Peripheral vision: Good for biological motion, bad for signal noise segregation?

Benjamin Thompson, Bruce C. Hansen, Robert F. Hess and Nikolaus F. Troje

Biological motion perception, having both evolutionary and social importance, is performed by the human visual system with a high degree of sensitivity. It is unclear whether peripheral vision has access to the specialized neural systems underlying biological motion perception; however, given the motion component, one would expect peripheral vision to be, if not specialized, at least highly accurate in perceiving biological motion. Here we show that the periphery can indeed perceive biological motion. However, the periphery suffers from an inability to detect biological motion signals when they are embedded in dynamic visual noise. We suggest that this peripheral deficit is not due to biological motion perception per se, but to signal/noise segregation.