How this optical illusion made me question my reality

The latest visual illusion to make me question my reality is a blurry swirl of colors that disappear if I stare at them for long enough.

The illusion popped up on the r/woahdude Reddit today. But versions of it have existed since at least 1804, when a philosopher named Ignaz Paul Vital Troxler described how an image can fade away if you stare at it hard enough. For me, the image disappears almost entirely, until I realize it — then it snaps back into focus.

The reason the colors disappear is because the brain stops paying attention to visual scenes that don't change — which isn't normally a problem, Derek Arnold, a psychology professor at the University of Queensland, tells *The Verge* in an email. Usually, movement in the environment and of our eyes is enough to keep a scene vivid. But in this case, with a blurry image and a fixed gaze, the colors fade away.

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When our senses get used to a consistent sensation, it's called neural adaptation, explains Susana Martinez-Conde, a professor at SUNY Downstate Medical Center and author of the book *Champions of Illusion*. She compares the disappearing colors to wearing socks: you can feel your socks on your skin when you first put them on, but as the day goes on, you stop noticing them — just like the colors in this image.

One reason I find this illusion so much more uncomfortable than losing the sensation of my socks could be because it's a little more artificial. Normally, our eyes are in constant

motion. “Even when we think our eyes are perfectly still, we’re still making microscopic eye movements,” Martinez-Conde says. So if I look at the image the way I’d normally study a picture on my screen, the colors stay put. But if I stare at it and intentionally try not to move my eyes, the colors fade.

Of course, the moment that happens, the illusion breaks and I can see all the colors again. I asked Martinez-Conde whether my excitement that the illusion had worked somehow made the image reappear. “It’s not a product of excitement, per se,” she says. Instead, I’d probably moved my eyes when I’d noticed the image had started disappearing. “Your natural reaction is to go check immediately that it’s still there,” she says.

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This image is particularly forgiving to the subconscious flicks and flutters of our eyeballs because it’s already so blurry, says Stuart Anstis, a psychology professor at the University of California, San Diego. Still, if the illusion doesn’t work for you, Martinez-Conde recommends closing one eye — so that you only have to focus on keeping one eye still. The other potential fix, also suggested by one of the Reddit posters, is to stick a dot or your cursor in the middle of the screen to give your gaze an anchor. “Our eyes tend to wander around more when there is nothing to look at,” Martinez-Conde says. “So if you have a dot it’s easier to hold on to that.”

If it still doesn’t work, change the contrast on your monitor and give yourself a good 45 seconds to let the illusion disappear. There’s no shame in letting the illusion trick your mind, Martinez-Conde says: “Illusions are part and parcel of who we are. They’re literally part of our neural machinery.” And in the end, she says, they’re a good reminder to think critically about what’s true: “It’s not a bad thing to want to question your reality a little bit.”

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