

The Great Simplification

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[00:00:00] This morning, I was on a bike ride. One of those kind of lightning bolts, hit me when something happened and it caused my neurons or awareness or life experience into one of those aha moments, which happens to be relevant to our collective predicament. I was on a bike ride and I had my phone with me, which I always do.

[00:00:29] and or almost always, And I got a notification from LinkedIn from a woman who, I don't know, a friend of a friend, she's a movie director, and she wanted to direct, wanted me to be in a movie on humans and nature and our predicament, humans and nature. While I was reading it thinking, I don't have time to do this.

[00:00:51] unfortunately while I was reading. an invitation to make a movie about humans in nature in front of me was a dough and a fawn in the road staring at me and like I almost ran into 'em. They were like probably 50 yards ahead of me. And I was looking down on my phone, I was looking on a piece of technology, about a movie, about humans and nature, and I was missing the nature that was right in front of me.

[00:01:23] And it was this profound microcosm of the entire human predicament is how, our brains, our hearts, our values, our co-opted by the technology and the values of this and the behaviors and the incentives, and the experiences of this culture. And another human being on that bike ride might not have been captured or distracted the way that I was and.

[00:01:59] to be blunt, only since this podcast and this platform has kind of taken on a larger portion of my life have I really become subject to, the ghost of

The Great Simplification

dopamine Past because it creates higher and higher baselines of expected reward. And that's what I'd like to talk about today. The, neuroscience foundations of what I refer to as the ghost of dopamine past and its relevance to our collective predicament.

[00:02:44] So dopamine, we've heard a lot about this, neurotransmitter. 20 years ago when I was getting my PhD, I first became interested in climate change and ecology and energy, but very quickly I was drawn towards. Evolutionary biology, neuroscience, human behavior. I befriended a neuroscience who's, who was on this podcast a few years ago, Peter, we Brow, he wrote a book called American Mania, where I discovered a famous.

[00:03:17] Neuroscience experiment by Wolfram Schultz and his colleagues, where they studied dopamine neurons in monkey brains. while the monkeys performed, a reward learning task, and researchers recorded, the dopamine neurons in the midbrain, while monkeys learned to associate cues like lights or sounds with a fruit juice reward, that they got squirted in their mouth.

[00:03:43] And when the monkeys first received this unexpected juice, that came from nowhere, their dopamine neurons surged. So they were showing a clear reward prediction error signal because they didn't know why they got the juice. And the juice was awesome. But once the monkeys learned to predict the reward, 'cause the sound cue beep led to a squirt of fruit juice, the dopamine neuron stopped firing when the juice was delivered.

[00:04:16] Instead, they fired when the predictive cue appeared, when the sound came. But if the expected juice was emitted after the cue, like they played the sound and there was no juice, the monkey's dopamine neurons showed a dip below their original baseline. Essentially, the mental, neural signal of disappointment and the key insight from this and subsequent.

The Great Simplification

[00:04:42] neuroscience research is that dopamine neurons don't simply signal a reward, which is what is kind of commonly, understood. They signal the difference between expect a reward and actual reward, and they fire most when the rewards are better than expected. Stop firing when rewards match expectations.

[00:05:08] And they decrease firing when more wards are worse than expected. So this science, revealed that dopamine functions as a prediction error signal that drives learning as opposed to just indicating pleasure. And it explains why we adapt to positive circumstances and why pleasures that are familiar with.

[00:05:34] and, that we anticipate often feel less rewarding than the unexpected ones. I think this finding has major implications for understanding addiction, motivation, decision making, and as many of you might guess, for planetary boundaries and the human predicament. if unexpected reward is what drives us.

[00:05:59] and we are living in a flow-based, world, in our minds, in a stock-based world, in the biophysical ecological foundations of the world. This is a big problem. people that have watched my lectures for 20 years know I use this example of Parkinson's disease. Parkinson's disease is a lack of motor coordination in, the brain.

[00:06:25] And, some of the drugs that you take, like Mirapex and other ones give more dopamine to the brain, but it's all around the brain. They can't just target the one tiny area. And what ends up happening is a lot of patients that have Parkinson's, and to solve their motor coordination Problems have so much dopamine that they end up becoming gambling addicts or, spend all their life savings on shoes or have multiple affairs.

[00:06:55] There was a church pastor who slept with a lot of people in his congregation, and so it's too much dopamine as we raise our level of. Dopamine in our system, we go out and pursue, consumptive reward-based behavior. And in

The Great Simplification

our culture, that behavior has a lot to do, with physical and ecological impact on the goods that we, Consume. So what ends up happening is we have this level of dopamine neuron firing from going through our daily lives, reading a book, or seeing our cousin come and visit us or going for a walk. Or maybe when I was growing up, I would get the most dopamine from going fishing in Canada with my family because there would be nothing, Big strike from a northern pike on the line. Dopamine like crazy. But, so now we get those spikes every day by all the fucking emails and who, look who's watched your podcast or these video games are, we're 24 7 access to super high level stimulation. And what ends up happening is we have to have higher and higher levels of dopamine.

[00:08:17] In order to feel the same sensations that we used to. And it struck me in that moment that I was being invited to be in a movie. and I'm gonna say no, 'cause I'm too busy. But that sort of, email. Shouts louder in my brain than seeing a dough in her fawn standing in front of me. and I'm probably not a normal person because I'm super busy with all the things that we're trying to do with this platform, and I get so many emails and so many requests and so many introductions that I'm actually way more of a dopamine addict now than I was five years ago when I was teaching college.

[00:09:08] so it's something that I'm familiar with and am trying to address, but this isn't about me. This is about our entire culture. And so when I refer to the ghost of dopamine past, what I mean is our behaviors, our decisions, our activities in the recent and distant past to an extent, they end up.

[00:09:34] Carving out neural pathways in our brain that require higher and higher base load dopamines to feel normal in our day. So a dough and a fawn, or sitting 30 minutes on a park bench looking at birds or reading a book. Despite the healthy, human type of interaction that these things have, by human I mean matched with our ancestral time space, interactions with life, they no longer feel.

The Great Simplification

[00:10:12] The same. so those of us that go through life with really hungry ghosts of dopamine past, end up, having over consumptive and probably unhealthy, ghosts of dopamine present, and I think ghost of dopamine future is a different sort of thing because. Well, no. if the ghost of Dopamine Pass is so strong, then it shrinks and, constraints what our visions of the future, are because we can only envision things that keep us up on this high treadmill.

[00:10:58] So what do we do? I think one, one recommendation is dopamine fasting. have certain periods in your day. what I've done is I'm, doing chunking where I do work for 40 minutes, take a 10 minute break, another 40 minutes, a 10 minute break. But in those times. If I'm working on writing one of my scripts for the upcoming course, I will turn off the internet.

[00:11:25] I will actually disconnect it. or, Saturdays, technology free Saturdays for blocks of time dopamine fasting. another is to, interject, a dopamine neurotransmitter speed bump, or a pause. So when you want to check your phone, just take a breath first.

[00:11:56] And that separates the trigger and the response just in a very small way. which I think over time that pause gives us a little control over the moment. Another suggestion is to lower the stimulation baseline. my podcast with Audrey Tang a few months ago, she suggested turning your phone to gray Scale, and so it's gray and not color.

[00:12:23] It actually makes a big difference because when you see everything in gray, you can read the information, but you don't get the bright, vibrant purples and blues, which are like really do raise your novelty, color stimulation threshold. And another suggestion would be to socialize the dopamine. you, at least if you're with other people, you at least get a better neurotransmitter cocktail than just sitting alone playing Candy Crush or, puzzles for two hours or, whatever else the, addictive, likes and, scrolling and all the things bring.

The Great Simplification

[00:13:06] I'll bring up the thing again. Dungeons and Dragons, and Magic the Gathering are two of the best games ever, best inventions ever by humans because you're imagining these virtual worlds in your minds with other humans. And so it's the perfect, like full smorgasbord, and you're sitting there cracking jokes and slapping people on the back and being creative and being scared and being motivated and all the things without using a lot of resources.

[00:13:35] So I don't have answers to this, but I think the ghost of dopamine past in our individual lives, is a pretty strong driver, at least in the technologically, connected global North and, West. but if you think about. What this does to us as individuals, what does it mean for our society? What are these, the four recommendations I just gave?

[00:14:01] What are the corollaries of those, for our culture? And for those of you, Viewers of this program, by the way, I would say the average viewer of this podcast who watches a lot of the podcast, you probably have a much less hungry ghost of dopamine past than the average person, certainly than me, because you have the time span to listen to a 90 minute podcast.

[00:14:29] That's unusual. and, I think you should, pat yourself on the back for that. 'cause it means you have a healthy, I mean, everything else being equal. You have a healthy brain and, time interaction with our world. But to all of you, what, are some ideas and suggestions and mitigations you have for this, dopamine culture that we find ourselves in and your own boundaries and ways to cope with this?

[00:15:02] Just some thoughts after a bike ride this morning. Here's a, picture of, the deer already gone in the woods, but I thought it was such an important moment. I snapped a picture. I will talk to you next week.