

## MOVIE: BEHIND THE CURVE

*Some interesting quotes from the movie, "Behind the Curve". Note: the total run time of the movie is 1:35:36. The time stamp that is provided in the notes represents the time that is REMAINING (hence, if the time stamp says 1:25:36, this actually means 10 minutes into the movie). The names in the brackets (ie. "<>") are the names of who is speaking.*

1:09:44

<Joe Pierre> "I often like to say that if you gave me five or 10 minutes with you I can probably tease out some belief you have that your friends would think that that's a little bit strange. We tend to form beliefs based on a couple of things. One is our institutions, just what feels right. Another is our subjective experience. For most of us who look out on the horizon, indeed it looks flat."

<Hannalore Gerling-Dunsmore> "That seems like a reasonable thing, and so you ask: 'Okay, well, why are we saying that the Earth's round?' If you don't have someone who's gonna give you a satisfying answer, you might well then try to find alternatives."

1:08:54

<Hannalore Gerling-Dunsmore> "Something that you see a lot of in science is Imposter syndrome, which is a phenomenon where the more you know about a topic, the more you feel like you aren't actually an expert you feel like you can't possibly be an authority on this. On the flip side, there's something called the Dunning-Kruger effect."

<Joe Pierre> "The Dunning-Kruger effect is a psychological finding that people who don't have knowledge or expertise about something tend to have a false confidence that they are, in fact, very knowledgeable about something."

<Hannalore Gerling-Dunsmore> "It becomes this tendency to assume that you have all the facts, that what you know is everything that there is to know."

<Joe Pierre> "If you get online, you'll see pages and pages of so-called evidence that seem scientific right? Here's an equation, here's a diagram, and you go, 'Huh, maybe they're on to something there.' And I feel like that's just as good as an opinion of a physicist or a consensus of, you know, 20 physicists".

1:07:45

<Tim Urban> "Science is just the search for truth, right? Science is a way of thinking. Starting at 'I don't know', then chipping away at the "'I don't know' through evidence with no motive on where it takes you. You come up with a new idea, the first thing that happens is 10 people try to figure out why it's wrong. It's called Institutional Disconfirmation. When you have conviction, it's well-earned. So to have a vendetta against that, uh, is a little odd."

<Spiros Michalakis> How much time do you have to spend on every theory that is out there? Right, and many times, the things that we are debating are not even theories. Either because they're not falsifiable, or sometimes they've already been falsified."

1:05:00

<Per Espen Stoknes> "Confirmation bias is one of the most solid empirical findings in psychology. If I have a belief or an attitude, I will search for instances that confirm what I believe. And also, I'll find myself in a company with a lot of other people who think the same way as I do."

59:27

<Hannalore Gerling-Dunsmore> "You cannot believe a flat-Earther theory without believing in some giant conspiracy. Because you have to have some reason why all this proof is wrong. And if it's wrong, then it had to have been faked. And if it was faked, well, there you go, there's your conspiracy. And what I always am most curious about is why would someone bother to fake all this."

58:19

<Tim Urban> "If you can start getting conspiracy theory into someone's head, it's amazing how suddenly everything seems this way."

56:25

<Joe Pierre> "For many people, no matter what evidence you throw at them, they can come up with this more complicated, and, I think, in most of our eyes, less-believable hypothesis."

48:43

<Stephen Hagberg> "These people can be very, very bright, so the issue is not necessarily a lack of intelligence."

<Tim Urban> "It's not about being educated or uneducated, or smart or dumb, it isn't."

<Stephen Hagberg> "I think it's sometimes miseducation. I think somebody can be educated in such a way that they are educated to distrust authority on a regular basis, which kind of poisons the well up and down the line."

<Per> "However, sometimes a question like this is helpful: What would be the type of evidence that would make you review your position? Is there any kind of test?"

47:37

<Spiros> "The difference between being skeptical about something and being in denial is very subtle, but very important, right? Someone who is skeptical is willing to test their own hypothesis, their own assumptions. They are actually looking for the truth, even if it turns out that they were wrong."

47:18

flat-Earther Experiment 2 - Gyroscope

46:39

<Tim Urban> "You start at point A, and you do some kind of process of collecting evidence, of thinking, or whatever you want and you end up at a conclusion - a point B, that you believe is true. Okay? Science is the arrow. That's all science is is the arrow. Science is a process to get to conclusions."

46:00

<Tim Urban> "There's another way to think, which is you start at B. You start at the conclusion. You say: 'I have to find evidence that shows this is true.'"

<Spiros> "You're not looking for data to try to prove you're wrong or refine your position. Right? You're trying to look for all the data that proves you're right."

<Tim> "You'll cherry-pick until you find evidence that appears to be an arrow, a logical arrow, to your dogma."

37:23

Description of "Three posts" flat-earther experiment (to prove or disprove curvature of the earth)

25:59

<Lamar Glover> "So I wanna talk about flat-earthers real quick.

25:46

<Spiros> "The problem I see is actually not from the side of the conspiracy theorists. It is actually from our side, from the side of science. Very often it is difficult not to look down....My friend said, 'Sometimes the only way to change somebody's mind is to shame them.' And I say, I don't think that is the last resort, ever. This is the same as saying that if a kid doesn't get a particular subject, it's not your fault as their teacher, it is their fault. I do not believe that. It is just that you haven't developed your empathy to see from their point of view where they're getting stuck."

<Lamar> "We can't blame it all on people being delusional, or the 'C' word, which is the 'crazy' word. I think a lot of times we say crazy, and it's a scapegoat. Its an umbrella term. Right? How many people here have been called crazy before?"

24:11

<Spiros> "The worst-case scenario is you just completely push these individuals at the fringe of society and then society just lost them.

23:11

<Lamar> "Truthers, flat-Earthers, anti-vaxxers...when we leave people behind, we leave bright minds to mutate and stagnate. These folks are potential scientists gone completely wrong. Their natural inquisitiveness and rejection of norms could be beneficial to science if they were more scientifically-literate."

<Per> "Let's take the metaphor of 'argument is war.' One side wins and the other side loses. If my opponent feels he's better than me, that's intolerable to me. So I'll - I'll not listen to what he says. Already when he's talking, I'll be planning my counterattack. Another way of thinking is: 'Let's go and explore together!' And this exploring together takes us to another place than argument."

<Lamar> "So every flat-Earther shouldn't be held with contempt, but serve as a reminder of a scientist that could've been, someone that fell through the cracks. And we, as ambassadors of science, are called upon to do more. Right? So scientists of of varying degrees of professionalism, seriously consider becoming a mentor to someone who is coming from a non-traditional point of entry to the sciences."

<Hannalore> If you're not willing to engage with them, you - you can't expect them to change."

<Spiros> "You just hope that they will meet you even halfway, but often when you push them to the corner, it takes a lot of effort for them to even move one step towards you."

8:46

<Hannalore> "But the problem is that this isn't a phenomenon restricted to flat-Earthers."

<Scott Kelly> "They try to make other people believe it. Those people take it a step further, and then just kind of, you know, discount all kinds of scientific principles."

<Stephen> "It runs the gamut from people that are anti-vaxxers..."

<Tim> "Denial of evolution because it conflicts with the Bible, for example."

<Scott> "Then all of a sudden you get people that maybe work in our government that don't believe what 97 percent of all climate experts say."

<Hannalore> "And so they're making uninformed or poorly-informed decisions, and that affects all of us."

7:36

<Hannalore> "If you have a growing section of the population that doesn't know how to think critically and doesn't know how to evaluate expert resources, they're gonna be easy to manipulate."

6:26

<Tim> "The less plausible your dogma is, the less it meshes with reality, the larger the alternative reality you have to create. All of existence, suddenly, is through a different lens. I want to believe this. This doesn't mesh with reality, so don't change my view, change reality."

4:55

<Per> "Say you lose faith in this thing. What then happens to my personal relationships? What's the benefit of me of doing that? Will the mainstream people welcome me back? No, they couldn't care less. But, have I know lost all my friends in this community? Yes. So, suddenly, you're doubly-isolated. It becomes a question of identity: 'Who am I in this world?' And I can define myself through this struggle."

4:02

<Tim> "It's very enticing, once you get into it, it feels great to be the underdog protagonist in a Disney movie. Everything you do is justified. When people mock you, that's because they're evil. When people try to prove you wrong, when they do prove you wrong, you quickly say 'There you go. There's the evil.' No one is Ursula in their own story."

3:10

<Tim> "I think what flat-Earthers can offer us is a way to have 99.9 percent of people say: 'Well, that's ridiculous. Imagine believing that.' And then to turn it around and say: 'How are you a flat-Earther? Where are you and your people the protagonists in a Disney movie? Where are you constructing your reality?'"

2:20

Flat-earth follow up experiment with lasers

