



NeuroSociety Stories – Walter Koroshetz

FULL TRANSCRIPT

CAROLINE MONTOJO, HOST: Welcome to Neuro Society Stories, a series created by the Dana Foundation that explores the incredible ways that neuroscience is shaping society. Through engaging conversations, we invite Dana Foundation grantees, partners, and other neuroscience and society thought leaders to share stories of discovery, innovation, and impact.

Each episode offers unique perspectives on how brain science intersects with fields such as ethics, law, social sciences, and more—advancing neuroscience for the good of all. I'm Caroline Montojo, president and CEO of the Dana Foundation. Join us as we uncover how neuroscience can drive change, inspire new possibilities, and create a future that reflects the aspirations of all people

MONTOJO: From apps that track our mood to AI-powered neurotechnologies that restore communication and movement, brain technologies are rapidly moving from the lab into our daily lives. Neuroethics helps us make sense of these advances—not only asking what they can do, but what they should do, and how these technologies can affect everything from our privacy to our autonomy to the systems that we all depend on.

I am joined today by Karen Rommelfanger, a pioneer at the intersection of neuroscience, ethics, and culture. She is the founder of the Institute of Neuroethics, a think-and-do tank based in Atlanta, Georgia. Karen, welcome.

KAREN ROMMELFANGER: Thanks for having me.

MONTOJO: I am so delighted to have you here today and to hear your story about how you came into the field of neuroethics. Let's start with your training and background. You trained as a PhD in neuroscience studying movement disorders. What was the moment—or moments—that made you realize neuroscience alone couldn't answer your deeper questions about the mind and behavior?

ROMMELFANGER: My journey into neuroscience was really spurred by the desire to understand the mind. As an undergraduate, I read two books that really moved me. One was *The Astonishing Hypothesis* by Francis Crick, where essentially he said we are nothing but our brains. The other was *Molecules of Emotion* by Candace Pert, where she outlined how all the emotions we feel are due to molecular interactions in the brain. I thought, well, I want to understand how the universe of our mind works—so I'll go into neuroscience. But

as I got deeper into neuroscience, studying even the smallest units of the brain, single neurons, I started to have my doubts that I was really understanding the meaning of the mind.

There was a moment when I was recording deep structures of the brain. When you do that work, every brain is a little bit different. You take a map of the brain and place an electrode in the brain, then detect electrical signatures that are transformed into sounds so you can “hear” where you are in the brain. I was listening to these cells after I arrived at the point in the brain I was trying to study. In theory, there were eye movements, head turns, even hints that thinking was going on. As I listened to that neuron sputter and fire, I thought: Oh my God—this is not where the mind is. It felt like there was much more in the human experience—something beyond the brain alone—and I needed to think more expansively to really get at that question.

MONTOJO: It’s so interesting to hear your story. I could almost hear the little sputtering of the current—thinking, wait, that’s not quite the mind, is it?

ROMMELFANGER: Yes. You’re listening to what used to sound like TV static, and it’s like, Is this what it is? Is this what it boils down to?

MONTOJO: That’s great.

Karen, we’re in a time period where neuroethics is being more deeply integrated into brain initiatives around the world. Just a few years ago, you led the Global Neuroethics Summit in collaboration with Chong Jin Yong at the Korea Brain Research Institute. I was so happy to be a part of that a few years ago when I was first starting to learn about what neuroethics is and why it matters. What I’d love to hear from you as you look back is: what did the Global Neuroethics Summit accomplish, and what do you think its impacts have been in the world?

ROMMELFANGER: What we’re really seeing is that neuroethics actually served as a mediator for science and collaboration. That might be counterintuitive to people who think of ethics as purely compliance-oriented. Typically we have compliance-based ethics training, often required for federal funding. It’s good that people are learning about ethics, but that kind of checklist-style training often reinforces the idea that ethics is only about compliance. Because of that, people don’t see the creative aspects—how ethics contributes to innovation, how it helps scientists enhance problem-solving and shape the way they explore scientific questions.

When all of the brain initiatives started to come online, it was a very exciting moment. The leaders of those projects came together and said: we want to leverage this energy and these resources. Rising tides can lift all boats. But they also realized that simply

collaborating might not be enough. There were deeper questions to work through—questions about why the research was being done and what values were guiding it.

Some of the big brain projects had questions like: we want to understand what the human mind is. We want to understand the speed of thought. These are deeply humanistic questions, and they show how science is embedded in society. So we needed to think about the cultural context—the “wraparound culture”—that was driving these projects, shaping how they were conducted and what outcomes they produced.

We brought together leaders of the brain projects, ethicists, science communicators, engagement specialists, and cultural scholars. Together we explored how cultural values shape the neuroethics questions we ask—around mental privacy, agency, misuse, and best use of technology.

We developed a set of neuroethics questions for neuroscientists working within these initiatives. Rather than a checklist, the goal was to create a tool for reflection and capacity building. Those questions have since appeared in global policy discussions and helped energize cross-cultural neuroethics and more inclusive ways of shaping neuroscience’s future.

MONTOJO: Reflecting on your answer makes me think back to when I was a neuroscience graduate student taking the Responsible Conduct in Research course you described. It was an online module that took an hour or two. I remember thinking, “There has to be more than this.” I wished I had more training on the ethical and societal dimensions of the work I was doing—even during my postdoc on biomarkers for psychiatric illness. How might that affect stigma? Communities? Patients and their families?

I also remember facilitating the International Brain Initiative, which brought together leaders of large-scale brain initiatives from around the world. When we asked them where they most wanted to collaborate, they said, “We need to think about the ethical and societal implications of neuroscience and neurotechnology.”

That was my “aha” moment. It really shifted my focus toward thinking about what you call the cultural wraparound shaping neuroscience.

ROMMELFANGER: Hearing that those leaders recognized ethics as central to their collaborations was really inspiring for me. And I have to say, when you described your mandatory ethics training, I had the same experience—but I wasn’t as open-minded as you. I remember thinking, “This is silly. Is it over yet? Why am I doing this?” It read like a legal document.

Before I moved into neuroethics, I was searching online to understand the relationship between neuroscience and society. I typed in all kinds of words—“neuroscience and society”—and there was almost nothing. What popped up, though, was the word neuroethics. And that was another step in my journey into this field.

MONTOJO: Thanks for mentioning that, Karen. It really makes me think about how far the field has come in a relatively short period of time.

You grew up in both Japan and the United States, and you’ve described how that upbringing shaped your commitment to including different perspectives in your work. Can you share how you integrate different cultural perspectives into creating a global neuroethics framework?

ROMMELFANGER: Yes. I grew up in a bicultural family. My mom is Chinese, from Taiwan, and my dad is from the United States. Growing up in that environment, you become aware that there are many unspoken assumptions about how the world should be. When you move between cultures, you start to realize those assumptions are not universal.

When I moved to the US at age ten—during very formative years—the differences became very clear. I started thinking about things like spiritual traditions, language differences, ideas about responsibility and hierarchy, and even risk-taking. These are all dimensions of culture. As I moved into neuroethics, I noticed that many discussions were grounded in Western bioethics, which emphasizes protecting the individual. But many cultures around the world place more emphasis on collective relationships. These differences affect real-world decisions—such as medical decision-making or how we define life and death.

When we talk about issues like privacy, for example, we often assume everyone understands the term in the same way. But privacy can mean different things across cultures. In Chinese and Japanese linguistic traditions, the historical meaning of the word “privacy” is closer to “shameful secrets.” That doesn’t mean modern speakers interpret it that way consciously, but that legacy influences how the concept is understood. These are the kinds of perspectives we try to bring into conversations about neuroscience and neurotechnology.

MONTOJO: I think those are such important examples, and I appreciate you sharing those concrete ways that ideas can be understood very differently across contexts. In your organization, the Institute of Neuroethics, you talk about “neuroethics by design.” What does that mean, and how does it relate to real-world neurotechnology development?

ROMMELFANGER: Neuroethics by design means treating ethics as a core design requirement for neurotechnology. Over the past several years, I’ve been working to move

neuroethics toward implementation—toward practical ways it can shape research and technology development.

After about twenty years as an academic neuroscientist, I realized that a lot of excellent work in neuroethics wasn't reaching its full potential because people didn't understand how to implement it. So I founded the Institute of Neuroethics, which works on systems-level change to help create trusted neurotechnology that empowers everyone. I also launched a consultancy called Ningen Neuroethics Co-lab, where we work directly with policymakers, companies, and research groups to pilot real-world case studies.

Neuroethics by design integrates ethical reflection with practical tools. For example, when designing a research question, scientists can ask what ethical tensions might arise. Engineers might incorporate ethical affordances into prototypes—like giving users more control over their brain data. And during dissemination, researchers can work with advocacy groups, clinicians, or labor organizations to anticipate how technologies might be used—or misused—in different contexts. This process becomes iterative. The insights gained feed back into future design decisions.

MONTOJO: It's interesting because it spans the entire process—from design all the way through dissemination and how technologies appear in the world.

Karen, we often see dystopian scenarios in media when we talk about neurotechnology and AI—Black Mirror or Minority Report come to mind. What are your views on the future of neurotechnology, and how can we shape a flourishing future for society?

ROMMELFANGER: I absolutely believe we can have a flourishing future with neurotechnology. Science fiction often feels like it predicts the future, but it really reflects our present—our current values and assumptions.

So the question becomes: Are neuroscientists today more like Copernicus, uncovering the mechanisms of the universe of the mind, or more like Oppenheimer, unprepared for the ethical reverberations of their discoveries?

Unlike Oppenheimer, we now have tools and frameworks that allow scientists to anticipate ethical implications. We can co-create the future with diverse communities, bringing together scientists, policymakers, and people with lived experience. The key is making that collaboration a priority.

MONTOJO: Thank you for painting a more optimistic vision. Before we close, I'd like to ask about what you've called the "blurred zone" of neurotechnology—devices that exist between medical and non-medical uses, such as wellness technologies. How do the ethical questions differ there?

ROMMELFANGER: There's growing consumer demand for brain technologies. The World Health Organization reports that one in three people will develop a brain disorder during their lifetime, so there is enormous motivation to develop new tools. Some technologies aim to restore lost abilities—like helping someone speak again after a stroke. Others may help people manage mood or alertness.

These technologies can be empowering and transformative. But when they move beyond clinical settings into everyday life—education, workplaces, or national defense—the ethical calculus changes. In medicine, people may accept higher risks for potential health benefits. But we might think differently about those risks for healthy individuals.

Another issue is brain data. We already give away enormous amounts of personal data through phones and apps. But brain data could reveal even more—potentially predicting aspects of our future brain function. That raises questions about who controls that data, how it is used, and whether it should be monetized. These conversations need to involve scientists, policymakers, companies building the technologies, and—critically—the people who will actually use them.

MONTOJO: Karen, thank you so much for joining us today on Neuro Society Stories. I've really appreciated hearing about your background and how you're helping shape neurotechnology that is inclusive and co-created for the benefit of society. Thank you for coming to New York.

ROMMELFANGER: Thank you for having me.