular use of a form of pointing and pantomime. During their three-year study, Pamela Heidi Douglas and Liza Moscovice observed that the gestures were always produced in the context of socio-sexual behaviour between females. Female sexual behaviour serves to reduce social tension and promote cooperation. The gestures used by the females are notable in that they appear to be not only intentional, but also referential and potentially iconic, since they communicate specific information about the desired goal.

The majority of gestures occurred in feeding contexts, and led to socio-sexual interactions between the gesturer and the recipient. Following

socio-sexual interactions, the gesturer and partner were more likely to stay near each other and to feed together compared with rare situations when females rejected the gestural requests for sexual interactions. This suggests that female bonobos use referential and iconic gesturing to enhance communication in contexts in which behavioural coordination and cooperation are necessary.

The observed gestures have obvious parallels with human pointing and pantomime in both form and function and the results of this research, published in *Scientific Reports*, challenge the current view that such gestures are unique to humans. What remains to be explored is whether bonobos have mental representations when they produce these gestures, and whether females who respond to [gestures](#) understand the referential or iconic content of the signals.

More information: Pamela Heidi Douglas and Liza R. Moscovice, Pointing and pantomime in wild apes? Female bonobos use referential and iconic gestures to request genito-genital rubbing, *Scientific Reports*; 11 September, 2015 [DOI: 10.1038/srep13999](https://doi.org/10.1038/srep13999)

Provided by Max Planck Society

Citation: Wild bonobos use referential gestural system to communicate their intentions (2015, September 11) retrieved 21 June 2024 from <https://phys.org/news/2015-09-wild-bonobos-referential-gestural-intentions.html>

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