

# The Blue Cash Everyday Card

No Annual Fee

Plus, earn one year of Amazon Prime





SUBSCRIBE TO OUR NEWSLETTER



Learn More

POLITICS & LAW

QUICK STUDIES

**BUSINESS & ECONOMICS** 

**HEALTH & BEHAVIOR** 

NATURE & TECHNOLOGY

**BOOKS & CULTURE** 







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



Pretty Woman. (Photo: Buena Vista Pictures)











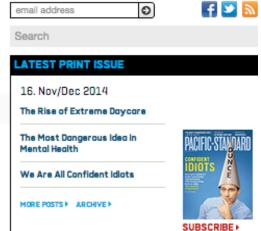


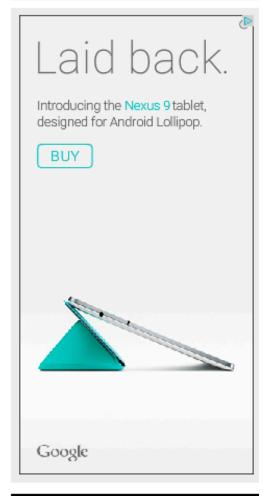
The visual field accounts for the recent past in order to prevent us from feeling like we've gone mad.

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.









MICHAEL WHITE:

How Gut Microbes Can Help Us Detect Cancer



TOM JACOBS:

Can't Stop Overeating? Try the Blue Light Special

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 Without a visual mechanism to adjust the current scene for recent prior stimuli, daily life would be more akin to a jarring acid trip.

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.



EMAIL



FACEBOOK





TWITTER





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.

# More From Ryan Jacobs

- Searching for a Man Named Penis
- Why Someone Named Monty Iceman Sold Doogie Howser's Estate
- We All Live in Ferguson



### JIM RUSSELL:

Why Attracting Young, College-Educated Migrants Hurts Sun Bel



### KYLE CHAYKA:

Cyber Shopping Isn't Just for Monday



### LAUREN KIRCHNER:

Can Children Who Survive Crimes Re-Traumatized by the Press?



#### KATIE HEANEY:

My Quest for an Out-of-Body Experience

MORE RECENT COLUMNS ◆



### QUICK STUDIES

VIEW AL

# A Trip Into Bipolar Brains

A new study suggests intriguing structural differences between the brains of Type I and Type II bipolar disorder sufferers.

# Biodiversity Isn't Everything in Urban Environments

Paradoxically, insects and other animals eat more junk food in low-diversity median strips than in parks.

# Brain Scans Could Help Diagnose Autism

Researchers use fMRI and computer algorithms to identify neural markers of autism.

# Smoking Might Make It Harder to Quit Drinking

Researchers uncover a brain-chemistry connection between smoking and alcohol dependence.

Attitudes About Race Affect