

GESTURAL REFERENCE

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Through language, we can quickly and easily capture and re-direct the attention or activity of a social partner to some specific physical or conceptual entity. In humans, a developmental precursor to linguistic reference is nonverbal reference, in which the attention and activity of a social partner is directed to some specific physical entity. The prototypical example of nonverbal reference is pointing, which is one kind of gestural reference. Pointing has long been alleged to be a uniquely human, species-specific, and biologically based signal, that derives from our adaptations for linguistic reference (Butterworth, 2003). However, in recent years, a number of referential behaviours have been observed in apes in laboratories (Leavens & Hopkins, 1998, 2005), and in circumstances approximating cross-fostering by humans (Bodamer & Gardner, 2002; Krause & Fouts, 1997). This fact has been interpreted by some researchers to imply that apes can acquire a referential capacity when raised in association with humans, but that reference does not emerge among apes in the absence of this association. It is now becoming apparent that this is also not correct, because referential acts have been reported in a bonobo and in chimpanzees in their natural habitats (Pika & Mitani, 2006; Ve< & Sabater-Pi, 1998). Thus, the capacity for gestural reference among great apes is not limited to a subset of the range of rearing histories, but typologies of and motivations for gestural reference vary with rearing history differences across different ape populations. Gestural reference is exemplary of gene-environment interactions on communicative development.