Rationally Speaking #237: Andy Przybylski on “Is screen time bad for you?”

Julia: Welcome to Rationally Speaking, the podcast where we explore the borderlands between reason and nonsense. I'm your host, Julia Galef, and my guest today is Professor Andy Przybylski.

Andy is an experimental psychologist and the director of research at the Oxford Internet Institute, which is dedicated to the social science of the internet. Andy is -- I would describe him as part of what I would call the “backlash to the backlash to tech.”

So, I'm sure you're all familiar with the backlash. There have been countless books and articles in the last few years about how smartphones, and social media, and things like that, are making us stressed out and insecure and disconnected from each other, and so on.

Increasingly prominently people in tech have been signing onto the backlash as well. Founders or early employees of Facebook, or Twitter, have been expressing concern and regret about the effects of their creations.

Then, there's the much smaller backlash to the backlash. People arguing that the case against tech is actually much weaker than it seems. So that is where Andy comes in. Andy, welcome to Rationally Speaking.

Andy: Thanks for having me on.

Julia: Andy, what is your “in a nutshell” summary of why you think social media and smartphones are getting a bad rap, specifically in terms of being bad for their users?

Andy: Yeah, I think it's a really interesting topic. When we think about any kind of new technology and we look at the history of them, they're met with different types of skepticism and concern. But I think something really special's happened here with things like social media and screen time.

It's kind of like a Goldilocks topic, in terms of attention and how the news works right now. Most of what scientists do, even if you study well-being or health, you might not really actually get a lot of attention for your research. If this is porridge, it's too cold for public interest.

If you're studying planets or how to cure cancer, that's a really, really hot topic, right? That everyone looks at, right? But it's also a topic that gets a lot of scrutiny, kind of scientifically.

When we talk about the ways that tech might be addictive, or whether or not social media has negative impacts on us, it's really this “not too cold” -- so it's not too irrelevant for public interest stories -- and it's not so “hot” that real scientists are weighing in with critical methods.

Julia: Oh, I see. It's in like the uncanny valley of ...

Andy: Yeah, it's in the uncanny porridge valley of ...

Julia: Wow, what an unholy metaphor we've created together.

Andy: Yeah, I apologize.

There is a kind of trend in what you could call “technology effects” research, wherein we have these large scale surveys of people's behaviors, of their attitudes, of their health, and these are typically data sets that are collected primarily to study some other thing about the human condition.

Maybe in the last 15 or 20 years people have been adding questions about things like screen time to them. How much time do people play video games? Or watch television? Or more recently, how long they're online.

What happens when social psychologists sometimes come across that, and we have a question or a thought about what role might technology be playing in their lives, people will analyze this data -- it's kind of like found secondary data.

And with very few exceptions, because there is somewhat of pressure to publish positive results, you have a sub-genre of academic publication, which is that there is a small, but statistically significant correlation between X, whatever type of technology use it is, and Y, whatever kind of outcome that you might care about. These correlations will invariably be statistically significant because the sample sizes are so large.

The kind of thing that we were trying to do is to provide a ... Based on the different types of data that we're dealing with here, to provide a baseline for a critical reader to put social media or tech use in the perspective of the dataset.

What are the other things in this big dataset? What are the other things that actually account for well-being in young people, right? Being bullied, drug use, home circumstance, so we picked some things that really should have a big impact for good or bad on kids lives.

And then we looked at stuff that you really shouldn't think could impact well-being. Things like whether or not they wear glasses, whether or not they're left handed or right handed, whether or not they eat fruit or potatoes.

Julia: So where did it compare to being bullied, versus... eating potatoes?

Andy: Right. Listening to music, let's say another type of technology use, the effect of listening to music on well-being was about 13 times larger than screen time, in the negative direction. That doesn't mean that Mozart makes teenagers depressed. That means that if you're a kid and you're listening to loads of music, there probably might be something else going on in your life. It's nowhere near bullying or drug use.

There's figures in the paper where we draw beautiful things, and we've made animated gifts that compare all these things.

But no, the negative effect is somewhere between whether or not you wear glasses, and how much potatoes you eat.

Julia: This is all ... So, we're still just ignoring the fact that it's purely correlational data, and not causal, and just asking: Even just looking at the correlational data, is there something here that seems like it needs explaining with a causal story? And your answer is, not really.

A different kind of correlational fact that often comes up, in discussions of harmful effects of social media and smartphones, is just the trendline -- that depression and suicide rates among adolescents have been going up dramatically ever since smartphones became widespread, which was in about 2011, 2012.

Obviously, correlation doesn't prove causation. But as xkcd, the webcomic once said, "It does waggle its eyebrows suggestively while mouthing, look over there."

Andy: Yeah.

Julia: So do you find the spike in depression ever since smartphones took over, at all suggestive of a causal link?

Andy: Yes, that's a really interesting question. I would say that... I'm really happy that we're actually running a three year project to look at that question, that we're starting in October. It's something that concerns us a lot.

But these kinds of trends, and these kinds of correlations, this time series analysis, which is never actually done properly... It all depends on which dataset you look at. You don't see things like it in more tech-saturated countries, or in other industrialized countries. You don't see, two or three years ahead of the United States, the South Koreans and the Japanese having spiking rates of self-harm or depression, you know?

In places where you know there's more internet penetration at an earlier time, or at a later time, or at the same time, you don't see the same trends in Germany, or the United Kingdom. Or Canada, where you have just as many iPhone sales per thousand kids.

Julia: Oh, that actually seems pretty damning of this argument, this piece of the argument. Isn't it?

Andy: Yeah, it's true, it is tremendously damning of the core thesis, but the-

Julia: Your tone didn't make it sound as damning as it is.

Andy: No, but it's more of a curious thing for me, which is that, how has the narrative found the two datasets where you can draw a picture and tell this story? How's our narrative in the West that this thing is happening?

The authors, or the people who are pushing this narrative, they've managed to find the only two datasets where this is even plausibly true. Because if you even zoom out in the same dataset, you see that there's a long linear trend --

Julia: When you say zoom out, you mean look at years before 2011?

Andy: If you look at 1970, yeah, you look at like 1970 to 2018 or something, right? There's a much bigger decline that tends to follow – or not decline actually, there's like a tremendously steep dip in the 90s in anything that we'd be worried about in kids.

Julia: Meaning, sorry, when you say ... You're saying in the 90s, depression, suicide rates, et cetera, went down?

Andy: Yeah. They all started crashing up until the new millennium, right? Or the most recent millennium.

Julia: Oh, I see.

Andy: Kids were, across all metrics, looking way, way, better from where they were in the 60s, 70s, 80s, and early 90s.

Julia: Oh, I see, so this could just be a “regression to the mean” type thing. Or, I guess that’s not really the same --

Andy: Exactly. Not mean, it's probably taking lead out of gas or something, but the-

Julia: Yeah, yeah, yeah.

Andy: But what happens is, if you chop things off at 2005 and 2014, and you exaggerate the Y axis, you can tell yourself a story that something happened in 2011, right?

Julia: Right.

Andy: But it's much more interesting for me as a scientist to say, "Well, how the heck is this the dataset we've picked to look at? And how can this drive so much hand ringing over at NPR?”

Because I can pick a different North American dataset and show almost the opposite pattern. Or I can pick 10 datasets all across the EU, and show you that every year kids are getting more healthy in terms of their drug use, or their drinking, or how late they stay out at night, or things like that, right?

Julia: Is the implication being that if drug use had gone up, or if pre-marital sex -- or sex at a young age -- had gone up instead of going down, then we would be... or, these same people would be pointing to those trends and saying, "That's clearly connected to smartphones"?

Andy: Right, and you can see this in the media coverage actually. Which is that it doesn't matter which way the tiny trend goes, right? It's evidence that -- there's directly conflicting headlines sometimes, where it's like it doesn't matter if the tiny trend means teens are having more sex or less sex. The very fact that there's any difference, it will get attributed to technology.

Julia: Right. Yeah, yeah.

Andy: Look at the history of this, in terms of… like, every 12 months or 18 months, you have a new guru who comes by, and they have a technology – so, we had Phil Zimbardo, of Stanford Prison experiment fame.

About three years ago, he wrote a book called The Demise of Guys, and there the technology was video games and internet pornography. That was the X. The Y was traditional gender roles, which he described literally as chasing girls in skirts.

Then for him, the correlation between these two things -- the mechanism, sorry -- was that playing games, and having access to pornography, and he also identified a higher level of female teachers, in his time series analysis… this has led boys to be less like guys. He did a Ted talk on it --

Julia: Less like bros.

Andy: Yeah, less like bros. I can't even imagine him saying the word “bro.”

But the larger thing is that this is kind of a cyclical thing. Where what happens is… it's not like anybody collected data to show that The Demise of Guys thesis was wrong. Basically what happened was Adam Altler or someone wrote a new book about how X is technology is addictive. And his X is persuasive design and his Y is technology addiction, and then he tells a story that connects X and Y in terms of whatever the technological flavor of the month is.

Julia: Maybe what we need is a non-profit where all they do is just … For each new instance of this, where someone's telling a causal story on pretty thin evidence, with trendlines that could have been explained in the other way… this non-profit will publish Ted Talks making the exact opposite case. Using trendlines that sound exactly as persuasive. And they just keep doing this until the public gets it, that you can do this for any story you want.

Andy: I forget the name of the law, but the problem is that you're assuming… was it the bullshit asymmetry principle? The problem is that the amount of energy to refute bullshit is an order of magnitude higher than the amount of effort required to generate it.

Julia: Oh, lovely.

Andy: It would have to be a very well funded non-profit. I'm sure Google or Facebook would love to fund that.

Julia: All right. Well, let me throw something a little bit harder at you,-

Andy: Yeah, sure.

Julia: ... which is that, there's not a lot of this research, but there have been a few studies that have tried to identify the causal effect. They've done some kind of randomized control trial.

One, maybe the most well known, just came out earlier this year. It was by Hunt Allcott et al, it was called “The Welfare Effects of Social Media.”

What they did is they basically took a group of people, randomized half of them, they paid those people to deactivate their Facebook account for ... I think it was four weeks. And then followed them, made sure they didn't actually reactivate their Facebook accounts in a moment of weakness.

And they compared their various mental health metrics to the control group that stayed on Facebook, and found that the group that left Facebook was significantly happier. I'm sure there were other metrics as well, but that was the one I remember.

Also, some significant minority of that group chose to stay off Facebook at the end of the four weeks, which... I haven't looked into the method closely, but that seems like the kind of study that I would find convincing. Do you not?

Andy: I don't.

Julia: How come?

Andy: Well, there's a few reasons. It all depends. I think the most important thing that you said was, "I haven't looked really carefully into the methodology, but this sounds like the kind of evidence that I find convincing." I think-

Julia: I mean, relative to correlations in giant seas of data.

Andy: Yeah. All right, so I would say that... I happen to have read this paper after conducting three similar pre-registered experimental studies, across three different countries, where we did not find the same pattern of effects.

Julia: Just to clarify -- you did studies where some people were randomly selected to deactivate an account, or to go off social media?

Andy: To either have days where they used none, their normal amount, or more forms, of social media and online interactions.

Julia: Oh, I didn't realize that.

Andy: They're not published... you know, it's not peer reviewed. Just like this, this NBER paper that you're talking about, the Alcott et al paper. And, you know, there's just a lot of things that... the devil's in the details. There's just a lot of things that were immediate red flags for me.

So the Alcott paper says things like the study was pre-registered -- but it wasn't. I mean, they had their study plan ahead of time, but I could not find the preregistration document where they outlined their sampling plan and their analysis plan, in a way that I would recognize as a studied preregistration. So I was like, oh okay, that's not there.

Julia: So you're saying, they ended up leaving themselves more room to cherry pick or data mine....

Andy: Right. And obviously there's differences between fields, about what the word preregistration means. But I mean, they had a plan for what their study was going to be ahead of time. Which I agree is admirable, to have a plan.

But when it comes to hypothesis generation versus testing there are things that we've observed, like non-adherence. So when you ask people not to use social media -- or even, you know...like, there'll be a certain percentage of people who actually when you debrief them, they tell you that they didn't adhere to the instructions.

And that detail also seemed to be strangely missing from this study.

...I mean, this paper is still absolutely worth reading and thinking about. But the disjoint between how it's framed, what was done, and then how society talked about it -- those gaps lead me to say no, I don't find that convincing.

I feel like this is the experiment that absolutely should have been done a decade ago. And if it had been done a decade ago, we'd know so much more. But it's not something that makes sense to point at, and say that this is like the end of the story, or this is a conclusive piece of evidence. It's really the beginning. This an example of something that would be the beginning of knowledge. And it would need to be refined.

Julia: What is your own personal hunch about the effects? Like let's say we had an unlimited budget, we could snap our fingers and just

know the answer. What would you expect to see the effects of tech being?

Andy: I think the core thing has to do with motivation.

Julia: How so?

Andy: So, I think that people will be satisfied or dissatisfied, or made more vital or drained of life, in their interactions with platforms for the same reasons that they feel these ways about everyday non-digital contexts, right?

So motivationally speaking, if people are doing things out of a sense of choice and volition and they feel calm... They're doing things with a platform, or context or relationship because they feel like they want to, you know, instead of feeling like they have to. Instead of feeling like they're manipulated. I think that that's the core of it.

And, the problem is that it's not about money. Money's not the thing that makes this hard to study. The problem here is data. That this is not the kind of thing that you can just study with a questionnaire. You can't build your own Facebook in the lab, really. People try.

Julia: Why can't you just do the Hunt Alcott et al study that we were just talking about, but you know, cleaned up? Or better. You know, to your standards. Why isn't that the kind of experimental design that should help us tell whether Facebook is bad for people?

Andy: Yeah. Well, I mean the problem is that even Facebook is...it's very silly that this is a study about Facebook, because really the thing that we care about is social media... When you read the paper, the paper kind of assumes that all social media is Facebook and Facebook is all social media and --

Julia: But you can do the same thing with Twitter. You know, just piece by piece.

Andy: But the thing is, I mean -- that's very positivist of you. And I also hope that to be the case. But the issue is that these are whole contexts, right? These are whole systems. And so your question is, well, how would we know if Facebook is good for you? Or if social media is good or bad for you?

Julia: Or just makes you more or less happy.

Andy: Then I'd turn to you and say -- well, let's assume that's a meaningful question. Like, is school good for you?

Julia: That's such a burn, when someone asks a question, to be like, "Well, let's assume that's a meaningful question..."

Andy: Right? But let's assume. Then it's like, well, how would we begin to break that down? We would have to go into a school, we'd have to break the school day down. We'd have to do classroom observation. We would talk to parents, talk to teachers, talk to principals. We would actually have to kind of deconstruct this context -- because a school or education, is a solid, right? Is "education" good for your wellbeing? It's not a solid, we have to break it down.

Okay, we're interested in primary schools. Okay, we're interested in classrooms. Okay, we're interested in math. Okay, we're interested in learning.

You know, you kind of have to zoom in... and the problem is is that unlike a school or unlike a playground or unlike some other kinds of contexts, these contexts are privatized. These are proprietary spaces. And so as social scientists, we don't actually have access to the levers of power that would require us to break this down from some kind of useless abstract level, to kind of like the behavioral level or to the context level.

Julia: To me, this just feels like letting the perfect be the enemy of the good, or something.

Like certainly the question, "However people choose to spend their time when they have a Facebook account, does that make them feel happier, on average, if you measure their subjective wellbeing, compared to other people who don't have access to their Facebook account?"

... That's not the only important question to ask. You could ask other questions about, like, "Well if we changed Facebook in such-and-such a way, then how would it affect people's subjective well being?" Or you could focus on particular parts of the current Facebook and ask, "Do those make people happier or less happy?" or you know, does it affect their attention span? There's lots of questions you could ask.

Andy: Yeah, but this is the path of madness, because-

Julia: No, no, no, that's what I'm saying -- why can't you just pick a few of the core [questions]...like, if you imagine the Hunt Alcott, et al

study had been superbly done, and let's say it replicated -- we did a bunch of other studies like it, and we just kept finding the same effect. That feels like a valuable thing we would have learned about Facebook:

That if you deactivate your Facebook profile… or at least, if you're the kind of person who would participate in such a study and be willing to consider deactivating their profile, which is the reference class here… Then chances are you will end up happier. Or chances are you will not regret it. That's a valuable thing to have learned, in this hypothetical I've constructed.

Andy: I really wish that was true. But it's not.

Julia: Why not? Why not?

Andy: Because you can't just say, are people happier if they disable their Facebook account for a week, or whatever. You have to say, are they happier compared to what?

Julia: No, no, no. That study had a control --

Andy: Because as a society, or as a person -- no, because what's the leading cause of death among Americans besides heart disease?

Julia: Cars?

Andy: Car accidents, right? The American society absorbs what, 40,000 deaths a year from car accidents? That sounds right. I'll make up a number. Let's say it's 40,000.

And we could say, okay, well having cars results in 40,000 deaths, and if we all chose not to drive, that number would plummet. Or if we set a uniform speed limit of 10 miles per hour, where even pedestrians who were hit by a car, most of them wouldn't die.

Right? You have to make… we don't live for an infinite amount of time. It's a series of trade offs. And so the question is, if you're not spending two hours playing video games or on Facebook, you have ask yourself: Well, what is the other thing that you would be doing with that time? What is the comparison, what does that cognitive surplus look like?

And so it's not sufficient to just say is there necessarily, I mean there isn't a reliable effect. You know, we're doing our fifth version of this experiment like right now in Croatia. So I don't know the

results of that one. But like, even if this was true, what would this mean compared to the other kinds of trade offs that we make?

What is the active ingredient in stopping Facebook engagement, that actually ends in this uplift? Is this actually something that is a one off deal? You've given up Facebook for the rest of your life and you had a barely statistically significant positive effect across 2,700 cases, you know?

So if there's 2,700 people in a study of Facebook, and you assign half of them to stop using Facebook, right -- I'm saying this as someone who doesn't have a Facebook account, by the way, so I'm a giant hypocrite here -- but you get 1300 people to stop using Facebook, right? And they feel happier on some self-report assessment for one week. Then your policy prescription is: Close your Facebook account.

But you don't actually know if that positive emotional effect lasts for more than a week. Human beings aren't these balloons of happiness that just kind of permanently inflate by one tenth of one standard deviation of happiness units, right?

And so you would actually want to know, what is the thing about Facebook -- and this is why I said this thing about why understanding the context is so important, and not treating it like it's a solid like education, right? Breaking down, well, what leads to effective teaching, or what leads to kind of good peer relationships in a school, or what prevents bullying?

That's the kind of thing that would give you meaningful interventions, so you'd understand what the scope of the effect should be, and how to make the thing a better place. You don't learn anything from abstinence.

Julia: This just strikes me as a fully general argument, against the value of learning that starting x, or stopping y, will make you happier. Because you could just always say, “Well, you know, we don't know that your happiness will last.”

I mean it’s true, that's an important question to study, you know? Are improvements to our subjective wellbeing lasting -- and if not, is there a way to make them last? That's a very important question, I grant you -- but it doesn't seem specific to the Facebook question.

Andy: I think a number of world religions have also tried to tackle it as well, and philosophies. But no, it is a super interesting one, right? Because this is the logic that that does undergird things like debates

about violent video games, or other things where you kind of say, “Oh, I see the participants in one condition, they put slightly more hot sauce on a taco than in the other condition, after they've played Grand Theft Auto versus Tetris.”

Julia: Wait, one of the measures of violent behavior is the amount of hot sauce you put on your own taco?

Andy: On somebody else's food, an imaginary person's food.

Julia: Oh, I see. And I presume you were -- I'm just curious about this weird metric...

I presume that the person was told the hot sauce would be painful for the recipient? Because I could imagine a lot of people who like spicy food were like, “I want to be helpful! Here's a lot of hot sauce.”

Andy: I am so sorry your listeners have to hear about how embarrassing social psychology is. Yes. So yeah, this is called the “hot sauce paradigm.” And the general idea is:

You were a participant, and you're meant to participate intwo experiments, and you're supposed to believe they're not the same experiment.

And in experiment one you do something like play a violent video game or not. And then they say, “Okay, thank you for participating. Now what you're going to do is you're going to do a taste perception experiment. And here, try a little bit of hot sauce. And here's a container, put hot sauce in for somebody else to try.”

And then, you know, they use that as an indirect measure of aggression.

Julia: So it's just a measure of... how spicy you like things? I can't, oh man.

Andy: I mean, it's a measure of a lot of things. But behavioral aggression, it's probably not a measure of.

But that's nearly as dumb as using a handful of self esteem questions and then calling that “depression” when you go on ABC. So there are giant leaps, logical leaps and bounds that people take, that don't involve something as silly as hot sauce.

But this is the kind of thing I'm saying. Let's say that you find a difference in the amount of hot sauce, or how angry somebody is,

right? Do violent video game players just become infinitely angry, the more doses of gaming they have? That idea is actually insane. There's nearly a perfect negative correlation between violent video game sales over time and youth aggression and arrests.

But then it becomes a really interesting question. If a game is really frustrating, and it makes you angry because you're not good at it, let's say -- or someone beats you -- how long do you actually stay angry?

Or if there's something about social media that makes you unhappy, how long do you stay unhappy for? You know, it's not --

Julia: Couldn't we measure that too, though? Like --

Andy: I mean, we're trying.

Julia: Researchers who study happiness have apps that people download, that will ping them randomly throughout the day and ask “How are you feeling?” Or “How happy are you?” Couldn't we just do that?

Andy: I mean that's what we're doing, so if you know anyone who wants to fund the research, let me know. But that's called an experience sampling study.

And what we're trying to do is we're trying to connect these kind of moment to moment assessments of wellbeing and happiness, and connect that -- not to asking somebody if they were using social media, but keeping track in terms of their actual behaviors on their device, about what they've been up to. To try to break this question down a bit more.

Julia: In reading some of your writing and interviews you've done on this question, I noticed a potential disagreement that I might have with you. Which is that...

I've seen you criticize certain moves made by tech companies, as lacking evidence behind them. Like Apple and Google creating dashboards for people's smart phones, so people can monitor how much time they've spent, or set time limits for themselves, or hide notifications or other things that might distract them.

And you said -- I have a quote from you in a Nature article about this. You said, "None of this stuff has any empirical evidence behind it. They're just doing it because they need to do something, because everybody is making noise."

Andy: Yeah, that sounds like me.

Julia: And I agree with the part about “they're doing it because everybody's making noise.” But to me, those kinds of interventions that I just described are a great idea. For two reasons.

First, because until we someday in the future get solid research on the actual psychological effects of things like social media and smart phones... in my opinion, the next best thing is just to hand the reins to the users. Like, let people decide for themselves how much they want to subject themselves to a thing that may or may not be harming them. All else equal, free choice is good.

And then the second reason that those moves by Apple and Google seem like a win, is that it seems clear to me that the effects of screen time in its various forms are going to be really heterogeneous. Where some people are harmed, other people are helped.

So, you know, we don't want a one size fits all solution. We want people to be able to gauge the effects of their internet usage for themselves, and choose their own experience.

So, I guess another way to say all this is that it seems to me that the question of, “Should we pressure tech companies to give users more control over their own experience, and how addictive it is for them?” -- that question seems separate from the question of, “What are the average effects on people of using these various platforms?”

Does that make sense?

Andy: Yeah. Yeah, and so... I absolutely did say that and I can remember the words coming out of my mouth.

The question here isn't whether or not giving users more control is an unalloyed good. I don't disagree with you on that. I think that insofar as platforms provide users, us humans, with meaningful opportunities for action and for asserting our values, that is an unalloyed positive, all right?

And that's not what I'm talking about when I say that there isn't evidence to support that these things are good or not. What I'm saying is that this topic is too important to trust it to toolmakers.

So, this is like the... let's use Google as an example. Their URL is something like, wellbeing.google.com, right? And the thing that I'm saying is that there's no reason to believe that this new feature is any different than Goop.

Julia: Goop, the Gwyneth Paltrow site?

Andy: Yeah, the Gwyneth Paltrow site where there's all these things that are meant to-

Julia: With, like, jade eggs you put in your vagina?

Andy: I mean, I cannot speak to that, having two aunts who went to Mount Holly Oak and two who went to Wellesley, I'm not going to enter that realm.

But no, I would say that there are many interventions that companies are engaging in, whether it's Facebook's suicide prevention tool, or the "screen time" tools -- which all sound great to me. And I'm a Nintendo kid. I love that Nintendo tells you to get up and move around every two hours.

And as a parent, I love the screen time app myself, to allow my daughter to use Audible, but nothing else, within certain hours. I don't take any money from Audible.

But that doesn't mean that these should be understood as validated health interventions.

Julia: Oh, you're just saying you don't want people to think that because these companies have made these changes, that we should expect that now things will improve.

Andy: Right.

Julia: Because the case I was making for it is that, in the absence of evidence, it's better to give people free choice than to not give free choice. And you're just... you're worried people will read it as, "they've solved the problem."

Andy: Right. As that it's done and dusted. Because the issue here isn't one of whether it's better than nothing. Of course it's probably... well, the suicide prevention tool might not be better than nothing. Because there's a lot of things about ethics and incorrect reporting and human agency and dignity around things like end of life.

But this is all about an opportunity cost. So we have a situation where someone has screamed, "There's a wolf in the forest, and it's a blue wolf." And what's happened is, Google and Facebook have jumped up and said, "Here's our blue wolf trap. We've created this new tool that will help you control the blue wolf." Right?

But nobody asks... it's like, okay, well we're going to make a tool now. Here's a new tool to get rid of the “wolf in the forest” problem.

And this is an opportunity cost. This costs us... by making it into a feature, we are actually diminishing the serious attention we should be giving to this idea that these platforms are bad for us. And are bad for our society.

Let's just imagine that obesity was a problem in our society. Right? And what's happened is that the maker of the worst cereal -- you know, the cereal that we all think is really bad for us -- they say, “At the bottom of every new box of this cereal, there's a stopwatch. And you can use this stopwatch to measure how much time you've spent eating the cereal.”

And then they have a website called, stopwatch.cereal.com, where they list all the new tools they've put at the bottom of their horrible cereal, as like their corporate responsibility to us. Promoting our wellbeing. And fighting our obesity.

At best, it's homeopathy. Sorry, sorry -- Probably, it's homeopathy. At best, it's something that some high functioning people in society can use to exert more control, if there's like a nugget of something effective there, right?

And then at worst what it does, is it distracts us from getting the real data, and figuring out if these things are actually used and whether or not they work.

Julia: I am just realizing I didn't fully understand your whole position in this, when I first invited you on the show. So I'm recombobulating now.

So, I described you in the intro to this episode as part of the backlash to the backlash against tech. Which implied that you were pretty positive about what the tech companies were doing.

That, I am guessing now, is not correct?

Andy: No, they're monsters!

Julia: Okay, good, good, I'm glad we're clarifying. I feel bad for my tech listeners who thought I was throwing an ally their way, but okay!

So you are actually pretty confident that social media, smartphones, et cetera aren't having these negative effects that the critics were claiming...

Andy: Yeah, they're certainly not.

Julia: But the bad thing that you are holding their feet to the fire about is just... their control over the data, and the process, and everything? And not making that available. And you're worried that giving the users more control over their experience is just a way for them to avoid doing that.

Andy: Yeah. I mean, what's happened in, let's say, the last 30 years is that there's been kind of a steady privatization, in some ways, of play, and of childhood and of socializing.

And so the kind of space with which we can understand what's happening for us, in terms of wellbeing and motivation and health... That space is increasingly at the purview of a relatively limited number of powerful companies. It's not that there aren't wolves in the forest, it's just that our actual ability to identify them is getting worse and worse over time.

And so we have people who are like prophets of doom and gloom, who write a book or have a consultancy or do whatever, that say, "Oh, we've found the blue wolf, or the red wolf, or something." There's no chance that they've actually found this wolf. Because their method completely mismatches whatever fear-mongering they're doing.

But, they're definitely tapping into a very real anxiety that we have about these companies, and these technologies. From a historic perspective, we were worried about plays. We were worried about the printing press. We were worried about radio. And jousting and Dungeons and Dragons, and violent video games.

So, on that basis, there probably isn't anything uniquely bad about any one of these technologies. It's just we wouldn't have a really good way of knowing.

And these companies aren't monolithic. They're full of amazing, hardworking people. People of conscience. And many of them do want to make... Most of them, nearly all of them, want to make amazing positive experiences for their users.

But even they aren't necessarily sure of how to do that. Because what's happened is, the actual -- whether it's behind a wall of NDAs, or impenetrable team systems that some of these companies have, they don't actually know how to ask those questions. Even though they have the data.

Julia: Well, I have to say, I'm kind of impressed now, looking back, that for someone who really does want to hold tech's feet to the fire, you didn't just side with the critics of “Big Tech” because they were critics. You instead, criticized the critics because their methods were bad, even though they were fighting the same people that you wanted to fight for different reasons. Did that make sense?

Andy: Yeah. I mean, I don't want to fight them. They're natural allies --

Julia: Yeah I know, but I could imagine someone else in your position being -- unconsciously, maybe --

Andy: Oh, being cynical? Yeah.

Julia: No, well, just being like: “Look. The enemy of my enemy is my friend.”

And again, not saying the tech companies are your enemy. But if the goal you want to achieve is getting tech companies to be more forthcoming about their data, or more transparent, or something like that... I think pushing the “tech is bad for us all” line would actually maybe be a good way to accomplish that.

Andy: But the problem here is that scaring people will work until it doesn't. And so, if it's very easy to find the mistakes in this research or in this reasoning, and you don't have a good basis for making these arguments, they're actually very easy to knock down. And if you get behind bad logic and bad data and bad science, and that's the thing that gets you a seat at the table, it's actually really easy for these companies to knock that down. And then to delegitimate the entire critique, right?

It would be as if people were actually falsifying their data on something like global warming. Or on some aspect of pollution. Like, you wouldn't want... I wouldn't want to sign up with somebody who was doing that. Because the moment that ExxonMobil finds that you've been kind of making it all up, then they've got even more ammunition to do nothing.

And so things like this law, I think it's called the Smart Act, or the Smart Draft, or whatever the heck it is. That's an example --

Julia: I'm guessing you weren't a fan.

Andy: My favorite feature was that it bans gamification. Because I know that --

Julia: It bans gamification?

Andy: Yeah, there's like a gamification, gamified badge system thing that it says it's going to ban. In one of the subsections.

The best feature of this draft is that it was so short, it didn't waste a lot of my time to read. But the problem is that if you're to take it seriously, it actually tells you how poorly lawmakers, or the people who are informing lawmakers, how poorly they understand these contexts. And how poorly they understand the role of these technologies in our lives. Because if they're going to believe something like that, what else are they going to believe?

And we don't want to be in a situation where we waste another 20 years with dumb data and dumb regulation, and we don't actually make these companies meaningful partners and part of the web of our society.

Julia: ... Before I let you go, I wanted to ask if you had thought of a book or other source that influenced your thinking or influenced your life in some way. It doesn't have to relate to the topic of the episode.

Andy: Yeah. I think that probably my mid 90s obsession, fixation -- I got a copy I think in the fourth grade, or third grade, of Michael Crichton's Jurassic Park.

And I spent a whole summer... I must've been, I don't know, eight? Seven or eight. And I obsessively read the book over and over again. And, after having read other sci-fi and other things like Foundation, and other things that my dad had provided for me, this was just such a more real... Crichton presents this real-world science of the future. Where everything has become kind of industrialized, commodified, commercial science.

And this tension between doing genetics in academia, versus making an amusement park with dinosaurs. And all the tension and all the espionage. The hollowing out.

Have you read Jurassic Park, like any time recently?

Julia: Years ago, I must have, but --

Andy: Well, please reread the first third of the book, basically.

But the thing that Crichton describes -- and he wrote this in the 80s, so he wrote this almost a decade before I read it -- is he describes this almost like, “all is quiet on the western front.” He

describes this kind of hollowing out of academic science. Where what happens is that if you want to be on the cutting edge, you have to do commercial science.

And the money comes from the Japanese. The captive industry is genetics and computers, and academia is where you go to retire, or where the second rate talent goes, right? And then the excesses of this is what creates this industrialized science. This is what creates the monsters, which is the scientists themselves who can't see outside of their system that Malcolm critiques...

Julia: So that line, which I think is from Jurassic Park, about, “Your scientists were so busy figuring out how to do it, that you didn't stop to ask if you should” -- that was really a reference to messed up incentives in the scientific research community?

Andy: Yeah, absolutely! Because the crazy thing that's happened, and obviously it's not crazy in any way, is that this parallels exactly what's happened in some ways with the internet, and with big tech companies.

Which is that if you want to work with the latest data, and the fastest computers, in these amusement parks -- which are the platform economy -- you don't do that in academia. Because you don't have access to the supercomputer. You don't have access to the funding required, right?

Because if you're an academic scientist in 2019 -- like, I just wasted almost a month of my life writing a grant. For a paltry amount of money. And it has a 17% chance of getting funded, according to what the university tells me.

And so, when I first read Jurassic Park, that's how I understood the tension between academic and industrial science.

Julia: We'll link to, well, Jurassic Park, for anyone out there who hasn't yet read it. Or who wants to read it again but just through this lens. And to several of your papers that we talked about, and your general research page. We'll, I guess, link to some of the pieces of the debate over the tech backlash, and to the extent which it's justified, that you've been contributing to.

Andy, thank you so much for coming on the show.

Andy: All right, thank you so much. Thank you for having me on.

Julia: This concludes another episode of Rationally Speaking. Join us next time for more explorations on the borderlands between reason and nonsense.