853

WHY IS SYMMETRY DIFFICULT FOR CHIMPANZEES?

M. Hirosawa, T. Matsuzawa

Kyoto University, Inuyama, Aichi, Japan

Presenter's Email: hirosawa@pri.kyoto-u.ac.jp

In human language, "red color" and the letter-combination "RED" are equivalent. This is called "stimulus equivalence", or "symmetry". It is reported that voluntary formation of symmetry is difficult in chimpanzees. Even if chimpanzees are trained to match A to B (AB), most of them are not able to match B to A (BA). Why is it difficult? We think the original directionality between stimuli causes a difference in understanding. A symbolic matching-to-sample task among the following three types of stimuli was performed by three 9-year-old chimpanzees: color (C), lexigram (L), and Chinese character (K). Test conditions were six patterns: CL and LC, CK and KC, and LK and KL. The performances were compared bi-directionally. The performance of CL was higher than LC in two individuals. That of CK was higher than KC in one individual. There was no difference between LK and KL in three individuals. These findings showed that directionality between stimuli makes a difference in understanding of symbolic matching-to-sample between thing such as C that is meaningful to the chimpanzee in nature and symbol such as K or L that is not meaningful in nature. On other hand, there is no difference between two types of symbols. We suggest the following possibilities. The association from event to symbol and that from symbol to event might be formed using different systems. This might make it difficult to establish symmetry. One of the reasons for difficulty with symmetry in chimpanzees might be absolute lack of this kind of symbolization. (249 words)

Keywords: symmetry, chimpanzee, stimulus equivalence, symbol