The shape of attention over a common motion group

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Common motion is a rich segmentation cue

Question 1: How does attention spread over common motion? Is common motion grouping mandatory, or subject to top-down control?

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Task: was there a probe?

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Probe frame is identical between two types of motion

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Common motion target - distractors

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Conclusions

Common motion seems to cause attention to concentrate in the center of the group, between the elements.

During Multiple Object Tracking, this grouping was mandatory - observers could not restrict attention to a single element.

Common fate grouping can be distance-limited; common motion distractors only interfered when nearby.

Task: track 4 elements among 8

Target - target pairs were tracked better than independent elements, consistent with common motion enabling observers to track two groups of a pair.

However, target-distractor pairs were tracked worse than independent elements, suggesting that attention is involuntarily pulled to the center of the group.

This effect diminished as target-distractor pairs were moved farther apart, suggesting that common fate grouping has a limited range.

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