The Attraction of Visual Attention to Texts in Real-World Scenes

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Abstract

When we look at real-world scenes, attention seems disproportionately attracted by texts that are embedded in these scenes, for instance, on signs or billboards. The present study was aimed at verifying the existence of this bias and investigating its underlying factors. For this purpose, data from a previous experiment were reanalyzed and four new experiments measuring eye movements during the viewing of real-world scenes were conducted. By pairing text objects with matching control objects and regions, the following main results were obtained: (1) Greater fixation probability and shorter minimum fixation distance of texts confirmed the higher attractiveness of texts; (2) the locations where texts are typically placed contribute partially to this effect; (3) specific visual features of texts, rather than typically salient features (e.g., color, orientation, and contrast), are the main attractors of attention; (4) the meaningfulness of texts does not add to their attentional capture; and (5) the attraction of attention depends to some extent on the observer's familiarity with the writing system and language of a given text.