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A right-facing bias in the processing of biological motion?

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Recently, Troje (2008; Troje & Westhoff, 2006) has suggested that the local motion contained in upright, scrambled biological motion displays can trigger a simple "life detection" mechanism. The goal of the present study was to further characterize this mechanism. In two experiments, we assessed participants' ability to make accurate direction-facing judgments about point-light displays presented very briefly in central vision. In both experiments, the walkers varied in terms of the amount of the configural information that was available in the displays, and with regard to their orientation (upright or inverted) and facing direction. In the first experiment (in which stimuli were unmasked) we found that heading could be discerned from upright, scrambled displays even with brief (170 ms) exposure durations. In the second experiment, we showed that local motion cues could support accurate heading judgments, regardless of the species depicted (human, cat or pigeon). In contrast, when viewers had to rely solely on global cues to make their heading judgments, their performance was disproportionately better with upright human displays. Exposure times in this experiment were 500 ms, and all stimuli were masked. Whether they had to rely on local or global cues to make their heading judgments, viewers in Experiment 2 (unlike those in Experiment 1) tended to show a bias to report seeing a right-facing walker. We speculate that the right-facing bias may be more apparent when longer exposure durations are used, or in situations where greater attentional resources are required (as is the case when a target must be disembedded from a mask). The right-facing bias is discussed in relation to the literature on attentional biases and specialized scanning habits associated with reading.