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ATTENDING TO MOVING OBJECTS

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Abstract: Our minds are severely limited in how much information they can extensively process, in spite of being massively parallel at the visual end. When people attempt to track moving objects, only a limited number can be tracked, which varies with display parameters. Associated experiments indicate that spatial selection and updating have higher capacity than selection and updating of features such as color and shape, and are mediated by processes specific to each cerebral hemisphere, such that each hemifield has its own spatial tracking limit. These spatial selection processes act as a bottleneck that gates subsequent processing. To improve our understanding of this bottleneck, future works should strive to avoid contamination of tracking tasks by high-level cognition. While we are far from fully understanding how attention keeps up with multiple moving objects, what we already know illuminates the architecture of visual processing and offers promising directions for new discoveries.

Keywords: tracking, attention, perception, multiple object tracking, serial processing

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