

Duke Law Podcast | 'The Battle for Your Brain'

by Prof. Nita Farahany

JEFF WARD: Hello. I'm Jeff Ward, clinical professor of law at Duke Law and the director of the Duke Center on Law and Tech. I'm also the host of this episode of the Duke Law Podcast.

Imagine a world where your brain can be interrogated to learn your political beliefs. Your thoughts can be used as evidence of a crime, and your feelings can be held against you. On the other hand, imagine a world where people who suffer from epilepsy receive alerts moments before a seizure. The average person can peer into their own mind, even to eliminate painful memories or cure addictions.

Neuroscience has already made all of this possible today, and neurotechnology will soon become the universal comptroller for all the interactions we have with technology. This can benefit humanity immensely. But without proper safeguards, it can also seriously threaten our fundamental human rights to privacy, freedom of thought, and self-determination.

Duke Law Professor Nita Farahany, a leading scholar at the intersection of law, ethics, and emerging tech, and the director of the Initiative for Science and society at Duke University, explores this complex landscape in her new book *The Battle for Your Brain*. She's calling for the establishment of a human right to cognitive liberty. And she's here with me to talk about it on the new Duke Law Podcast. Professor Farahany, it's great to have you here.

NITA FARAHAANY: Thanks for having me, Dove.

JEFF WARD: Yeah, so your book is clearly generating a lot of buzz. There's a lot going on here. From Forbes, The Wall Street Journal, The Guardian. You're speaking at the New York Times DealBook summit last November, really kicked things off. And you even spoke here at the LENS Conference at Duke, and everybody seems very intrigued.

NITA FARAHAANY: I think quite literally I've touched a nerve. People are, I think, at a moment where technology has really overwhelmed a lot of people in a lot of ways. They recognize the kind of existential questions that a lot of people in tech ethics and law have been asking for a long time are here. And I think if you take it in the context as well after the Dobbs opinion, a lot of people are really reexamining what the role of privacy is in society.

And take then the fact that I'm talking about the loss of the one space that I think everybody always assumed would remain private, which is their brains, and I'm revealing to people that there is this technology that is already here, that's already arrived, that's already pervasive in some parts of the world and in some settings. And I think it's both frightening for people, a wake-up call, and also just really interesting about a technological area that they didn't know about in the past.

JEFF WARD: I share in that shock that others have felt. And you call the book *The Battle for Your Brain*. Can you talk a little bit about the battle that you're referring to.?

NITA FARAHAANY: Yeah, so I really framed the book around the positive uses of the technology and the ways in which people can use neurotechnology or wearable brain sensors, and we'll get into what that means in a moment. But the ways in which people can use it for themselves, that can be empowering, that could put our mental health and well-being, our ability to enhance and change our brains on par with all of the rest of our health. People are very used to already tracking their heart rate and, increasingly,

during the COVID pandemic, their oxygen levels. They're wearing Fitbits that track the number of steps that they take.

But the brain has been this black box-- this black box where people can only try to access it through self-reflection, but can't objectively quantify it, see how well they're focusing during the day, how tired they are. They can have a sense of it subjectively, but not objectively quantify it.

But, of course, once you unlock the ability to decode or change what's happening in the brain, that means that other people can too, and the battle is the battle for our brains, literally, which is corporations, governments are just as in on getting access to decoding, to tracking and hacking the human brain, as individuals are. And the battle that I see is the battle for individuals to keep the self-determination over their brains and mental experiences, to have it be something where this new technology is a battle that we can win to be empowered by this technology, rather than it becoming literally the most oppressive technology that we've ever introduced into society.

JEFF WARD: Sounds awfully important. When people have that shock in that interest that you talked about, it's partly because they're frightened, as you said. It's really fundamentally shocking to think that our brains, that last bastion of sanctity of privacy, et cetera, could be violated in some way. But at the same time, you allude to many wonderful uses of this technology.

I'll tell you the first time I ever saw neurotech being used. It was a video of somebody who suffered an impairment with quadriplegic and was regaining some movement through the assistance of this kind of technology, and it brought tears to my eyes. And I was really excited about the possibilities. I think it helps everybody to start to understand that battle and the tension that's happening here by maybe having a few examples of ways that this kind of neurotech is currently in use. That might help us to extrapolate into the future. But can you share a few examples of ways it's being used already?

NITA FARAHANY: Yeah, as you rightly point out, neurotechnology has been in development for a very long time. Neuroscientists have been studying and trying to decode the human brain for a very long time now. There's been large-scale government investments in doing so.

And what has happened over the past few decades is our knowledge about the inner workings of the human brain have dramatically improved. That's through large and cumbersome technology like functional magnetic resonance imaging, huge machines that people go into and have to stay very still in while their brain is imaged, and then complex programs afterwards that try to analyze and understand what's happening there or big medical caps that people wear that have 128 different electrodes with gel applied and all these crazy looking wires coming out of their head. They can pick up the electrical activity in your brain because as you think, as you do anything, neurons fire in your brain, giving off tiny electrical discharge. And those happen in patterns that can be decoded with more complex and sophisticated algorithms, like AI, that kind of advances and that have really made huge advancements in decoding what's happening in the brain.

But those are not the things I'm talking about in this book. What I'm talking about are brain sensors that are just like the heart rate sensor you have in your Apple Watch. They're tiny electrodes that-- and they don't have to be electrodes, but we'll talk about that first-- which is electrodes that can be put into your earbuds or your headphones where the same devices that you use to listen to music or take a conference call could also track your brain activity. Or like Meta has a huge investment in what's called EMG that picks up brain activity as it goes from your brain down your arm to your wrist, and your intention to type or move can be decoded by sensors that are in the watch that they're developing. So these are sensors just

like the sensors that are in your watches and that are in your Fitbits right now, but they're Fitbits for the brain, essentially, that allow us to pick up at least simple electrical signals that are coming from the brain. And the implanted technology, that tracking matter, those electrodes, but many thousands of them, tiny, implanted deep into the brain, which there are about 40 people worldwide right now who have these kinds of electrodes in their brain, brain-computer interface devices, that allow them to do extraordinary things like being able to move a robotic arm or being able to speak when they've lost the ability to communicate otherwise by being able to interact with technology that enables them to type or turn the lights on, do things that really enable them to regain independence and communication that they've lost. Those are unbelievable and extraordinary breakthroughs.

Or people with epilepsy who have electrodes that are essentially like pacemakers in the brain that can reset the electrical activity in the brain. Or even there's a case of a woman who suffered from severe and intractable depression who said that she was really at the end of her life, that she was terminal because she was so deeply depressed, that with implanted electrodes, was able to read the signals when she was suffering the most severe symptoms of depression and reset those signals so that she was able to regain her life. And now, she experiences the ordinary range of emotions rather than feeling like she really was at the end of her life.

Those are the extraordinary advances in the medical applications of this. Our everyday applications of this will become the universal way that we interact with all of the rest of our technology. People will be able to type by thinking about it, use a virtual keyboard just by intending to type, use their hands to move around in virtual reality or augmented reality and have the signals of intending to move be decoded by neurotechnology, or be able to just improve your focus, be able to do what I do, which is to use it for meditation and to be able to get objective neurofeedback.

Like yep, you really are in a meditative state, bring your stress levels down. Or you're trying to figure out, do you really focus better when you're at home or when you're at work? And you're going to have objective brain data be able to tell you that.

So there's a lot of extraordinary and exciting applications that are coming for this technology. But what's the most transformative about it, what I'm really writing about is going from those implanted exciting applications to technology that is part of our everyday lives and part of healthy people's everyday lives. JEFF WARD: That's really helpful. And when I go to a doctor's office or go to get an MRI, I walk into this room that's clearly in a hospital. It's a place where I know something special is going on. I see that large machine that you described.

I see a doctor in a white coat, and I know she's going to take care of my data and that what's happening here has been pre-approved by the FDA, et cetera, et cetera. I feel protected in a way. And I probably have a right to feel that way or am justified in feeling that way.

You're talking about ubiquitous use of this technology. It sounds like the more natural it fits on your wrist or behind your ear or whatever, the more likely it is to be used in a widespread way, none of the indicia of misuse of data or whatever that I might be on an alert for in other contexts. What are some of the legal issues that arise here with this kind of consumer base, ubiquitous easy, simple use of EEG or EMG technologies that you're talking about? In particular, what does it mean for expectations of privacy?

NITA FARAHANY: Yeah, there are so many legal issues that it raises. I've spent a lot of my academic career focused on those issues, everything from what does it mean for the criminal justice system to how is the FDA or other regulatory bodies going to regulate it? What are the kinds of claims that these

companies can make about what you can and can't do? Can you use it for ADHD? Can use it for epilepsy?

But the privacy concerns are profound. And they are profound because people are used to normalized and maybe a little too complacent about the fact that all of the rest of our data has been commodified, that algorithms that really target and microtarget our behavior from the commodification of our data have become widespread. But I think they should be particularly worried when the commodification of data and the inferences that are being made are based on brain data, and that's because while there's a lot of frightening inferences you can make and a lot of misuses of data from what you type or your financial transactions or your GPS location, at least those are expressed behaviors.

And I'm not saying that to say like and it's OK. I'm saying it to say at the very least, we can say, OK, but all of that are things that I have intentionally expressed in the world, movements I've made, choices that I've been deliberate about. And so there is some ways in which I've given up some expectation of privacy over that information.

But what's in your brain, your unexpressed emotions, the kind of deeper thoughts that you have, the ways in which even if you're paying attention or your mind is wandering, these are things that have always been private, and we've always had an expectation of privacy. Your ability to turn over some new idea in your head, figure out your own identity, ponder that crush that you have and whether or not you're going to act on it, dare to dream a dream of resisting a tyrannical government, or demonstrating against your employer. All of these things, from the most daring to the most mundane, are things that we have expected to remain private. And while not all of it can be decoded by simple consumer-based neurotechnology-- I don't want to mislead people to think that this technology can literally decode the inner monologue that you're having-- there are many, many more inferences that can be made from our brains than people realize and from the simple data that can be gleaned from this coming and already, in some ways, ubiquitous consumer-based neurotechnology.

JEFF WARD: It certainly feels violative to me to think that somebody would be able to determine without me expressing it intentionally that I may have positive or negative emotions upon hearing a certain politician's voice, that my evidence of my emotions, sexual orientation, as I mentioned, political affiliations, my mood, my ill will toward somebody because they cut me off in traffic, or something. These are all spontaneous feelings that I have that I don't control, and I don't mean to express. And that feels really violative.

With access to those-- I know we're going to a bit of a dark place here-- but with access to those, what are some of the threats? Let's imagine some of the ways that it might be misused against somebody.

NITA FARAHANY: Yeah, we don't even just have to imagine it. We can look to how it's already being misused in places like China, where it's already been used, for example, in educational settings where students have been required to wear brain sensors during their day in the classroom that tracks their attention and mind wandering. And that information isn't used just by them to figure out and to help them focus better.

It's given to the teachers. It's given to the parents. It's given to the state to make real-time decisions. I think that has a chilling effect on freedom of thought, especially for a young and developing mind. And I think you could even set aside how much data can you actually glean from that. Put a device on somebody's brain and tell them that you're monitoring them in a classroom, and the chilling effect that has I think is really extraordinary.

It's also been used in workplaces in China, but also in other countries, where people have been required to have their brain activity from their fatigue levels to their attention monitored at work, and they've even been sent home if their emotional levels show that they could be disruptive to the workplace. There even reports that those same technologies have been used in ways to probe for political adherence to communist values or to the party because you can test for different reactions to political ideology or to statements. It's been used to interrogate criminal suspects everywhere from India to Dubai, trying to look at the unconscious reactions in the brain, the subconscious kind of before-- if I show you a picture and want to see if you recognize something, before you would even consciously be able to control your reaction to that, being able to pick up brain signals and reaction to that.

So we can see mandated compelled use where the brain is then probed for information can be really frightening, and there have been research studies to try to figure out just how much could you probe? Could you, for example, hack the brain to find a PIN number? Could you try to hack the brain to find out other information?

And researchers have successfully done so where they've been able to embed, for example, imperceptible images in a video game that a person is playing with one of these devices on their head that they're using as a control because these brain sensors have been very popular within the gaming community. And they've been able to successfully find things like a home address and PIN numbers, showing that there's a real cybersecurity risk to it. And then there's the whole terrifying prospects of cognitive warfare and the weaponization of this technology to try to disable minds hack them or manipulate them.

JEFF WARD: So let's bring this a little closer to home, if that's not scary enough, to talk about political oppression and limiting people's ability to have freedom of thought in that arena. We might find ourselves more immediately seeing the deployment of these technologies in a workplace setting. I know you talk about this in your book at some length.

We already see in the news stories about employees feeling increased oppression on the job, increased demands for efficiency, less freedom of movement than they maybe have felt in the past. And you can imagine these technologies, as you do in the book, being used as additional tools of oppression. Can you comment on that a little bit and perhaps provide some examples?

NITA FARAHANY: Yeah, so in chapter 2 of my book, which is called "Your Brain At Work," and I've done kind of a few different dives on this now because I think this part is really interesting to a lot of people as they think about the future of work. I have a piece in the Harvard Business Review this month on it, and The Wall Street Journal covered this aspect of it as well.

The most surprising thing to most people first is that these kinds of brain sensors have already been integrated into a lot of workplaces, and that a lot of the neurotechnology companies and companies, big tech companies that are investing are really investing in enterprise solutions. That is, they're selling directly to companies neurotechnology to be able to monitor people's brains in the workplace. And I'm not talking about just people on the factory floor. I'm talking about people sitting at their desk, working on their computers to try to track attention levels, fatigue levels, and to pick up information about how their brain is functioning at different times of day, their engagement levels, their boredom, their frustration, all of these metrics where some of that can be scored by the other kinds of productivity software that has been rolled out, especially during the pandemic.

I think more than 80% of companies admit to using some kind of surveillance technology employees in the workplace. Those things pick up keystrokes. They pick up what's on the computer screen. But they don't pick up literally what's in your mind.

And I think what's frightening about this technology is not just that it's been used in thousands of workplaces worldwide already. It's that it is the enthusiasm with which employers are adopting this technology to be part of this broader surveillance suite, to be able to track people's attention and fatigue levels and other metrics of brain activity.

There's a company called SmartCap that for over a decade now has been selling their EEG sensors that can be embedded into hard hats and to baseball caps. It's been used with truckers and mining. And more than 5,000 companies worldwide have already used their technology to track fatigue levels. And in some ways, I don't actually think that particular application is problematic, and let me explain why.

If the only thing you are tracking for a commercial driver, for example, or a person in a mine where fatigue levels could signify dangerous levels of exposure for them, the only thing you're measuring is their fatigue levels on a score to 1 to 5. You're not picking up any other brain data.

You're not making any other inferences about what they're thinking or feeling. And you're using it for safety. You're not using it to fire them or to decide who's the most fit and weak worker or to hire. That's not necessarily that problematic, especially when you compare it to the other technologies that are already being used.

If you're using an in-cab camera to monitor a trucker the entire time they're on their long haul truck drive versus you're just picking up fatigue levels from their brain, I would rather as the trucker just have my fatigue levels picked up than have a camera trained on my face and in the cab that monitors my every move for the entire drive. What's more problematic is the use of these technologies by employers to try to track things like attention levels, which not only is not a good thing to measure because paying attention all day long doesn't mean that you're the most productive.

And in fact, periods of mind wandering are not only important to bring down stress levels but also important to how likely you are to be able to have big insights. But it's just icky and wrong to try to force people to conform to this ideal of like you have to be 100% focused all day long. And we're going to be big brother looking over your shoulder and making sure you're doing so really undercuts morale, undercuts trust in the workplace, and it, I think, dehumanizes the experience of work.

Better uses of it, I think, are this whole field called cognitive ergonomics, which looks at how people's brain activity reacts to different environments and tries to use it. Like you would take 30 employees, monitor their brain activity with their consent for a day or a week to try to understand what's the best way to design this workplace to make it safer, more engaging, more pleasant to work at, less likely to be stressful. It's not long term continuous monitoring of the brain. It's done for a particular purpose, to understand how to better design a workplace, to make it a more favorable environment for employees. So I don't think we should rush to ban it in these settings. I think what we should do is have a nuanced conversation about what are good uses? What are bad uses? How do we do it in ways that actually empower people, give them the tools so that if they want to improve their focus they can? If we want to improve the workplace to decrease stress levels, we do. That we're trying to make it a safer environment, we are enabled and empowered to do so, but it isn't used as a tool to surveil, monitor, and violate the mental privacy of employees.

JEFF WARD: Absolutely. And I try to imagine the dehumanization that I would feel if that were imposed upon me by an employer. And I know I'd want to push back. At the same time, I think they'd be very disappointed with what they found from the results. But I want to work toward what is the core to a set of solutions that you propose in your book.

But before we get there, I also want to capture the moment where we are in time, and that's that we're in this kind of immediate post ops era. You've already talked about privacy in the sense of privacy violation, and I want to ask the question in maybe two ways.

One is what ways might we use this data to-- so for instance, somebody right now might have their social media like Facebook or something looked into, and that might serve as evidence for them in a criminal situation. Might it be used by law enforcement that-- what's gathered from your brain? That would be one that's a question that I find a lot of people have. But the other part of this question would be, might this be a catalyst?

Ryan Calo, who I know you know well, Professor at University of Washington, talks about various technologies as privacy catalysts. They shock the world such that maybe our privacy protections are forced to catch up with an emerging technology that has outpaced the privacy protection. And at that point, criminal use, for instance, might that be a privacy catalyst for us to build a political will to do something about this.

NITA FARAHANY: I hope not just the criminal use of it, but the mere fact that is an entirely different category of technology aimed at the organ that we find to be the most fundamentally tied up with our sense of self will make it a privacy catalyst in and of itself. I've been surprised-- back to your original question of why are people reacting so strongly to it-- I've been surprised by it. I gave a talk at the World Economic Forum in Davos, and I had a part of my introduction to the book animated for that as just a short trailer video.

It was part of the introduction that you alluded to in the beginning of our conversation here today, but it was a scenario about a person in the workplace and how the technology be used and that like broke TikTok. It has just gone absolutely viral with hundreds of millions of views of that short animated clip, mostly because people thought I was advocating for that as the future rather than trying to provide a dystopian scenario. But if that's any indication, what it really shows is that it's different in kind for people, and that difference in kinds may, in fact, be a catalyst that leads to people reacting to it differently.

With respect to the criminal justice system, that has been happening for a while, and it hasn't seemed to have been as big of a catalyst, even though there's been a good bit of coverage about the ways it's been used in India and in Dubai and in other countries. Japan has long had a concealed information task that they've used as part of their criminal justice system. And I think that's because there's a sense in which people can other people within the criminal justice system. They can say, oh, well, OK, but as long as I never commit a crime, my brain isn't going to be probed.

I think part of why the employment context has really touched such a nerve is that everybody can relate to being at work. Everybody who has a job can relate to the concept of this could be part of my everyday life if somebody's peering into my brain. And so I didn't realize it at the time, when I chose to have that be the scenario that was animated, how much that was a universal sense that would touch a nerve, but I think that's what it is.

It immediately made it relatable to people of like, oh wow, this is about me. This is about me and my life and my privacy. This isn't about some other person that I can other and not worry about it as much.

JEFF WARD: That's fascinating. So you talked earlier about the distinction between implantable technology versus this potentially very ubiquitous EEG and EMG-based set of technologies. And it might be precisely that ubiquity, that commonality, that accessibility of the technology that raises a political awareness and raises an awareness to act in your book. I mean, just to take that political awareness and move toward a solution set, you make the case for codifying a right to cognitive liberty, not just in the United States, but worldwide. From a legal standpoint, what would that look like?

NITA FARAHANY: So I propose an international right to cognitive liberty, a human right, as part of the Universal Declaration of Human Rights. And one thing I will say is we're so fortunate to have here at Duke Law School Larry Helfer, who is just a brilliant human rights scholar and advocate and who is appointed to the Human Rights Committee. And I reached out to him as I was really working on this in developing this, and he was so incredibly helpful and so incredibly insightful in helping to frame it about exactly how would you operationalize this at an international human rights level.

So I was thinking about it at the time when I went to Larry Moore as like, OK, well, there are these three rights that I think of as part of making up the right to cognitive liberty. Those three rights are the right to mental privacy, the right to freedom of thought, and the right to self-determination. And those are all rights that already exist within international human rights law.

And so cognitive liberties, I was understanding it wasn't-- at the time, really, it didn't have to be a new right. It was just directing people to update those three rights. And he had this brilliant article that he wrote with Brandon Garrett and with Jane Huckaby about thinking about the kind of difference between recognizing a new right versus updating existing rights as part of their conversation about the right to innocence, right to actual innocence. And that was so instructive in my thinking about this because what I ended up doing was really taking a cue from their work, and I cite to their work and discuss it in the last chapter of my book on cognitive liberty.

The cognitive liberty, both for norm setting reasons and for bringing people together around the importance of this the catalyst that we were talking about, is a new right as I'm proposing it that could be recognized by the very committee that Larry sits on, the Human Rights Committee, which would direct the updating of those three rights-- privacy, which is already part of the Universal Declaration of Human Rights, which is codified in the International Covenant on Civil and Political Rights, the right to freedom of thought, which is also recognized in both but has traditionally been more narrowly conceived of as freedom of religion, and the Special Rapporteur for freedom of thought, the now outgoing one, proposed this updated understanding of freedom of thought to the UN General Assembly in October of 2021. And I was in conversation a lot with him and his team as they were developing that report, particularly around the thoughts about neurotechnology and how it applied to that.

And the third is the right to self-determination. I think that's such an important concept, which would include both a right to informational self-access, which is already it turns out recognized as part of international human rights law just hasn't been applied in this context to neurotechnology and the right to access your own brain data, but it would also include the right to make changes to your brain, enhance it, diminish it. I mean, we all have already do that. Coming to law school, people are enhancing their brains, having a glass of wine. They're diminishing their brains but recognizing a more robust right to do so I think would be really important.

So as I conceive of it, it is the updating of those three existing international human rights and the recognition of the right to cognitive liberty, which would have both powerful legal and symbolic effect

worldwide and direct us to operating and updating those rights. But as we'll talk about I think in a moment here, because given your work and in tech ethics and law, recognizing a right is really important, but the implementation of that is so important as well. And so that's just the first step to being able to have this technology empower and not oppress individuals.

JEFF WARD: I just want to acknowledge how much I appreciated the book's start with John Stuart Mill and on liberty and end with on cognitive liberty and just how much for me, as somebody who's both excited and frightened by the technology, how it gave me hope moving forward that there is something that we can do. But you're right. There is a challenge of principle to practice.

Those listening might think, oh, great. We have this international human right. But what does that mean for me? And what does it mean for the wearables and the technologies that will be put in the store in front of me that will be given to my children, et cetera, et cetera?

So I think you're right. I'd like to talk a little bit about tech ethics in that principle to practice transition. And maybe the way to ask it is, a lot of companies are engaged in and devoting resources to the ethical development and deployment of technology. And I know you do some of this work.

I do some of this work. Many people are involved in this at an individual organizational level in ways that seem really promising. And it's wonderful to see people asking good questions about the technologies they're sending into the world, listening carefully to the needs of their stakeholders, and trying to do the right thing moving forward.

But we also should be realistic and not pollyannaish about this and know that companies are beholden to a bottom line, et cetera. What would be the benefit of a recognized codified right to cognitive liberty in terms of the ways companies on the ground on a daily basis would operate when developing and deploying these technologies?

NITA FARAHANY: A lot of companies are making moves in tech ethics. It almost seems like it's the talk of the day, which is, oh, what are your ethical principles by which you are operating? I will also just sound a pessimistic note, which is with all of the major tech layoffs that have happened, the first teams that have been laid off at almost every one of the companies have been the teams that have been focused on tech ethics and privacy.

Matta laid off their responsible innovation team before they even did the deeper cut for other tech ethics. Twitter almost immediately laid off everybody who had anything to do with tech ethics and oversight. And what that signals to me is that while companies recognize in some ways the importance of it, that a lot of it may in fact be greenwashing rather than kind of a c-level commitment to it being integrated into the very technology that they're developing and core to the mission of the company.

And so for me, the starting place is not just by the adoption of ethical principles. As important as I think that they are, I think a better starting place is changing the default rules. And that's what I see cognitive liberty as doing, which is we need a powerful reset when it comes to privacy.

Right now, the traditional mode of operation is that all data is commodified, and that that commodification is just part and parcel of doing business now. It's where most companies have built their business models around. And I already see some of the commodification of brain data happening by companies who have been collecting the data from these devices.

We have to have a powerful reset, and that powerful reset resets the terms of service, and it begins with a right to cognitive liberty, which gives people an individual rights to autonomy over their brains, over their mental experiences, over their data. That means that if an employer wants to monitor brain activity of

employees in the workplace, it has to seek a legal, narrowly tailored exception to the right to cognitive liberty.

It's not that they say like, oh, we're going to roll out this technology in the workplace, and here are ethical principles by which we'll be guided. It is we can't roll out this technology in the workplace to surveil employees because they have a right to mental privacy unless we're able to show a narrowly tailored legal exception, and there's proportionality between the data that we are gathering and the legal purpose for which it is being served, the bona fide legal purpose. And so I just think it changes the narrative legally and socially so that what we're really talking about is what are the exceptions to the rule rather than the exception to the rule being, oh, if you opt out, then you have privacy.

So it's a different starting place. And I think it's a starting place that then actually works really well with tech ethics because it then creates what the ethical standards are for those exceptions and helps us have those conversations and guides us. But it puts the power where I think it's supposed to be, which is in the hands of individuals.

JEFF WARD: You're also a change maker and a futurist. I want to ask you just one prediction about the future. In your best world, where are we in March of 2028, five years down the road?

NITA FARAHAANY: In the best place, March 2028, we have ubiquitous consumer wearables that people are using to take charge over their mental health and well-being. And the data is being shared when people want to share it with researchers and scientists to be able to solve the greatest challenges of neurological disease and suffering that we face, but our brain data isn't something that we gave up just as easily as we gave up all of the rest of our privacy and information. Professor Farahany, thank you so much.

NITA FARAHAANY: Thank you for the wonderful conversation.

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