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ATTENTIONAL BENEFIT FOR PERCEPTUALLY-STRUCTURED OBJECTS IN CHIMPANZEE VISION

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We investigated whether the attentional processes of chimpanzees involve object-based attention and how such processes operate with regard to perceptually structured objects. Chimpanzees participated in a spatial cueing task in which they were required to touch a target appearing at either end of two parallel rectangles after the brief presentation of a cue. We compared the time involved in shifting attention when the locations of targets were non cued. The results showed that the cost of shifting attention within one rectangle was smaller than that of shifting attention beyond the object boundary, suggesting object-based attention in the chimpanzees. In subsequent tests in which two rectangles appeared with one partially overlapping the other, the shifting cost was smaller when both the cue and the target appeared within a rectangle that was structured by either amodal completion or perceptual transparency than when the target appeared within a rectangle that was cued but divided in the middle. The results suggest that the attention of chimpanzees is activated not only by an explicit object but also by fragmented patches represented as an object at a higher-order perceptual level. Care and use of the chimpanzees adhered to the 2002 version of the Guide for Care and Use of Laboratory Primates of the Primate Research Institute, Kyoto University. The research protocol was approved by the Animal Welfare and Animal Care Committee of the Institute.

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