



ADA Live! Episode 89: Autonomous Systems and People with Disabilities

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Speaker: Krista Kennedy, Ph.D. Associate Professor Writing Studies, Rhetoric, and Composition

Host: Dr. Diane Wiener, Research Professor and Associate Director of Interdisciplinary Programs and Outreach

Krista Kennedy: Hi, I'm Krista Kennedy.

Diane Wiener: And I'm Diane Wiener and you're listening to ADA Live.

4 Wheel City: (rapping)

Barry Whaley: Hi, everybody and welcome. On behalf of the Southeast ADA Center, the Burton Blatt Institute at Syracuse University and the ADA National Network, I want to welcome you to ADA Live. I'm Barry Whaley, director of the Southeast ADA Center. As a reminder, listening audience, if you have questions about the ADA, you can use our online form at adalive.org.

From robots making food deliveries, drones aiding in search and rescue missions, and cars that drive themselves, automation and technology are changing the way we live, kind of like the Jetsons. With this change comes numerous challenges and risks must be considered because according to experts in the field this automation shifts responsibility from humans and lets intelligent machines take control. With an eye to the future, in May

of 2019 Syracuse University announced the Autonomous Systems Policy Institute with the goal of keeping technology from outpacing policy.

To discuss the work of the Autonomous Systems Policy Institute as well as issues and impacts for people with disabilities, we are so happy today to welcome as our guest, Dr. Krista Kennedy. She's an associate professor of writing studies, rhetoric and composition at Syracuse University and our guest host today, our colleague, Dr. Diane Wiener, research professor and associate director of interdisciplinary programs and outreach at the Burton Blatt Institute. So ladies I want to welcome you and Diane, I'll turn it over to you.

Diane Wiener: Thank you so much, Barry and welcome to you, Krista. We're so glad that you're able to join us today. It's very exciting that Syracuse University has an institute devoted to looking at the impact of these systems. Could you please tell us a bit about the Autonomous Systems Policy Institute? Thank you.

Krista Kennedy: I would be happy to. The institute is an interdisciplinary institute that facilitates research across all of our colleges and faculty who are working on various aspects of autonomous systems as well developing courses that examine autonomous systems and the ethics of automation from various aspects and we also develop a number of community partnerships. All of this has been [inaudible 00:02:54] since its inception by Jamie Winters, who has just been our fearless director. It's been a really exciting thing to be a part of because it's often the case that when you're working on robotics, or AI, or on ethical aspects of AI, that you talk to people who are in your own discipline, you talk to the people who are like you, right?

This has brought all of us together in a way so that rhetoricians like me and philosophers who are in the College of Arts and Sciences are talking to people who specialize in public policy and social science from our Maxwell School of Citizenship and Public Affairs, and also to people who are legal scholars over in the college in law, and our folks who work in industry development and innovation incubation from the high school, and also from Whitman School of Management. Then all of us are also talking to the people who work with hands-on design application in visual and performing arts college and also from

architecture, and our scholars who work on applied research in the College of Engineering and Computer Science. And then, of course, our health science and disability specialists over in our college and the School of Education.

It's amazing to be part of these radically interdisciplinary initiatives. We're also working on expanding our faculty in this area. This year, the institute is leading a cluster hire initiative that will ultimately involve 16 faculty lines that are spread across Maxwell, high school, the law school, engineering as well as some other units.

Diane Wiener: That's wonderful and it goes right to the question I was going to ask next. Thank you so much. So since you're in the College of Arts and Sciences, in specific, although you did comment on this, in some respects just now. Can you say a little bit more for our listeners and people accessing the program otherwise? How is the Autonomous Systems Policy Institute collaborating specifically with some of the other colleges at Syracuse University. Thank you so much.

Krista Kennedy: Sure. The wonderful thing about this is we're collaborating not just across our own colleges, but also with other institutions and with state agencies and also with industry partners. So one example of that is a team about the institute faculty are part of a large grant submission on urban air mobility, and that's been something that we've done in partnership with RPI over in Rochester. It's leading that initiative. We are so proud to lead the submission of an NSF AI research institute proposal that involved about 40 of our faculty across all the colleges I just mentioned. That is something we've done in partnership with Cornell University and the Minority STEM Research and Development Consortium those are both partner institutes on that proposal.

We also have a team of our faculty that are conducting a statewide survey of drug use and knowledge amongst a wide variety of city and county agencies in New York State, and a team of SU faculty that submitted a funding proposal on the relationship between rural public health and emerging technologies. We also act as the general liaison between the university and industries that are working in the area of AI and autonomous systems.

Diane Wiener: It's fantastic, Krista, and I wanted to ask you, if you can help us understand a little bit more when we mean to think about language very precisely, and specifically the term autonomous systems, and then the term autonomous technology. Are they the same thing? Can you untangle that a little bit for us? What do we mean when we use these terms and when we say these terms in other ways? Thank you.

Krista Kennedy: I'll do my best. I mean, in all honesty, if you ask 10 different automation researchers that question you're going to get 10 different answers. On one level, all autonomous technologies are part of autonomous systems, because algorithms don't just operate by themselves, you need the algorithm, which is usually working in concert with other algorithms, you need the hardware and systems network, that's what we're actually running on, and you need all the material components of whatever system that you're talking about. So I mean, an example of that would be the smart hearing aid that I wear. I've been deaf since the age of two. So I've worn these for 40 years, not always smart, obviously.

Which is on one hand, when I talk about it, I talk about it as a piece of technology, is my little hearing aid goes in my ear, and that's that. But within that hearing aid are five different algorithms that are running and interacting at speed of milliseconds in order to do things like isolate between continents, and filter out background noise and a number of other things. My hearing aid is always linked to my iPhone, which is actually how it's controlled. It's also always in contact with GPS satellites. When it's not pandemic time that I'm actually out roaming around in the world, it's also hopping from cell tower to cell tower, in order to stay in contact with the various entities that it needs to remain in contact with for GPS positioning and for data use and for a number of other things. It's also always in contact with servers of the manufacturer.

So it's a really complex system, and at the same time we just at a practical level need to be able to talk about a technology as the technology. I'm talking about smart hearing aids and the engineers are talking about the most recent drone they've been developing. So we do talk about these things just the tech I'm working on. But as with all these things, it ends up being more complicated than the language actually suggest.

Diane Wiener: I love the way you answered that and so many ways, and I wish we had many hours to talk about all the different nuances and ethics and the fact that I can now imagine your hearing aid is having the cape as it flies through the air and the cell tower exchanges that it's having, and I know you know that I'm a fan of superheroes. So I'm not idealizing it but I also think it has powers that really emphasize the concept of autonomy, because the machine has a kind of autonomy, but obviously you have the most autonomy and that's how it needs to be.

That goes right to the next question, which is your research, I know looks at the ways in which people work with these technologies and the implications of policies and laws that guide this interaction between the human and the machine. Can you tell us a bit more about this research? And if you want to say some things about that, as it relates to some of the ethical questions you were pointing to in your comments just now that would be terrific. But that's up to you, just really curious and just fantastic conversation. Thank you so much.

Krista Kennedy: Oh, absolutely. I'm enjoying this conversation a lot. Well, I'm a rhetorician by trade and rhetoricians study persuasion in a wide variety of contexts. Whether that's political argument, public memory and the way that we persuade ourselves to things that happened in the past, the way they persuade ourselves about things like racial dynamics in America. I look at persuasive technologies, and by that, I mean that I'm interested in the ways that we create persuasive designs for technology, the ways that we persuade each other to use or not use technologies. The ways that we position technologies and things like patient education materials, also.

That's something that I'm fascinated by dint of the research I do, but also as a multiply disabled researcher, something I have a lot of personal investment in. So in my case, for the last several years, I've been writing about the way the company persuade folks to wear medical wearables, and also the extent to which data is harvested and repurposed. Because when you're wearing a medical wearable, and I would call my smart hearing aid a medical wearable, because of any number of reasons, including the fact that I need it to go about my day and also newer models, like the one I'm wearing do provide biometric

tracking, and any number of other things that we actually associate with more traditional medical wearables.

So I get up in the morning, my feet hit the ground, I put in my hearing aid at 5AM and I don't take it out until I go to bed at night. Every moment that I'm awake, I'm generating data, both about the hearing environments that I'm in where I am based on GPS positioning, the types of voices I'm listening to the way, the machine is toggling and processing information. So this applies to any number of medical wearables whether that's an insulin pump, a pacemaker, or even things like your Fitbit that people opt into.

I'm interested in where that data goes, what we do and don't tell people about, A that their data is being harvested, where it's being stored, how it's being resold, and the differences between the ways that we approach this in the US and also in the EU which has a very different set of privacy laws. That's something I've been writing about a lot with Charlotte Tschider, who's an assistant professor in the Law School at Loyola, Chicago. This has been a very collaborative project for me, we published a number of pieces, about the implications for algorithmically harvested medical data about the humanist side of legal issues and cybernetics and robotics.

Then also one of my doctoral students, Noah Wilson, who's with us here at Syracuse University in the competition and cultural rhetoric program, has also been working with me on the rhetorical implications of data harvesting from those particular wearables. So that's a broad look at what we've been up to. Another part of that that's less academic work but to me it's part of the whole ball of wax and the questions that I have is I also write creative nonfiction and both about living with disability and also about working very, very closely with technologies.

Diane Wiener: I can't wait to talk more about this with you as we continue. Thank you so, so much. I just want to add that ADA Live listening audience, if you have questions about this topic or any other ADA Live topic, you can submit your questions online at www.adalive.org or call the Southeast ADA Center at 1-404-541-9001. That number again is 1-404-541-9001. The website again is www.adalive.org. Let's pause for a word

about our featured organization Autonomous Systems Policy Institute at Syracuse University.

Voice Over: The Autonomous Systems Policy Institute at Syracuse University is a campus wide institute dedicated to the interdisciplinary scholarship and teaching on the design, governance, and wider implications of autonomous systems, and critically engage in shape the policy and ethical frameworks that guide the use and development of autonomous systems. The institute's work focuses on autonomous systems from driverless cars to unmanned aerial vehicles, to maritime systems. This broad approach plus the institute's interdisciplinary research allows it to offer a synthesizing critical perspective on how autonomous systems impact the world around us and what kinds of policies, norms and practices can best shape their ethical and fair use.

The institute brings academic insight, community need, and industry development into conversation and joint action. It involves faculty from all over Syracuse University schools and colleges, and creates research opportunities for graduate and undergraduate students across campus. The institute also hosts speaker series, public events, and student and faculty workshops. For more information about the Autonomous System Policy Institute, visit their website at www.maxwel.syr.edu/autonomous-policy.

Diane Wiener: Thanks so much. Welcome back, everyone. Before the break we were discussing the ways people work with technologies and the implications of policies and laws that guide this interaction between human and machine. I'm hoping you can tell us a bit more about your research in this regard, Krista but I have a kind of related topical question. I know you've studied the concept of human machine collaboration, and in particular, looking at smart hearing aids, which you were talking about earlier, and which I now cannot not imagine without a cape. So I won't keep saying it but I just think it might become a character in my life. Can you tell us what is human machine collaboration and what you found about that during your research? Thank you again.

Krista Kennedy: Absolutely. I mean, human machine collaboration is a term that sounds really sci-fi, like it's from the future, and that it demands really a true type of artificial intelligence before one can really collaborate with a machine, right? And yet it is

something that we do all the time with technologies that aren't smart at all. I mean, think about the writing instruments that you use in your work. Pen, keyboard, phone, whatever it is that you use. Each one of these things shapes the ways that you communicate, and the ways that you write. Both the speed that you write at, what that actual writing looks like, you may have a different voice, depending on what technology you're using, you may use emojis, because that's one of the affordances of the platform and that is the sort of situation where you're shaping the tech, but the tech is also shaping you and just happened to so many other aspects of our lives.

I mean, algorithms recommend the news that you read, what movies you watch, they'll shape your worldviews in a number of ways. So we collaborate with tech in all kinds of ways, and in the case of something like a smart hearing aid, it's a really, really intimate collaboration. Because hearing aids are just plug and play, really, you have to learn to work with them. Even if it's not a smart hearing aid, you need to know how to angle your head, where to sit in a room. If you are someone who is invested in the visibility or invisibility of that hearing aid, then you have a whole lot of other rhetorical skills to learn as you learn to wear them.

But in the case of any hearing aid, you are exercising auditory centers of your brain, you're keeping them active, you are developing linguistic centers. This is part of the reason that parents who are interested in working toward mainstreaming children who have been deaf very early. This is what happened in my case, I became deaf at the age of two. So I have some language acquisition, but I wasn't by any means all the way through that process. So for my parents and my doctors it was very important that I be fitted with hearing aid immediately, so that that process of linguistic acquisition could continue.

There's a similar argument that gets made for late deafened individual, people who become deaf or later in life. There's tremendous amount of research on around the ways that the social isolation that comes with. Not be able to communicate verbally, when you're in a consistent social circle that only communicates verbally. The social isolation that results from that also tend to drive Alzheimer's and the development of various forms

of dementia. So there's a strong argument that's being pushed in past few years for definitely being fitted with a hearing aid in order to stave off mental decline.

So working with technology in that particular way means that you're working with your brain, you're collaborating with that technology to keep things working or develop brain standards in a very specific way. That's a really intimate collaboration. That's something that starts to get to the core of who you are and how you move around in the world. It raises a really interesting set of questions. I mean, I teach courses on this topic frequently. I just wrapped I've got a course on rhetoric and robots and one of the questions that I ask my students, so based on this, based on the way that cyborgs are portrayed in a variety of pop culture artifacts albeit comics, movies, any number of things. Am I a cyborg? Have you been in a class where your professor is a cyborg? And we have some really robust conversations about that.

Based on the notion of human machine collaboration, based on whether or not they think and come to the conclusion that a cyborg needs to have something that's more deeply implanted in order to really qualify as a cyborg or not. So I don't think the class really came to one unified conclusion on this, this semester. But I think it's just something that's worth exploring, thinking about the ways that human machine collaboration works specifically, especially in disability context, but also for anyone because there are hardly any of us now that don't work closely with some form of technology throughout the day.

Diane Wiener: Thank you so much, and along those lines I was thinking about the role of disabled people, people with disabilities. Obviously, some folks prefer what's called identity first language disabled people, and some people prefer person first language, people with disabilities, person with a disability or disabilities. So how are folks with disabilities included and being included in a purposeful way in the development of these autonomous systems. So I guess in a related regard, you gave a really beautiful description just now of the multiple ways that someone might come into the world disabled or acquire a disability in the case of deafness, for example, and of course, some deaf folks don't even identify as disabled. This is a gigantic topic that we obviously can't talk about at great length given our time constraints this morning.

But I'm wondering about how deaf disabled, neurodivergent, chronically ill sick folks, folks with psychiatric and emotional variants. All different kinds of folks, and our different ways of living in the world and moving in the world and being in the world, as you just said, are being included in work connecting to developing autonomous systems.

Krista Kennedy: I'm so glad that he clarified the fact that there are so many different perspectives on disability, and what counts as disability in this context. I do really want to mention there are so many ways of being deaf in the world. The way that I go about being deaf, which is a product of mainstream media and the culture, pre ADA culture really is not the way that everyone goes about this. As far as involving people who live in perhaps what you might call non-normative bodies, in development of autonomous systems. It really depends, it depends on the company and the folks who are doing research and development and their commitment both to the disability community and also to universal design.

There's some wonderful research being done on this. I'm thinking particularly of the work that we're Rua Williams is doing a Purdue on disability justice and technological design. There are companies like Google. I do a little bit of work with Google just as one of their beta testers on wearables. I'm not entirely sure that I'm in that testing pool as a deaf user, but I strongly suspect that that's the reason that I continue to be part of this study for months and months and months now, because they really are invested in this particular test that we're involved in right now as far as smart garment. They're very interested in ways that might interface productively with something like a smart hearing aid, what would a user actually want in terms of functionality?

So that's been something that's very interesting and promising to be a part of. Move too often, as far as I know, the ways that disabled folks end up being involved is through data harvesting. That's something that's both really helpful and really ethically fraught. I mean, on the one hand, I am thrilled, especially in the case of something like hearing aid adjustments. Because again, as I said, hearing aids aren't plug and play, you go through a process of returning to your audiologist over a period of months to make a lot of tweaks, to do some repetitive testing, and make sure that things are really dialed in for your

specific hearing needs. It's a really subjective process. I mean, what I call crisp sound may not be at all what you experience as crisp for instance.

I love that Megan, my wonderful audiologist can download the settings that I've been using, and look and see what's going on. I mean, for just hearing aid, I've gotten in the middle of a pandemic, I'm not really comfortable going in and sitting in a really interior booth and doing the testing. I figured out after a while that I couldn't really hear my husband and I could not hear my cat purr, and this cat has a very loud purr, I should definitely be able to hear that. So I was able to have her download my settings and set up a Zoom with her, send her a sound file of [inaudible 00:25:37] purring, had my husband comes down in front of the camera and count to 10 and she triangulated all that. Sent me the new settings, which I downloaded and accepted and it was fixed. It's wonderful. I love that.

But, data requires interpretation as all of you know. So a company simply downloading data, data, data from all the people who are wearing this hearing aid, doing it anonymously, dumping it into a big data pool and then using that for R&D. On the one hand gives them some really grounded senses of how we're going about using these hearing aids. But if you're not also asking the wearers what they're doing then you have a bunch of decontextualized data. There's also the question of really, under US law users, wearers, anyone who's producing data does not own that data. There's really no legal author of the data, it's a thing that that is very much the provenance of the company who has harvested it. This is true for all of us in the case of Facebook, social media. It's also true in the case of medical wearables.

So we end up with questions like, "Is it okay to do this without really meaningful consent?" Consent for using one of these devices and having your data surveilled and harvested is if you're using the thing, then you can send it to it, if you don't consent to it, then great, don't use it. For a lot of us, especially in the disability community not using it isn't really an option. I needed it. I could elect not to wear a hearing aid, but the context that I work in, the way to my career is basically set up I would have to make some radical life choices in order not to do that. Should people be able to really opt out? Then should you have

access to your data, to even know what that is? Should you be told where it's stored? Is that data going to be resold? Very often, the answer is yes.

So what does that mean when you have people who are compulsorily wearing devices who really cannot meaningfully opt out of wearing them, and yet, all of this data that they produce becomes a profit center and also a decontextualized way of involving them in some sense, but also not really involving them in the design of products.

Diane Wiener: Given all the different nuances of what you just brought up I was thinking specifically about this book I've been reading Which I'm happy to say is available in open access and it's called Design Justice, and the subtitle is Community-Led Practices to Build the Worlds We Need. The author is Sasha Costanza-Chock. It was published by MIT Press in 2020, and I'm actually going to explore the book a bit in giving a workshop at Syracuse University to our grad students about universal design for learning and the relationship between universal design as you mentioned it earlier. I know we'll have some resources for the listeners and people accessing the program otherwise.

So I was thinking about all these issues of equity and if it's the case that when we're thinking of design justice, that disabled people, people with disabilities, ought to be able to have more of a role in how things are determined about the products that affect us and where the data goes as it were, as it is. Can you talk a little bit about what you think the biggest opportunities are that you perceive for disabled folks, people with disabilities in relation to autonomous systems? Thinking about some of what you just brought up, such great points. Thank you again.

Krista Kennedy: Absolutely. I think one of the things that folks and certainly the media are most excited about are simply autonomous cars, which have been heavily in development for the past few years, and are going to become a reality in the coming years because that offers so much opportunity for mobility independence. I suspect that's going to become even more important in the coming years and when we reach a post pandemic state of affairs because right now none of us knew what the fallout is going to be from simply having COVID-19. The after effects on people systems in terms of

neurological impact, respiratory impact, other things that are starting to emerge in medical research, we don't know.

But I would imagine that a much larger part of the population is going to be reliant on the assistance that autonomous systems can offer. Through a lot of other very exciting things in development, including more advanced wheelchairs, smart prosthetics, that offer people more control over their limbs and more immediate control over their limbs, exoskeletons. All of these have really been pushed in more recent years by veterans returning from the Middle East, and the needs that they've had. Also, smarter and smarter medical wearables. Already, we have these, these are definitely in play but there's a huge difference between a smart hearing aid that I had five years ago, which at the start was Halo, which at that time was one of the very first ones that interfaced with iPhones. Now the Starkey Livio, which is what I'm wearing now which actually incorporates true AI and machine learning into a hearing aid that's constantly learning about the ways that I'm using it and making adjustments itself.

There's also been fantastic developments in text to voice technologies and automatic captioning is by no means where it needs to be at, but it's so much better than it was five or six years ago and I really like to see that continue to improve in the coming years.

Diane Wiener: I was thinking about Otter while you were talking, otter.ai and that of course does not replace the talents and expertise of someone who's trained in professional live captioning and yet it's a good supplemental tool to use especially for people who might be doing transcription on their own for personal or professional reasons in a private kind of way.

Krista Kennedy: I think you're making a really, really good point there, and I hope that we're able to think. People look at some things like auto AI and think, "Oh, this is cheaper and this is an equitable solution that also helps us think about our budget for accessibility." I'm hoping related we can find ways to combine machine systems, automated systems and the assistant, the [inaudible 00:32:47] which is really important, but then she said that so she could supplement with the really important skill to someone who has been a live captioner particularly in research context and knows the language of

medical researchers or philosophers or engineers and is able to provide captioning within research context because this is not a situation where a machine can really replace the human in terms of expertise.

Diane Wiener: Excellent. Excellent points. One of the things also in that regard is I was trying on these glasses that were helping me with proprioceptive skill, and the company that was offering this product, I was at a conference and I mentioned this forum where all these people are trying on all this autonomous, technological, human machine gadgetry in interesting structural context. So they were calling them gadgets, and I'm like, "This isn't a gadget, this is very expensive, who's going to be able to get this thing?" So one of the things that you mentioned just now was access in the economic sense in terms of these relationships and collaborations between the systems and the people who use them.

I was thinking about it, there's a question I was going to ask about what are the biggest challenges for people with disabilities in relation to existing or emerging autonomous systems? You've already spoken to this a bit by mentioning there are class barriers and socio-economic barriers and I was hoping that you could comment on any other things you might want to talk about in that regard with respect to that question.

Krista Kennedy: Well, let's talk about class barriers because that's one of the biggest challenges for people with disabilities access technologies. Let's talk about that and let's also talk about pervasive surveillance because I really do think those are the two largest challenges. Emerging autonomous systems are always incredibly expensive, hands down. Sometimes there is state aid for purchasing them, sometimes not. But for instance, I mean, not to just keep going back to smart hearing aid, but they are something that I know very well from living with one every day, the full Livio system, which in my case is the primary hearing aids that I wear on my left ear where I have some residual hearing. But also another hearing aid that I wear in my right ear, which is profoundly deaf, I have almost no hearing in that ear. But what I do need is some sense of what's going on that side of my head.

So that hearing aid transmits sound to the other hearing aid for processing. So I don't by any means here in stereo, but I do get 360 degrees of information, which is really

important in meeting context, in symposiums, in driving, because God help the person who is my passenger, because I will totally turn around to see what you're saying. But that full setup is \$5,000. I'm solidly middle class, I'm a well compensated humanities professor, but I'm still a humanities professor with a lot of student loan debt. The only way I access this particular system was by writing a research grant. This is not something that is available to most deaf folks and it absolutely should be it's fantastic sound, it integrates with whatever smartphone, also, the cost to the smartphone is part of the system, it's just assumed that you will have that. So really, let's say it's a \$6,000 system.

At the same time, there's legislation that was introduced by Elizabeth Warren several years ago, that worked to deregulate hearing aid to make them where they were available without having the expense of going to an audiologist and working through purchasing one that way, instead, being able to buy a basic system at a store. Which on the one hand I'm absolutely for because everyone needs to be able to access the things that we need. On the other hand, amplifying sound, without being able to calibrate that very closely is a really great way to damage the hearing you have left. My question is, why is it necessary to pursue that kind of deregulation? Why don't we have health care system that makes cutting edge technologies available to people who need them.

So that's really the biggest challenge for people with disabilities. But another primary concern is the way that pervasive surveillance works across autonomous systems. Not just in things like medical wearables, but also things like disability robots and robot caregivers. Remi Yergeau, who wrote a fantastic book, *Authoring Autism*, their recent research is on companion robots for children who are on the autism spectrum, which are often offered as a way of monitoring, wondering and also offering children some sense of autonomy within the home while still being watched, really. So their question, really what are the ethical implications of saying, "Okay, this robot is your companion." You may develop a very tense relationship with it and not say also and you'll even install cameras in it, that are watching you. We've installed GPS. We've done any number of other things in order to surveil your behaviors.

So there's that level of surveillance and there's also just the mundane surveillance that's built in to almost any medical device these days. So the rights questions that I mentioned earlier about rights to your data, which Europe is doing a better job of monitoring than we are, because you do have to have the ability to meaningfully consent, you have to have the ability to opt out under the GDPR. You have to have access to your data. Those should be rights that anyone have but they become particularly necessary rights for folks with disabilities.

Diane Wiener: I wish we had like a month to keep having this conversation because I feel like what you're talking about is relevant to so many people in multiple ways, and this question of who is really a cyborg? Very interesting as a rhetorician, if that's the right pronunciation. A little joke there, I guess, about the word rhetoric being mispronounced. But I was thinking just if I could ask you a question before the final remark. Is that all right with you? That's actually not one we necessarily had in mind in the first place, but I feel like it might be okay and if not, we'll see how it goes. But there's this film called Fixed. Have you seen it, the movie Fixed?

Krista Kennedy: I have not seen Fixed, is next up in my queue.

Diane Wiener: How about that? So this is a great film for the listeners or for again, people accessing the program, otherwise, the show otherwise. Fixed has this debate in it, I won't spoil it for you don't worry, where people with disabilities, disabled people are talking about their relationships with technological elements in their lives, some of which wouldn't be able to be removed without a complete disruption to their lives and some, as you talked about earlier use the word compulsory. Another level of argument and dissertation in this movie, is that we don't want this technology even if we could afford it, because it undermines our identity. Some film geeks like me, I am, I guess, would call this attention in the narrative. It would be interesting to maybe have a follow up episode, I'll pitch that to our friends who were hosting us today. Thank you so much to our wonderful colleagues. We could do a follow up episode talking about popular cultural representations of autonomous technologies and also, I guess, the cinematic creative nonfiction of the documentary Fixed as a parallel to that.

So those sort of came up while I was listening to you, and I was also thinking about the word smart. I wonder about the word smart in so far as some folks might have different feelings about the word smart, because of its implications in the disability rights movement, especially when we're talking about what are often referred to as intellectual disabilities. So people who were told all their lives, "You're not smart." Except there are multiple kinds of intelligence and people are often very smart even in ways that might not be perceived as smart, and also they're plenty smart even in that way, whatever that even means. The official way that smart supposed to be.

So we don't have time to go off in a tangent about this too much. But can you say something about the kind of rhetoric or the the implication of the term smart, and how that might affect disabled people learning about autonomous technologies?

Krista Kennedy: Well, I'm thinking about this in terms of the paternalism that so often inherent in technological design, and this is really one of the cost, I think. The question about are you involving disabled folks in R&D, in research and development? Because so often, in terms of early development and certainly early AI, early computing development was not driven by the notion of disability applications. It's a military development sequence that happened across the 20th century, particularly during and after World War II. Our question was not how might we integrate these technologies into everyday life? Our question was, how can we win wars?

Then having done the research and development for that during wartime, then the companies that were industrial partners with the military afterwards said, "Okay, what are the everyday applications of this?" That's really also you what gave rise to some things like modern audiology. I mean, the evidence for audiology was not how might we assist people with their hearing. The impetus for development of audiology as a science was, wow, a lot of our veterans are claiming disability based on hearing deficits and we think they're faking. So we would like to develop some ways to test that. Sure, this might have some other applications later.

So smart in this particular instance is very much a military industrial complex term and then it rolls downhill eventually, over the years to, okay, so now we have smart

prosthetics, we have smart hearing aids, we have all these things. I think there's very little thought as to what's become just a common industry term for how we talk about these systems. This is why you should involve the disability community from the get go because it's not something that researchers who have been told all their lives that they're smart, are apt to think about. The different types of smartness, the different ways intelligence functions in the world, the different ways intelligence looks in the world and the way lived experience is very much a part of intelligence.

So I would be very curious about the alternative terminology that the disability community might come up with a way to talk about intelligent systems and machine learning and smart technologies. Because a past experience is any indication, really innovative and creative things that come out of that discussion.

Diane Wiener: Thank you so much, Krista. We're grateful to you for your sharing of your time and your valuable insights, your wisdom, and talking today about autonomous systems and the impacts they may have on the lives of people with disabilities. Thanks so much, and have a good afternoon.

Krista Kennedy: Thanks for having me.

Barry Whaley: Krista and Diane, thank you so much for this conversation. Just fascinating, I could have this go on for hours. So thank you for being our guest today. I also want to thank you our ADA Live listeners for joining us for this episode. You may submit your questions and comments for this episode online at adalive.org. Get access to all ADA Live episodes on our website at adalive.org. Every episode is archived with streamed audio, accessible transcripts and resources. You can listen on the SoundCloud channel to ADA Live. Go to our channel at soundcloud.com/adalive. You can download ADA Live to your mobile device, go to your podcast app and search for ADA Live.

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Ohrazda with Beth Miller Harrison, Mary Morder, Emily Rueber, Marsha Schwanke and me, I'm Barry Whaley. Our music is from 4 Wheels City the Movement 4 Improvement. We'll see you next episode, please be safe everybody.

4 Wheel City: (rapping)

[End of Transcript]

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Contact for More Information or Assistance:

Southeast ADA Center

Email: ADAsoutheast@law.syr.edu

Phone: 404-541-9001