

ROLES OF MEMORY AND ENVIRONMENTAL CONTEXT IN CHIMPANZEE COMMUNICATION

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The roles of memory and environmental context in chimpanzee communication were analyzed in a small number of chimpanzees at the Language Research Center, in about 50 experiments. The chimpanzees' memory of their nonsocial environment was highly detailed and specific. Their effective environment was extended in space and time, and their knowledge of objects and locations was not limited to perception of the immediate surroundings. The apes recalled and reported objects that were located beyond sight or hearing, after extended delays, and they filled in informational gaps through inference. Furthermore, they rank-ordered invisible resources by an overall preference scheme, and they conveyed directions to an otherwise uninformed human to recover the resources sequentially, according to the scheme. They could acquire information about environmental changes through indirect social and nonsocial signs, and they retained such information for hours or days. The findings indicate that the capacity of chimpanzees to communicate information about resources in the environment has been greatly underestimated. The research was approved by the Institutional Animal Care and Use Committee of Georgia State University. Research supported by HD38051 and HD056352, the Leakey Foundation and the Wenner-Gren Foundation.

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