

The Science of Reading

Post by “Don” of May 12, 2022 at 11:42 PM

<https://youtu.be/Wt7rR0MCYsg>

I hesitated to post this then realized it speaks directly to the "reliability" of the senses and what we *think* we perceive. There is still a material physical reality with which our senses interact, but we only really perceive what our brains (in many ways) *expect* us to perceive. Just like the brain research of Dr. Lisa Feldman Barrett and others show, our brains are prediction machines. Our sense may take in all kinds of sense data, but most of it never gets processed. It just gets matched up to previous experiences and if it matches or matches close enough, our minds move on to the next split second.

This is fascinating stuff.

Post by “reneliza” of May 13, 2022 at 9:02 AM

“but we only really perceive what our brains (in many ways) *expect* us to perceive”

I’ve been thinking so much about this lately.

Thanks for sharing!

Post by “reneliza” of May 13, 2022 at 9:19 AM

So this is definitely not the same thing, but when I was still working I was studying central pattern generators which are parts of the nervous system that allow us to carry out repetitive motions without thinking about it. Breathing is an obvious example, but it even applies to things that we think of as purely voluntary movements like walking. You don’t have to tell your body “move this foot, then move that foot” - you just tell it “start walking” and after a step or two it’s going on autopilot.

The comparison here is just the huge amount of *assorted automatic stuff* that our brains are doing in the background on both the INPUT and OUTPUT side of things. And how much of our

experience on both ends is just based on what we expect.

Post by “Don” of May 13, 2022 at 10:07 AM

[Quote from reneliza](#)

You don't have to tell your body "move this foot, then move that foot" - you just tell it "start walking" and after a step or two it's going on autopilot.

Which is one reason why we trip maybe. Our brains are like "Woah! That hole wasn't in the walking plan! Oops!"

I think this is right on point with this discussion. And it doesn't negate Epicurus's basic premise that we have to rely on our senses. We have no other direct connection with the physical world than our senses and pleasure/pain. Our minds will "play tricks on us" but the "input" is coming from real, physical, material phenomena.

Post by “Cassius” of May 13, 2022 at 11:40 AM

[Quote from Don](#)

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In addition to that, I think there's lot of material in the discussion of "images" that would relate to the same point. What we perceive over time (whether through the eyes or through the other theory of images) gets used to develop the patterns (or "models") that we then recognize.

Here's a random quote, Humphries translating "model" rather than "pattern" but probably a similar point:

Furthermore, where would the gods derive a scheme

For making things, how would they understand

What men were to be like, so gods could know,

Or only imagine, how to fashion them?

Or how would they comprehend the principles
Of primal bodies, what was possible
Through changed arrangements, unless nature gave
A model for creation?

Here's Bailey with pattern:

[181] Further, how was there first implanted in the gods a pattern for the begetting of things, yea, and the concept of man, so that they might know and see in their mind what they wished to do, or in what way was the power of the first-beginnings ever learnt, or what they could do when they shifted their order one with the other, if nature did not herself give a model of creation?

Post by “reneliza” of May 13, 2022 at 12:03 PM

[Quote from Don](#)

[Quote from reneliza](#)

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Yes exactly! Both on tripping, and on reliance on the senses. The data that reaches our conscious mind isn't perfect, but it's all we've got

Post by “Eikadistes” of May 15, 2022 at 11:29 AM

This all reminds me of the visual blind spot seeing people share, the area in your visual spectrum that corresponds with the place behind your eye where your retina connects to your optic nerve and lacks light-detecting photoreceptor cells. Despite the limitations of the geometry of the eye, our brains fill in the blank without a problem.

Notice in the test on Wikipedia how the blind spot does not appear to be an empty black void in spacetime, but rather, your brain just fills it in with the same shade of *Wikipedia White* that surrounds the "R" and "L".



There seems to be a demonstration here of natural dogma versus skepticism. Since the blind spot is a consequence of missing photoreceptor cells (due to the presence of the optic nerve) the "color" of the blind spot is being drawn by the interpretive brain, making an educated guess based on other available information. Knowing "it's probably white" is a good enough guess to encourage human survival, whereas, a Skeptical Brain might say "we can never really know what fantastical colors might lie behind the ever-obscured blind spot, forever teasing our little human minds".

And while the Skeptical Brain doubts its own eyes, a tiger pounces and makes a meal out of a skeptic philosopher.