

Study reveals we seek new targets during visual search, not during other visual behaviors

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When we look at a scene in front of us, we need to focus on the important items and be able to ignore distracting elements. Studies have suggested that inhibition of return (in which our attention is less likely to return to objects we've already viewed) helps make visual search more efficient - when searching a scene to find an object, we have a bias toward inspecting new regions of a scene, and we avoid looking for the object in already searched areas. Psychologists Michael D. Dodd from the University of Nebraska - Lincoln, Stefan Van der Stigchel of Utrecht University, and Andrew Hollingworth from the University of Iowa examined if inhibition of return is specific for visual search or if it applies more generally in visual behavior.

The researchers tracked [eye](#) movements of volunteers as they viewed various scenes and recorded the location where the eyes were focused (i.e., fixated) at each moment. The volunteers were divided into four groups, with each group receiving different instructions for scene viewing. They were told to search the scenes for a specific target, memorize each scene, rate how pleasant the scenes were, or free-view the scenes (i.e., view the scenes however they wanted). During viewing, a target appeared in the scene, and participants shifted their eyes as quickly as possible to the target. The [target](#) either appeared in an old location (previously fixated by the eyes) or a new location (not yet fixated).

The results, reported in *Psychological Science*, a journal of the Association for Psychological Science, indicate that inhibition of return occurs during visual search tasks, but not during other visual tasks. That is, the volunteers in the search group were slower to shift their eyes to previously fixated locations than to new locations, consistent with earlier findings of inhibition of return. However, volunteers from the other three groups exhibited the opposite pattern of [eye movements](#): They were faster to shift their eyes to previously fixated locations than to new locations. The authors suggest that this "facilitation of return" effect may be "the default setting of the visual system, with inhibition of return representing an exception implemented during visual search."

Source: Association for [Psychological Science](#) (news : [web](#))

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