

Seeing may be believing -- but is it the same as looking?

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If you see something, it's because you're looking at it, right? A recently published study examined this question and established that while people do tend to notice objects within their gaze, it is the assumptions they make about their environment that affects their perceptions. This study gives insight into how the brain and the eye work together to interpret everyday observations.

The study "If I saw it, it probably wasn't far from where I was looking," reflects the work of a group of researchers led by E.M. Brenner, PhD of Vrije Universiteit Amsterdam. The article recently appeared in the *Journal of Vision* (www.journalofvision.org/8/2), published by the Association for Research in Vision and Ophthalmology.

Prior studies have confirmed that people's familiarity with the world around them allows them to make credible assumptions about what they see. This study sought to discover how people would visually interpret a constantly changing or uncertain environment in the absence of common visual assumptions.

Eight subjects participated in two experiments to identify the location of a jumping target (a circular green cursor). In the first session, the target jumped to different locations within five concentric circles (arranged around a fixation point) every 250 milliseconds. The subjects had to position a mouse cursor at the location where the target had been at the moment of a flash. The second session mimicked the first except a tone replaced the flash. Each session continued until subjects made 250

responses.

The authors found that participants clearly preferred to select target positions nearer to where their eyes were looking. This finding held true whether a tone or a flash indicated the moment of interest. The study suggests that when in doubt, people are biased towards believing that they were looking directly at what they have seen.

“Without making assumptions about our environment, our possibilities for interpreting visual stimulation would be quite limited,” explained Dr. Brenner. “Presumably, our experience with the world teaches us which assumptions to accept. You are most likely to see something if your gaze is directed at it. Thus if you saw something you may be biased towards believing that you had been looking at it.”

Source: Association for Research in Vision and Ophthalmology

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