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Psychology, CLA, 2008

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Representation of visual objects within versus between hemifields: When is one hemisphere better than two?

Under which conditions is one hemisphere better than two when processing multiple visual objects? To address this question, we presented four items, one in each visual quadrant, and asked participants to judge whether all four items were different, or whether two were the same along an instructed dimension. We found that repetition detection was faster when the repeated items fell in one hemifield rather than two, but only with simple objects such as colors or letters. Under normal viewing conditions, the unilateral advantage was eliminated with complex scenes and reversed with upright or inverted faces. Limiting high-level processing of complex stimuli by presenting them briefly reintroduced the unilateral advantage. We conclude that one hemisphere is better than two when visual objects are jointly processed as a group, while two hemispheres are better than one when objects are separately processed as individuals



Poster Number: Session: