

Neuronal correlates of the set-size effect in monkey lateral intraparietal area

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It is well known that the brain is limited in the amount of sensory information it can process at any given time. During an everyday task such as finding an object in a cluttered environment (known as visual search), observers take longer to find a target as the number of distractors increases.

This well-known phenomenon implies that inputs from distractors interfere with the brain's ability to perceive the target at some stage (or stages) of neural processing.

However, the loci and mechanisms of this interference are unknown. Visual information is processed in feature-selective areas that encode the physical properties of stimuli, and in higher-order areas that convey information about behavioral significance and help direct attention to individual stimuli.

This week in *PLoS Biology*, Jacqueline Gottlieb and colleagues show how a higher-order parietal area relates to attention and eye movements. They found that parietal neurons selectively track the location of a search target during a difficult visual search task.

However, parietal neuron firing rates decreased as distractors were added to the display.

This decrease reduced the target-related response, which in turn correlated with the set-size related increase in reaction time. This

suggests that distractors trigger competitive visuo-visual interactions that limit the brain's ability to find and focus on a task-relevant target.

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