Current Biology 18:R728-729

Correlated changes in perceptions of the gender and the orientation of ambiguous biological motion figures.

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The sensitivity of the mammalian visual system to biological motion cues has been shown to be general and acute [1], [2] and [3]. Human observers, in particular, can deduce higher-order information, such as the orientation of a figure (which way it is facing), its gender, emotional state, and even personality traits, on the basis only of sparse motion cues. Even when the stimulus information is confined to point lights attached to the major joints of an actor (so-called point-light figures), observers can use information about the way the actor is moving to tell what they are doing, whether they are a male or female, and how they are feeling [4], [5] and [6]. Here we report the novel finding that stimulus manipulations that made such walkers appear more female also had the effect of making the walkers appear more often as if they were walking away from rather than towards observers. Using frontal-view (or rear-view) point-light displays of human walkers, we asked observers to judge whether they seemed to be walking towards or away from the viewing position. Independent of their own gender, observers reliably reported those figures they perceived to be male as looking like they were approaching (as reported in [7]), but those they perceived to be female as walking away. Furthermore, figures perceived to be gender-neutral also appeared more often, although not exclusively, to be walking towards observers.