Search templates can be adapted to context, but only for unfamiliar targets

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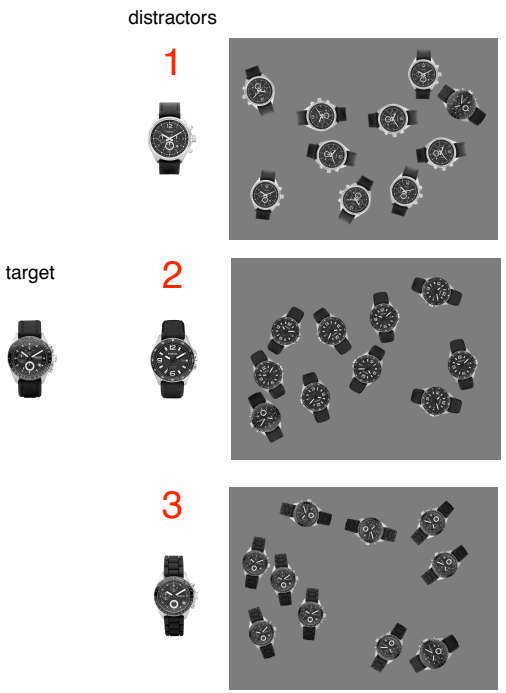
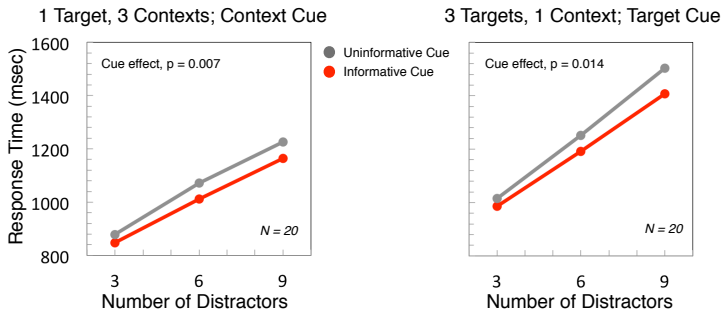
When observers search repeatedly for a target in a particular context, they develop a target template that is adapted for that context. We have shown that **observers can learn multiple templates for a single target and they can switch among these templates depending on the context** (VSS 2012):



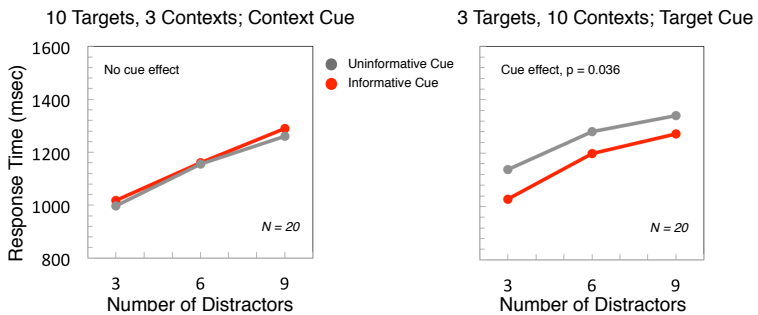
Session 1, **Training**: observers practiced searching for the target in three contexts (three distractor types), each associated with a number cue. The three contexts were presented in different blocks.

Session 2, **Testing**: the three contexts were intermixed. Half of the trials had a valid context cue, half had an uninformative cue.

As a comparison, the experiment was also run with one context, three targets, and target cues.



These data from 2012 show that context cues facilitate search. Now we ask, **Do observers use the context cues to suppress the context?** If so, the effect should persist when the target changes unpredictably.

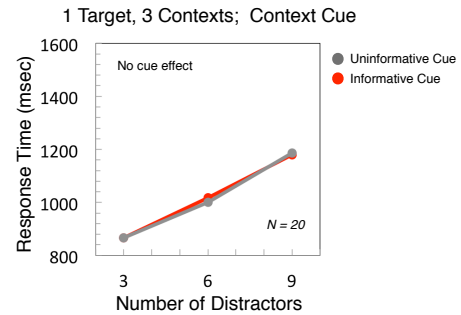


Observers do not use the context cues to suppress the context. Instead, they use the cue to recall the target template that is adapted for that context.

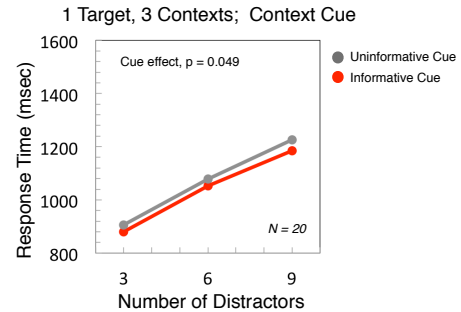
Do observers develop multiple templates for a target that is already familiar?
Session 1: Observers learned to discriminate the target watch from 20 similar watches.

Is the target on the left or the right?

Original Experiment:
Session 2, Training: Observers practiced finding the target in three contexts.
Session 3, Testing: Observers searched for the target with and without context cues.



Observers do not develop multiple templates for a familiar target. If observers develop the templates first, can they maintain them after the target becomes familiar? We repeated the previous experiment interchanging Sessions 1 & 2.



Observers may maintain multiple templates for a familiar target, provided they learn the templates before they learn the target. What's going on? Are observers unable to learn multiple templates for a familiar target? Or do they have no reason to learn them? We had assumed that context-specific templates are optimal for search, but maybe they are merely sufficient.