Selective Disruption of Rapid Resumption

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VSS '06 (K78)

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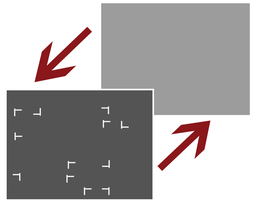
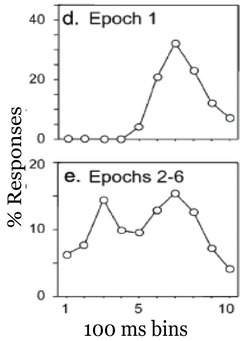
Interrupted visual search

Lleras, Rensink, & Enns (2005)



Almost no rapid responses on first presentation...



... but frequent rapid (<500ms) responses on subsequent presentations.

Must be retaining information -- a search hypothesis -- across interruption of the display.

What's in a Search Hypothesis?

Spatial Extent: Does it include single items, entire displays, or subsets of items?

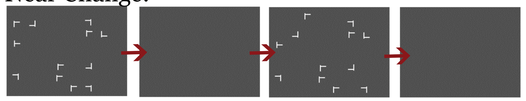
Feature Detail: Does it contain coarse spatial information, or fine feature details?

Attentional Set: Is it formed selectively over task relevant stimuli?

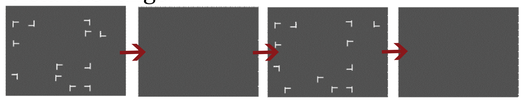
If changing an aspect of the display interferes with rapid resumption, that aspect is part of the search hypothesis.

Exp. 1: Spatial Extent

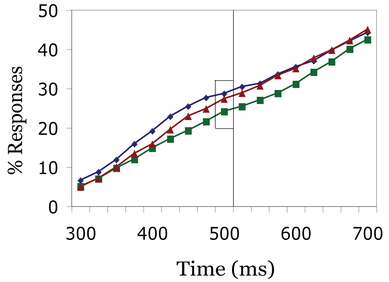
Near Change:

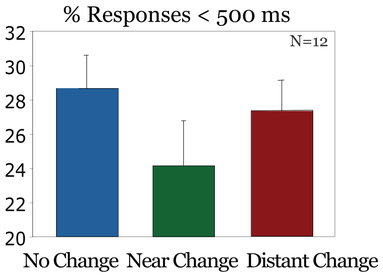


Distant Change:



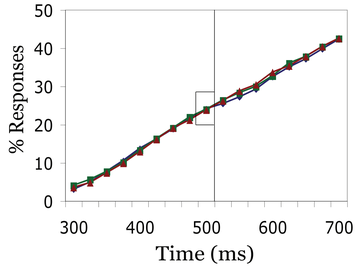
Moving items near the target disrupts rapid resumption, but moving items distant from the target does not.

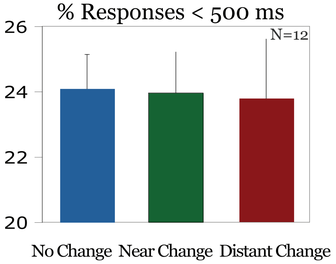




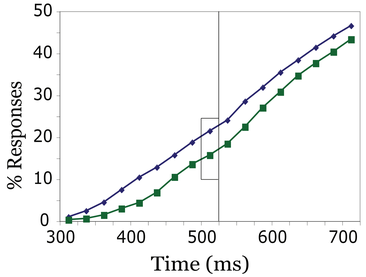
Exp. 2a & 2b: Feature Detail

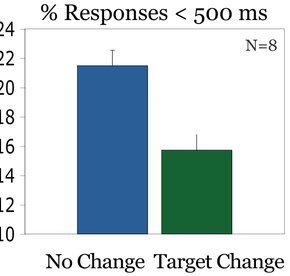
Changing the orientation of distractors does not interfere, regardless of the distance from the target.



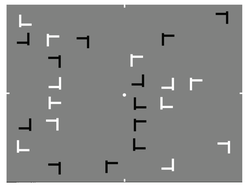


However, changing the orientation of the target does interfere with rapid responses.

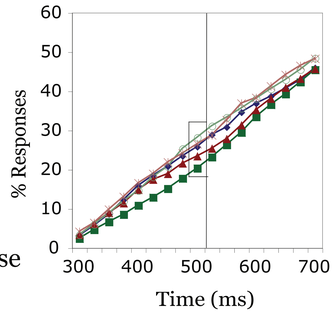


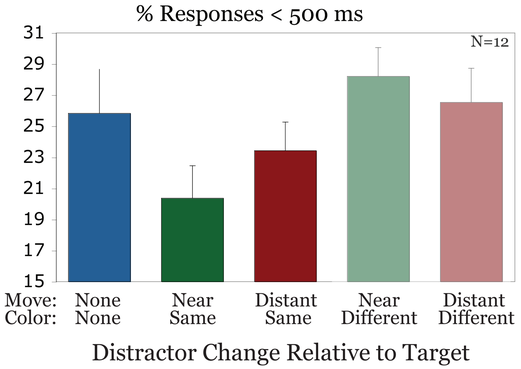


Exp. 3: Attentional Set



Only changing the location of task relevant distractors -- those the same color as the target -- interfered with rapid resumption.





Discussion

Interrupted search provides a unique window into the online memory of visual search.

Search hypotheses contain:

1) local distractor layout
2) target orientation
3) only task relevant items

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Lleras, A., Rensink, R. A., & Enns, J. T. (2005). Rapid resumption of interrupted visual search. *Psychological Science, 16*, 684 - 688.