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Why You Rarely Notice Major Movie Bloopers

BY RYAN JACOBS · March 31, 2014 · 1:51 PM

Pretty Woman. (Photo: Buena Vista Pictures)



The visual field accounts for the recent past in order to prevent us from feeling like we've gone mad.

Even the most practiced auteurs make embarrassing continuity errors. Take, for instance, Garry Marshall's otherwise flawless 1990 romantic classic *Pretty Woman*. In one scene, a croissant makes a radical transformation into a pancake. And then, miraculously, a bite mark in one shot evaporates from the next:



The reason these mistakes so often go unnoticed by everyone except next-level blooper detectives may have something to do with the way people process the visual field.

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A [new study](#) in *Nature Neuroscience* by MIT postdoctoral fellow Jason Fischer and his University of California-Berkeley colleague David Whitney suggests that humans are equipped with “serially dependent” visual perception, a process that uses prior stimuli and current information to construct the scene in front of us.

The researchers tested the idea with experiments that asked subjects to look at flashes of “randomly oriented gratings presented several seconds apart in time” and then report “the perceived orientation of each grating” by marking it on a computer screen. “We found that perceived orientation was strongly and systematically attracted toward orientations seen over the last several seconds,” the scientists write. “This perceptual serial dependence was modulated by attention and was spatially tuned, occurring more strongly for successive stimuli that appeared nearby in space.”

The researchers term the space in which the phenomenon occurs a “continuity field,” and conducted other experiments to ensure that it wasn’t simply the result of consistency in “motor responses or decision processes.”

But isn’t spotting subtle change important? Why are our eyes deceiving us with this stale field of croissants?

Without a visual mechanism to adjust the current scene for recent prior stimuli, daily life would be more akin to a jarring acid trip, according to the authors. “The continuity field smoothes what would otherwise be a jittery perception of object features over time,” David Whitney, senior author and associate professor of psychology at UC Berkeley, [told the university’s news center](#). Accounting for an aggregate of small recent changes in the environment—due to “head and eye movements,” shadows, and lighting—allows us to walk around without feeling like we’ve stepped into a field of melting clocks.



Associate Digital Editor Ryan Jacobs joined *Pacific Standard* from *The Atlantic*, where he wrote for and produced the magazine’s Global and China channels online. Before that, he was a senior editorial fellow at *Mother Jones*. Follow him on Twitter [@Ryanj899](#).

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