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Iconic Gestures of a Human-Fostered Gorilla

This paper describes and analyzes some of the iconic gestures produced by Koko, a 40-year-old, human-fostered gorilla (*Gorilla gorilla*). Cognitive studies in gesture and sign language support the idea that the spontaneous production of iconic gestures contributes an essential creative component in the evolution, development, and online use of language (Armstrong & Wilcox, 2007; McNeill, 2005). Thus the question of whether a gorilla can create iconic gestures is essential to our understanding of the relationship between human language and the gestural communication of non-human great apes. Yet, the answer to this question remains highly controversial (Call & Tomasello, 2007; Perlman, Tanner, & King, in press; Tanner, Patterson, & Byrne, 2006). Iconic gestures observed in wild and zoo-housed apes, consisting largely of directional gestures to coordinate movement and scratching, are often disputed as “in the eye of the observer” and not a true quality of the apes’ production process. Reports of more sophisticated iconic gestures by human-fostered apes are largely anecdotal.

Koko is the world’s only language-taught, human-fostered gorilla, with life-long immersion and teaching within a bilingual environment of spoken English and signing derived from American Sign Language since the age of one year (Patterson & Linden, 1981). The present study reports on four video-recorded interactions in which Koko produces what

we demonstrate empirically, through close conversational analysis of the interactional exchange, to be iconic gestures. These events were selected from a video corpus accumulated from weekly, videotaped sessions between Koko and her primary caregivers taken from July 2007 through December 2010, and represent the four most clearly verifiable iconic gestures (rather than an exhaustive set).

For example, in one instance, Koko brings an empty glass to her lips and tilts it back to demonstrate the act of drinking to express that she is thirsty. In another instance, she uses an exaggerated motion to demonstrate wiping the lenses of eyeglasses (after huffing on them) to draw attention to the missing tissue that she is requesting for the procedure. The study fleshes out the meaning of each gesture and verifies its iconicity by detailed analysis of the function of the gestural form within the surrounding context of the interaction, and is further informed by extensive records of Koko's communicative repertoire. It is generally observed that Koko's analyzed iconic gestures tend to involve objects, referring to either a salient location that is associated with their use or a typical action that is performed with them (cf. Tanner et al., 2006). We suggest that the human cultural focus on routines with objects provides fodder for the creation of iconic gestures beyond the directional gestures observed in less human-enculturated apes. The paper concludes with discussion of the implications for the nature of language and its evolution, and in particular, the extent to which humans share a cognitive basis for language with the great apes.