



## Imagining a Neuroqueer Technoscience

JESSICA SAGE RAUCHBERG

McMaster University, Canada

**ABSTRACT** *The rise of mobile communication applications and technologies presents promising therapeutic and accessibility-related interventions for neurodivergent users. However, top-down approaches in human-computer interaction (HCI) research often prioritize the needs and goals of allistic and neurotypical researchers and secondary stakeholders in media creation. Furthermore, media technologies are created with a one-size-fits-all approach, with the intent of rehabilitating or curing neurodivergent ways of being. This article imagines neuroqueer technoscience as an extension of crip technoscience that amplifies new styles of relationality, self-expression, and communication practices within the development of information and communication technologies (ICTs). Using an interdisciplinary framework informed by crip technoscience and human-computer interaction research, the author presents three tenets for mediating neuroqueer subjectivities.*

**KEYWORDS** crip technoscience; human-computer interaction; neuroqueer studies; science and technology studies; disability justice

### Introduction: Locating a Neuroqueer Technoscience

I am not an ideal user. By this, I mean bodyminds like mine are not the ones designers have in mind when prototyping new technologies.<sup>1</sup> All of my electronic devices use dark mode. My left ear can hear, but processes sound within a defective range, or so a neuropsychologist once gleefully told me. This difference in audio-processing makes videos, vlogs, and other multimedia texts challenging to follow. Closed captions or communication access real-time transcriptions (CART) transformed my relationship with

---

<sup>1</sup> Here, I am referring to Eli Clare's (2017) terminology to determine the "inextricable relationship between our bodies and our minds" (p. xvi). The term "bodymind" is used to counter Cartesian conceptualizations of the body/mind divide, which lead to ideologies of curing or erasing disability. Thinking about the body and mind as separate from one another and better than the other entity (re)produces ideas about ableism.

*Correspondence Address:* Jessica Sage Rauchberg, Department of Communication Studies & Media Arts, McMaster University, Hamilton, ON, L8S 4L8; Email: jess.rauchberg@gmail.com

ISSN: 1911-4788



media texts. I stim between website clicks and phone pickups. I rely on alt text and image descriptions when a website or post does not use high contrast color combinations. Often I will use my laptop's accessibility feature to read a page aloud to me. These retrofitted accessibility features make use of information and communication technology (ICT) for neurodivergent and disabled users.<sup>2</sup> Cyberspace is a site of possibility. It may not be the option that everyone desires, but it presents many directions for world-making – if we want them.

Bodyminds like mine are not thought of as using the internet or other forms of new media technology. Several Human-Computer Interaction (HCI) and feminist Science and Technology studies (STS) scholars have rightfully remarked on the pervasive imagining of a white cisgender male living in the global north as the consummate target group for the latest phone or tablet (see Chun, 2011; Nakamura, 2013; Noble, 2018; Wacjman, 1991). A growing market of neurodivergent-related new media technologies, such as speech/language supports, artificial intelligence, and gamified physical therapy, is intended to advance physical, cognitive, and social wellness (Alper, 2017; Gardner et al., 2021). However, despite the influx of media creation for disabled communities, many technologists design ICTs with a “solutions-based” method (Ymous et al., 2020). These top-down commitments champion the needs of neurotypical designers, caregivers, and other stakeholders over neurodivergent users. Such ICTs, marketed under the guise of therapeutic support, enforce aspects of cure and rehabilitation, reinstating centuries of the medical and psychiatric-industrial complex's violence and harm against disabled people (Ymous et al., 2020), which are now redistributed for the digital age.

These practices typically position neurodivergent people as docile, passive subjects who veer outside the confines of humanity, and are rarely shown as researchers, designers, and experts in their own lived experiences (Spiel et al., 2020; Williams & Gilbert, 2020; Yergeau, 2018). However, what if we were always already experts? What if deficit was never part of the design process, but collective justice and liberation *were*? Perhaps one way past rehabilitative and curative technoscience is through neuroqueerness, which positions autism and other forms of neurodivergency as “a neurologically queer motioning” that “defies and desires... toward disabled futures” (Yergeau, 2018, pp. 18-19). What does the addition of neuroqueer provide for media creation?

To pursue these questions, this essay extends recent conversations about crip design, language, and world-making. More specifically, I derive my analytical stance from Aimi Hamraie and Kelly Fritsch's (2019) working

---

<sup>2</sup> I use *neurodivergent* as a descriptor for individuals whose cognitive functioning differs from neurologically typical people (Hughes, 2016). My inclusion use of neurodivergent centers autism, but also prioritizes learning disabilities, intellectual disabilities, ADHD, Tourette's syndrome, dementia disorders, bipolar disorder, obsessive compulsive disorder, and other identities.

definition of crip technoscience. This practice brings feminist science and technology studies into conversation with disability justice to name “practices of critique, alteration, and reinvention” that transform social relations and harness frictive political action (Hamraie & Fritsch, 2019, p. 1). My thinking is also informed through articulations of crip HCI (Williams et al., 2021), which draws from disability justice and critical disability scholarship to acknowledge a more pluralistic conceptualization of cripistemological design, computing, and creation. Finally, I present neuroqueer technoscience as an expansion of *crip* technoscience that reveals how frictive material and structural change can facilitate new possibilities for political-cultural neuroqueer subjectivity in mediated spaces. Building on crip technoscience’s anti-assimilationist commitments to material and structural transformation, I imagine neuroqueer technoscience working within these fluid boundaries to facilitate new possibilities for relationality, self-expression, and communication practices in technology creation. My argument is not that neuroqueer technoscience opposes crip technoscience or that neurodivergent people can only practice neuroqueer technoscience. Instead, I suggest that both crip and neuroqueer technoscience are interconnected by potential nodes of world-(re)making.

Following these sticky and frictive threads, I propose here an idea of *neuroqueer technoscience*, addressing the ways neurodivergent people were always already creating, making, and engaging with technology. To do this, I amplify the previous work of neurodivergent scholars, cultural workers, and self-advocates (as well as accomplices) who note the exclusion of neurodivergent people from various forms of disability rights activism and organizing (Indigenous Action Media, 2014; Sins Invalid, 2019). By *neuroqueer*, I am referring to a collective disidentification by neurodivergent communities from conceptualizations and heteronormative ideas of assimilation to neurotypicality and heteronormativity (Egner, 2018). Furthermore, I use neuroqueer to demarcate neurodivergent-led movements of cultural and media production within crip technoscience that disidentify with mainstream and neurotypical epistemologies for developing ICTs that center the needs and leadership of neurodivergent users. Thus, my notion of neuroqueer technoscience aims to compliment crip technoscience (Hamraie & Fritsch, 2019) with its direct dissent from compulsory able-mindedness (Kafer, 2013), and amplify neurodivergent-led expertise and creation. My conceptualization of neuroqueer technoscience is also strongly influenced by my own experiences as a multiply neurodivergent queer femme.<sup>3</sup> As neuroqueer blogger Iby Grace (2013) notes, the term neuroqueer is not exclusive. While neuroqueer originates from autistic self-advocacy circles,

---

<sup>3</sup> I have “formal” diagnoses of non-verbal learning disability (NVLD), visuo-spatial impairment, dyscalculia, and ADHD. Like many autistics, I too think of NVLD as an autism misdiagnosis. I prefer to use “neurodivergent” or “neuroqueer” as a way of embracing the embodied disruption to neurotypicality.

any neurodivergent person who feels seen or liberated by the term may use it. Neuroqueer is fluid in its tangibility and meanings, its connections to individuals, cultural texts, and communities. Nick Walker (2015) argues that neuroqueerness intends to unsettle “one’s cultural conditioning toward conformity and compliance with dominant norms... working to transform social and cultural environments” where a full expression of neurodivergence is “permitted, accepted, and encouraged.” Here, I am interested in how neuroqueer logics can be used in conversation with crip technoscience to reassess and collectively transform *what* kinds of disability-related ICTs are designed and *who* is centered in the design process. Like crip technoscience’s commitment to anti-assimilationist politics, I envision neuroqueer technoscience to disrupt networks of oppression beyond ableism and sanism.<sup>4</sup> For instance, if racism, ableism, and classism are dominant norms in mainstream technoscientific creation, how does neuroqueer technoscience work with crip technoscience to disrupt such networks? How does neuroqueerness transform our relationships with media, power, and culture?

Finally, I am interested in the knowledge production and futures to which a neuroqueer technoscience may lead us. What happens when we take the other path? What happens when we create using stimming, augmentative and alternative communication (AAC),<sup>5</sup> and other neuroqueer communication styles? This essay imagines one possibility for what a neuroqueer technoscience *could be*, inviting readers to engage and dialogue. I outline three potential working guidelines for establishing neuroqueer technoscientific practices. In doing so, I hope to carve out a pathway for thinking beyond ableist and sanist discrimination in technology research. I draw primarily from critical/cultural studies, which are concerned with “investigat[ing] discourses of power and knowledge... cultural dominance and resistance in media... and social institutions” (Ono, 2009, p. 2). My framing for neuroqueer technoscience challenges technoableism and neurotypicality in accessible and assistive technology research while extending critique to imagine a pathway to possibilities beyond.

The essay is organised as follows. I first address common issues of ableism in technology research and interventions from crip and disability justice perspectives in technoscience. I then outline three working tenets of neuroqueer technoscience, drawing from previous projects, conversations, and concepts that embody each guideline. These tenets are certainly not the

---

<sup>4</sup> I follow Talila “TL” Lewis’ working definition of ableism. They currently define ableism as: “a system that places value on people’s bodies and minds based on societally constructed ideas of normality, intelligence, desirability, and productivity. These constructed ideas are deeply rooted in anti-Blackness, misogyny, and colonialism, imperialism, and capitalism... leading to... society determining who is valuable and worthy” (Lewis, 2021).

<sup>5</sup> Used by non- and semi-speaking people, AAC technologies *augment* already existing communication styles (e.g., gesturing) and offer an *alternative* to verbal speech (Alper, 2017, p. 12). AAC technologies can range from low-tech activity mats to apps utilized through a tablet computer that create synthesized oral speech (Alper, 2017, p. 14).

only possibilities for scholars, self-advocates, technologists, or other communities who may benefit from crip and neuroqueer technoscience. However, these ideas may present transformative opportunities that place neurodivergent people at the center of the creation, design, and user processes. In conclusion, I address neuroqueer technoscience's potentialities in theoretical and applied contexts, noting its significant contributions to the study, creation, and use of ICTs. My understanding of neuroqueer technoscience is deeply informed by the critical lessons that I have learned from autistic and neurodivergent elders, teachers, friends, colleagues, thinkers, scholars, and community members. Thank you. This work is for you and us.

### **Beyond Technoableism in ICT Design**

ICTs provide new possibilities for accessible and assistive media technologies. For example, the introduction of the tablet computer in the early 2010s presented opportunities for new mobile applications to support learning, communication, and social accessibility needs for many disabled users, especially neurodivergent people (Alper, 2017; Ellcessor, 2016). However, many of these devices and applications center on the needs and research goals of neurotypical design teams who prioritize rehabilitation and assimilation to guide technoscientific practice (Hamraie & Fritsch, 2019). Additionally, design teams often take a “top-down” approach to develop technology, and non-disabled researchers become the agentic experts, while neurodivergent people are treated as passive users whose only role is to test out proofs of concept (Gardner et al., 2021). Ashley Shew (2020) designates these practices as forms of technoableism, “a specific type of ableism around hyped and emerging technologies” (p. 41). Technoableism presents disability as unnatural, unruly, and needing intervention via assimilation; this constrains the agency of disabled people.<sup>6</sup>

Shew (2020) explains that technoableist rhetoric presents curative technology as good for disabled people while recycling ableist tropes (p. 43). Technoableism is not an isolated issue: Meryl Alper (2021) notes that oppressions like technoableism are exacerbated by racism and classism, which determine *who* is a user and *how* access is (not) granted. Akin to the boundary Hamraie and Fritsch (2019) draw between disability technoscience and crip technoscience, Alper makes the vital distinction between mediated autism-friendly spaces and autistic-led cultural spaces, moving away from the idea of accessibility as something universally experienced and practiced (2021, p. 843). Such issues echo throughout HCI and aging studies (e.g., by prioritizing assistive devices for neurodivergent older adults), where

---

<sup>6</sup> Technoableism is not necessarily only an issue of representation; lack of disabled and neurodivergent programmers, technologists, and designers is also a significant issue.

neurodivergent users are rarely imagined as experts (see Lazar et al., 2017). Akin to autism research on technology, agency, and power, technoableism in this area of ICT creation positions neurodivergent older adults as passive users whose neurotypes can be “cured” by using an app.

Technoableist rhetorics are not accidental: they intentionally reveal interlocking white supremacist networks of power and control in ICT design, demonstrating (techno)ableism’s sticky relations to racism, classism, transphobia, homophobia, and other structures of marginalization (see Benjamin, 2019). What is the next step if most ICTs designed to support and assist neurodivergent users discriminate against us? I think neuroqueer technoscience has much to learn from the practices and tactics developed by Black and African American programmers and technologists in the late 20th century. In *Black Software*, Charlton McIlwain (2019) offers essential considerations about diversity and representation in the tech industry. McIlwain asks:

Will our current or future technological tools ever enable us to outrun white supremacy... After all, [white supremacy] is not just our country’s founding principle. It is also the core programming that preceded and animated the birth, development and... computational systems. (2019, p. 8)

Noting pushes for tokenizing diversity practices in the 1960s and 1970s, McIlwain (2019) amplifies the work of organizations like AfroNet, as a virtual table where Black technologists and programmers could work away from networks and institutions of white supremacy (pp. 96-97). Networks like AfroNet serve as essential alternatives to mainstream diversity and inclusion efforts that continue to place marginalized communities in structurally dangerous situations.

I am not saying that marginalized people cannot do important work to disrupt racist (and ableist) institutions or that diversity and inclusion are unnecessary. Instead, I use McIlwain’s (2019) proposition to create community-led technoscience as a strategy to interrupt the continued public relations campaigns of “diversity and inclusion” that large social institutions (e. g., tech companies or universities) rely on to obfuscate the continuation of racist and ableist design practices. Lelia Marie Hampton (2021) cautions against merely “diversifying” ICT design teams. In their research about Black feminist approaches to studying algorithmic oppression, Hampton notes that merely bringing members from marginalized groups into the tech industry without changing the industry itself does little to remedy how oppressions are distributed amongst sociotechnical networks. Hampton (2021) addresses how the use of diversification in the technology sector as a strategy to address anti-Blackness in the creation and programming of ICTs “shifts responsibility [away] from ‘our technologies are harming people’... [and are] built into the power structures of white supremacist capitalist heteropatriarchy” (pp. 2-3).

Placing disabled people on ICT design teams that do not lead to institutions disrupting networks of oppression merely encourages tokenization.

Furthermore, assimilationist media practices fail to challenge the emergence of white supremacy and lead to the (re)production of technoableist rhetorics in assistive tech for neurodivergent people (Shew, 2020; Ymous et al., 2020). Occupying space in an industry sustained by settler-colonial, capitalist, and eugenicist beliefs does not do the work of unsettling and world-remaking. Neuroqueer approaches to technoscience ask: how do we move beyond these structures? What comes next? Although my particular conceptualization centers on digital technologies, I think neuroqueer technoscience also embraces ideas about cross-movement activist practices as strategies for collective liberation as a form of design justice. Sasha Costanza-Chock (2020, p. 23) defines this as a “framework for analysis of how design distributes benefits and burdens between various groups of people... explicitly focusing on the ways that design reproduces and/or challenges the matrix of domination (white supremacy...)” As I articulate further on in this essay, neuroqueer technoscience works in conjunction with design justice and crip technoscience to center anti-assimilationist leadership practices, expertise, and goals among neurodivergent users.

### **Neuroqueer and Crip Technoscience: Connections and Departures**

A call for a neuroqueer technoscience radically reimagines relational power and agency in *determining* the creation, development, and eventual use of media technologies. A neuroqueer approach amplifies the leadership of neurodivergent people and articulates access as an ongoing, relational, and political practice within crip technoscientific pursuits (Chandler et al., 2021). To reimagine technology with a neuroqueer approach, technologists and ICT designers may benefit from the crucial contributions of disability justice, which emphasizes the leadership of Black, brown, and Indigenous queer and trans disabled people, especially neurodivergent, intellectually/developmentally disabled (I/DD), and Mad people (Sins Invalid, 2019). Disability justice emphasizes that disability cannot be analyzed without understanding how it intersects with other political identities or forms of systemic oppression, such as settler-colonialism, racism, classism, fatphobia, homophobia, and transphobia (Sins Invalid, 2019, p. 25). Cross-movement building is key to disability justice as an engaged theory-practice. Unlike mainstream disability rights movements, which primarily center the needs and goals of white, physically disabled cisgender heterosexual men, disability justice names ableism and other facets of white supremacist logics (e.g., anti-Blackness, racism, colonialism, homophobia, classism, transphobia). Disability justice’s commitments to intersectionality help to understand the complex interworkings of these systems and facilitate the creation of collective alternatives that allow

disability communities to work towards structures of liberation and transformation (Sins Invalid, 2019, p. 13). Finally, disability justice must always be in conversation with other liberation movements because world-(re)making is not a single, but rather a coalitional, struggle.

Neuroqueer technoscience continues necessary interventions in crip technoscience, amplifying the polysemous ways disabled people create, hack, code, tinker, and experiment with technology as access, activism, and survival practices. Crip technoscience draws from feminist science and technology studies and disability justice art and activism to “describe politicized practices of non-compliant knowing-making: world-building and world-dismantling practices *by and with* disabled people and communities that respond to intersectional systems of power, privilege, and oppression by working within and around them” (Hamraie & Fritsch, 2019, pp. 4-5; emphasis in original). Instead of asking, “how can we fix or cure neurodivergence and disability?” a neuroqueer technoscientific approach offers an alternative query: by centering the polysemous lived experiences of neurodivergent users, how can we disrupt static hierarchies of ableist and sanist institutional power?

One potential intervention is embedding ongoing accessibility practices into all forms of creative media engagement and relational supports. For example, Arseli Dokumaci (2019) offers micro-activist affordances as performative tactics disabled people rely on to reconfigure their environments. Dokumaci’s (2019) inquiry focuses on physical disability, but I extend her original use here to consider the ways neuroqueer users co-engage with ICTs to reconfigure neuroqueer subjectivities. For example, research teams can help support neuroqueer styles of media use. Instead of forcing collaborators and stakeholders to assimilate to a device, designers can use their resources to support media reconfiguration with neurodivergent stakeholders, providing low-stim and scent-free environments, allowing for multiple types of communication (e.g., verbal, AAC, text-only, sign language), creating plain-language guides, having breaks in focus groups, and honoring neurodivergent stakeholder goals with the use of the media technology and research dissemination (such as including stakeholders as co-authors) (see Gardner et al., 2021; Lazar et al., 2017; Piepzna-Samarasinha, 2018; Spiel et al., 2019). In the following sections, I present three working tenets to demonstrate how neuroqueer technoscience engages with crip technoscience-informed practices to present anti-assimilationist technology as tools for relational world-making: neuroqueer technoscience extends crip technoscience to resist curative violence in technology use; neuroqueer technoscience prioritizes technological interdependence; and neuroqueer technoscience reconfigures *who* can be a creator and user.

### Neuroqueer Technoscience Rejects Curative Violence

I offer neuroqueer technoscience as an intervention in crip technoscience's tendency to privilege neurotypicality. Sins Invalid (2019) emphasizes the importance of cross-solidarity movement building between different members of disability communities, including “psych survivors, people with mental health disabilities, neurodiverse people... [and] people with intellectual or developmental disabilities” (p. 25). However, how are these commitments honored for neurodivergent, Mad, and intellectually and developmentally disabled (I/DD) people? The 2020 documentary *Crip Camp* presents an idyllic retelling of the U.S.-based Independent Living Movement (ILM), where white physically disabled people were (and still are) placed at the top of the disability hierarchy (Lebrecht & Newham, 2020). Yet *Crip Camp* does not show I/DD, Mad, neurodivergent, and racialized disabled people (especially Black disabled people) in a similar perspective; for instance, the film presents the leadership of Black Panther member and disability advocate Bradley Lomax as a mere anecdote instead of a significant cross-movement leader whose expertise was crucial to the 504 sit-in's success (Sedgwick, 2021, para. 13). The tremendous segregation I/DD people face – especially Black, brown, and Indigenous I/DD people – reinforces carceral boundaries at the conjunctures of racism, intellectual ableism, and sanism (see Erevelles & Minear, 2010; Sedgwick, 2021).

The digitization of Applied Behavioral Analysis (ABA) demonstrates the legacies of racism and (techno)ableism.<sup>7</sup> ABA often entails panoptic and violent pathologic approaches, especially targeting non- and semi-speaking people as a way to force verbal language (Bascomb, 2011; Williams, 2018; Yergeau, 2018). Robin Roscigno (2019) suggests ABA actively harms and even maims autistic and neurodivergent people through its intent to erase and contain neurodivergence. In some cases, such as the U.S.-based Judge Rotenberg Center, allistic administrators force autistic, neurodivergent, and intellectually disabled residents to wear electric shock devices, called a graduated electronic decelerator, which “modify” behaviors by delivering shocks up to 41 milliamps (Roscigno, 2019). Since the center's opening in 1971, at least six residents have died from the pervasive levels of shock present in the GED (Brown, 2020; Yergeau, 2018). Autistic self-advocates, cultural workers, and researchers continue to challenge ABA's pathologization.

In this way, ICTs are used to “solve” aspects of disability through curative violence. By using the term curative violence I am referring to Eunjung Kim's (2017) theorization that rehabilitative technology is used to practice

---

<sup>7</sup> Applied Behavioural analysis (ABA) refers to a series of therapies intended to “improve” socially significant behaviours such as speech and embodiment. Many autistic and neurodivergent self-advocates have criticized ABA's punitive and rehabilitative approaches (see Bascomb, 2011; Brown, 2020; Sequenzia, 2015; Williams, 2019; Yergeau, 2018).

cure, rehabilitation, and progress, while presenting disability as an obstacle to national identity building. For instance, many autism-related ICT supports focus on artificial enhancements for verbal/spoken speech through augmentative and alternative communication devices (AAC). Neuroqueer technoscience asks, is the reasoning behind “giving voice” to non- and semi-speaking neurodivergent people rooted in ableism? Here, I suggest that ICTs developed with eugenicist or rehabilitative mindsets positioning users as “better” than disabled people who do not use them (Alper, 2017). My thinking follows Joseph Stramondo’s (2019) theory of curative versus assistive technology: the orientation of how a device is situated around disability delineates its use as “assistive” or “curative,” further substantiating categories like “disabled” versus “non-disabled.” The programming of curative violence in technology is not always readily apparent: curative violence is often taken up by obfuscating eugenics, ableism, and neurotypicality with technoableist rhetorics of “enhancement” and “innovation,” as if disabled – and in particular, neurodivergent people – are not worthy of life unless they pursue the assimilative alterations of curative technology (see Kim, 2017).

Rua M. Williams (2019) proposes a similar critique through their concept of metaeugenics in so-called “assistive” technology for autistic children. They explain that metaeugenics are a subtle yet violent network of power that are

deployed in the justification of curative, normalizing therapies for... deviance. Once overt eugenics have failed, or have been deemed unpalatable, metaeugenics take over to ensure purity... [while] racialized, queer, disabled, or otherwise unsightly, unruly.... bodies are cataloged, captured, quarantined, incarcerated, sanitized, and rehabilitated (or not). (Williams, 2019, pp. 65-66)

Stramondo (2019) also offers alternative, resistive, and refusal-based connections to such technology as a strategy to dispel the prominence of curative violence. Like Dokumaci’s (2019) offering of micro-resistive affordances, such reconfigurations of assistive technology redefine not only *who* is a user but *what* it means to be in relation with technology beyond metaeugenics and curative violence (as I articulate in the final tenet). Through these reconfigurations, neuroqueer technoscience rejects the use of ICTs for rehabilitation or erasure of disability.

Note that my critique is not an outright rejection of assistive technology – many ICTs, like AAC, can provide necessary support for neurodivergent people with varying access needs (Stramondo, 2019). Nor am I saying that *all* crip technoscience excludes or privileges neurotypicality. However, I offer neuroqueer technoscience as extending crip technoscience in this realm, reaffirming anti-assimilationist and coalitional transformation by troubling the representation of neurodivergent as deficit (Ymous et al., 2020). Universities and medical institutions are sites of violences like medical

racism and (techno)ableism, placing disabled and neurodivergent racialized people, and queer and trans people, in concentrated harm (Dolmage, 2017; Piepzna-Samarasinha, 2018). I argue that neuroqueer technoscience leads us to new possibilities that sustain the wholeness of neurodivergent people and their goals, accessibility needs, and experiences.

Instead of designing for a cure, rehabilitation, or enhancement, a neuroqueer technoscientific approach might work to ensure that the lived experiences, goals, and skills of neuroqueer users are always already centered. Neuroqueer technoscience builds upon crip technoscience's liberatory and anti-assimilationist approaches to reimagine disability as a "set of innovative... skills" (Piepzna-Samarasinha, 2018, p. 216). For instance, Lazar et al.'s (2017) *Moments*, a digital art sharing project co-designed with older adults with dementia, demonstrates the potential of non-curative neuroqueer relational practices in crip technoscience. *Moments'* design team used their resources to facilitate a creative experience that allowed alternative ways of social engagement and non-verbal communication (e.g., artistic creation such as drawing, painting, collaging). Most importantly, *Moments* met users where they were, allowing diverse gameplay for creating the digital art, and bending towards the user's skill set (instead of the user assimilating to the technology). Imagining art as a non-verbal communication practice, the design team centered options that would appeal widely to the user group, such as scrapbooking or postcard decorating, which could be engaged with by several participants (Lazar et al., 2017, p. 2150). The project's success demonstrates the tenacious overlap between crip technoscience (i.e., centering skills, working through friction arising from clashing accessibility needs, designing for multiple modes of accessibility) and neuroqueer technoscience (i.e., alternative modes of self-expression, amplifying agentic production, centering non-neurotypical styles of social interaction and community building). While disability-centric technoscience may focus on enhancement or rehabilitation *for* disabled people, neuroqueer technoscience echoes crip technoscience's disruption of progressive attempts at "overcoming" or "curing" disability (Hamraie & Fritsch, 2019). Moreover, these movements hold other allegiances to care work and mutual aid, positioning ICTs as technologies to facilitate (often live-saving) community support.

### **Neuroqueer Technoscience Emphasizes Technological Interdependence, not Independence**

Noting the excessive prevalence of eugenics in North American health research, neuroqueer technoscience calls for ways of knowing, doing, and making that do not rely on allistic, harmful technologies to stylize neuroqueer communication supports. Why must the "most optimal" forms of communication be rooted in spoken word and eye contact? What possibilities

emerge from imagining stimming as a vital part of the communication process or using multiple communication styles (i.e., a mix of both spoken and non-verbal communication)? Is neurodivergent agency contingent on an individual's ability to toilet, speak, or move in ways that conform to neurotypicality and independence (see Williams, 2018)? Cal Montgomery (2001) names this violent privileging of independence over interdependency as an "assumption [to] speak for people with cognitive impairments... [which] assumes the 'care' families provide is always oppressive" (para. 19). Montgomery's powerful theorizing disrupts the distinctions between which forms of dependency are valued in mainstream disability communities and which are discarded. Perhaps a better question to ask is: What happens when allistic and neurotypical research teams bend toward the communication needs and goals of neurodivergent bodyminds? A neuroqueer technoscience calls on bringing such communicative practices to interdependent creation and use of media. Departing from the mainstream prominence of designing media supports as a "solution" to neurodivergency (Alper, 2021; Williams & Gilbert, 2020; Ymous et al., 2020), neuroqueer technoscience instead positions neurodivergent communication styles as valid and worthy in mediated spaces, regardless of individual access needs.

Neuroqueer technoscience extends crip technoscience by considering technology to support neuroqueer communication and relational practices. For instance, the *Critical Design Lab's Remote Access Party Guide* reconfigures technology to support interdependent neuroqueer and crip relational practices in a digital world (Gotkin et al., 2020). *The Remote Access Party*, derived from earlier work on crip technoscientific practices for facilitating accessible nightlife (see Gotkin, 2019), moves beyond curative modes for digital social engagement. For instance, the open-source facilitation guide provides a detailed explanation of how participants can set up a remote access event, what to expect before, during, and after the party, options for participation, and opportunities for engagement, including roles to support accessibility, such as captioners, audio descriptors, and access doulas (Gotkin et al., 2020, p. 6). Here, each participant is essential to the success of creating a digital space of access, love, and community: a remote access party is incomplete without the work and needs of each individual, whether they are a partygoer or are providing access supports. By establishing thorough guidelines – with room for working through imperfect technology – the Remote Access Party Guide demonstrates how neuroqueer technoscience builds on crip technoscience's anti-assimilationist and collaborative shifting of (digital) social spaces to co-create new ways of being, communication, and relationality. Party attendees are invited to engage in ways that feel right for them: agency to turn on or off one's computer camera or microphone, non-speaking ways to participate in the space, and control over their participation in the web conferencing call. Gotkin et al's (2020) guide does not present itself as a universal solution for technoableism. However, it offers some crucial possibilities for using ICTs to collectively practice neuroqueer

relationalities in anti-assimilationist spaces. Here, technology use does not amplify independence: instead, it shows the various ways neuroqueer (and crip) technoscience reconfigures technologies toward relational interdependence.

I turn to interdependence as a micro-resistive turn (see Dokumaci, 2019) for neuroqueer technoscience to program, code, or co-create new forms of subjectivities that depart from concepts of cognitive hierarchies and white supremacist conceptualizations of the ideal user. In a state of interconnected dependence (Sins Invalid, 2019), interdependence challenges Western and neoliberal prioritizations of individuality and self-reliance. Instead, interdependence “sees the liberation of all living systems and the land as integral to the liberation of our communities... we work to meet each other’s needs as we build toward liberation” (Sins Invalid, 2019, p. 25). Noting that many Western social institutions position disability and disabled people as passive and apolitical, disability justice always already uses interdependence as a “site of politicized resistance” through technoscientific measures of hacking, tinkering, and making within disability communities and beyond (Hamraie & Fritsch, 2019). Hacking constitutes how disability organizers reimagine through realtering existing material and political arrangements (Hamraie & Fritsch, 2019, p. 4). Through centering disabled expertise, activist hacking highlights crip technoscience’s commitments to political change and transformation.

Neuroqueer technoscience’s commitments to relational interdependence in digital worlds is revealed in the success of disability hashtag activism. In the midst of the 2019 U.S. wildfire season, disability justice activist Stacey Park Milbern and the Disability Justice Culture Club partnered to support the #PowerToLive campaign against discriminatory power shut-offs (Disability Visibility Project, 2019). Additionally, Johanna Hedva’s (2015) “Sick Woman Theory” draws from their experiences with chronic illness and neurodivergence to affirm the validity of digital activism through embodiment and radical existence in a world invisibilizing racialized and disabled people. Although Hedva (2015) does not clearly position their theorization as a manifesto, the practice of Sick Woman Theory as a technology of radical survival and digital world-making is significant to the formation of neuroqueer subjectivities. Thus, neuroqueer technoscience does not position disability and ableism as single issues; instead, it addresses and disrupts how ableism is always in conversation with racism, settler-colonialism, classism, and other oppressive nodes that render multiply-marginalized people as invisible, and emphasizes the need for digital technology as a way to create interdependence (Hedva, 2015; Piepznasamarasinha, 2018). Where crip technoscience may reconfigure disabled people’s relationships with social and cultural *structures*, I position neuroqueer technoscience as a co-collaborative reconfiguration of subjectivity.

### **Neuroqueer Technoscience Reimagines *Who* is a Creator and User**

What does it mean to design neuroqueer futures? Perhaps it begins with troubling the prospects of design(ers). Sasha Costanza-Chock's (2020) design justice offers to counter (techno)ableism and metaeugenics in design research towards new neuroqueer subjectivities. Partially deriving their conceptualization from disability (justice) activism, Costanza-Chock (2020) notes that including the expertise of the most directly-impacted people facilitates new possibilities for experiential innovations that can transform lived experience. Costanza-Chock's (2020) design justice may counter the limitations of universal design, a disability-centered practice emerging in the late 20<sup>th</sup> century to create environments accessible to any users (Hamraie, 2017). Universal design guidelines have since been adapted as an ethos for technology and ICT design (Bennett & Rosner, 2019). However, as Aimi Hamraie (2017) importantly asks, *who is everyone?* Namely, are neurodivergent people included within the definitions of everyone (see Goodley et al., 2014)? Are some neurodivergent considered more worthy and exceptional than others (i.e., is a speaking neurodivergent person considered more worthy of support than a non- or semi-speaking person)? Similarly, Ruha Benjamin (2019) cautions against claims for a generic "design justice," noting that well-intentioned ideas about designing solutions can sanitize and smooth over systemic oppression through one-size-fits-all approaches. Instead, Benjamin (2019) asks, what happens when the focus is on "plain old... liberation" (p. 177)? Hamraie (2017) similarly presents their idea of collective access as a necessary intervention, which presents accessibility practices as a material-discursive understanding of relationality and interdependence as a means of social justice.

One way we might create a neuroqueer future is by supporting the work of disabled and neurodivergent design teams in HCI and mobile communication to meet the user goals and access needs of neurodivergent stakeholders or by stepping away from designing curative solutions (Ymous et al., 2020). If technoableism promotes rehabilitation and curative violence, then neuroqueer (and crip) technoscience presents neurodivergence as essential for computing and user-experience practices. For instance, Loren Britton and Isabel Paehr's (2021) work as MELT adopts this approach through media arts practice. In particular, MELT's project, "Rituals Against Barriers," is informed by Black feminist thought, feminist HCI, and crip technoscientific practices to embrace a series of neuroqueer rituals as design paradigms. Instead of pathologizing, curing, or rehabilitating, MELT presents neuroqueer design methods such as bad listening (see Smilges, 2020), questioning institutions, and tending to the "not perceivable" as generative sites for inquiry and technological creation (Britton & Paehr, 2021). Through various stop-motion video entries and digital archives, MELT's politic of refusal simultaneously "resists" (techno)ableist barriers and generatively "connects" across differences (Britton & Paehr, 2021, p. 79). Such (re)fusals extend crip technoscientific

paradigms for anti-assimilationist technological and digital artistic practice towards neuroqueer technoscientific creation. By fusing crip technoscientific paradigms for anti-assimilationist commitments to access and removal of structural barriers, MELT's use of digital artistic practice reveals the neuroqueer potentialities of leaning-in to so-called "deviant" relationalities.

I think that neuroqueer technoscience provides the desired intervention of "what's next" in both the creation and cultural understandings of ICTs. However, I want to be clear in what neuroqueer technoscience is and what it is not. Neuroqueer technoscience argues that technoableism is tied to larger systems of white supremacy: we cannot talk about algorithmic ableism or designing around neurotypicality without addressing ableism's complex networking around anti-Blackness and other racisms, settler-colonialism and data colonialism (see Couldry & Mejias, 2019), digital (trans)misogynoir (Bailey, 2021), shadowbanning of disabled content creators, and other forms of political violence emerging within the realm of the digital. Nevertheless, neuroqueer technoscience is also a practice of optimism. It is the poetic prose of writing out alt-text for a kick-ass selfie so our friends with screen readers can partake in slivers of neuroqueer joy. It is imagining neurodivergent people programming, coding, and developing ICTs that support our access needs without humiliating us. It is allowing non- and semi-speaking autistic people to lead conversations on AAC. It is imagining the coalitional collaboration towards something better.

### **Conclusion: What does a Neuroqueer Technoscience Feel/move/stim Like?**

Last year, I posted the following questions on my personal Twitter account: "What would a neurodivergent/neuroqueer social networking be like? What would this collaborative process entail? Many neurodivergent people have conflicting access needs. How do we design for this without assuming that all access needs are universal?" My questions catalyzed a passionate, collaborative conversation.<sup>8</sup> One suggestion called for a user-driven interface with different options that met the needs of individual users. One idea proposed different modes that would allow users to determine how much content they want to see on their page and the importance of customizable color contrast combinations. Many commenters addressed strategies for organizing the network, including tagging systems designed around neurodivergent thinking styles and organization, and options for determining which pages users would want to feature on their accounts. For instance, some accounts mentioned tagging written text with tone indicators to help other users access a conveyed meaning more readily (e.g., this tweet is

---

<sup>8</sup> The tweet responses are anonymized and summarized in order to protect the identities of the account holders participating in the conversation.

sarcastic or genuine) or set more explicit boundaries around availability to talk with other users. The tweet was by no means viral. However, it demonstrated the strong potential of a neuroqueer-driven world-(re)making via technology, one where neurodivergent people were always already imagined at its center and would be the driving force behind the expansion and generation of media creation. Moreover, and perhaps most importantly, this single conversation revealed that neuroqueer technoscience is already happening.

Neuroqueer technoscience presents the possibility for innovative ICTs that facilitate threads of liberation for neurodivergent users. Mainstream new media technologies are designed and framed around technoableism. Social media algorithms program technoableist rhetorics into their codes, determining who gets to truly “belong” on a platform that can provide disabled people with significant social connections. Additionally, technoableist ICTs generate an intent to emphasize dominant allistic and neurotypical styles of communication. Rejecting the notion of creation-as-cure, neuroqueer technoscience takes cues from disability justice and crip technoscience to reroute design leadership to neurodivergent communities, with the intent of supporting neuroqueer styles of communication, leadership, and lived experiences. By promoting these ideals, new media technologies, like mobile applications and smart devices, can embrace neurodivergent users where we are and imagine worlds where we were always already whole.

I want to caution that there is a difference between designing for access and support and designing for enhancement and erasure. Technology should not cure or erase neurodivergency, as Rua M. Williams (2019) importantly notes. Neurodivergent people are tenaciously brilliant thinkers and tinkerers who are engineering our survival through activist technoscience and other forms of interdependent world-making (Hamraie & Fritsch, 2019). Thus, a neuroqueer technoscience is not a fixed and static one-time practice. Although I anticipate there are many ways neurodivergent people can practice (and already incorporate) neuroqueer technoscience, I imagine that neuroqueer technoscientific engagement amplifies access as a sticky, ongoing relational practice – one that is fluid and conceptualizes many neurodivergent bodyminds coming together to program, hack, and create better (digital) worlds.

Neuroqueer technoscience breaks past the tensions and complexities of technoableism and other forms of (digital) discrimination. By positioning neurodivergent people as experts and leaders, a neuroqueer technoscientific approach to digital creation and activism generates new ways of thinking, creating, and making survival possible, all with the click of a “share” button. I urge us to follow the many pathways collectively forged by neurodivergent and neuroqueer activists, artists, self-advocates, artists, and cultural workers. Neurodivergent people may not be “the ideal user” in a technoableist world; however, as I discuss in this essay, neuroqueer technoscience rejects the idea of a singular, fixed user who must endure curative violence to be seen as

valid. Instead, neuroqueer technoscience presents polysemous and collective ways of creating and engaging media. Allistic and neurotypical researchers may imagine us as flawed, broken, and needing a fix. Nevertheless, new media and mobile communication technologies can be transformative and liberatory – neuroqueer technoscience may be one potentiality that can help us reach there. Join us.

### Acknowledgments

The author would like to thank Miranda Brady, Kelly Fritsch, Kennedy Ryan, and Margaret Janse Van Rensburg for their continued, enthusiastic support of this essay throughout the submission and review process.

### References

- Alper, M. (2017). *Giving voice: Mobile communication, disability, and inequality*. MIT Press.
- Alper, M. (2021). Critical media access studies: Deconstructing power, visibility, and marginality in mediated space. *International Journal of Communication*, 15(22), 840-861.
- Bailey, M. (2021). *Misogynoir transformed: Black women's digital resistance*. NYU Press.
- Bascomb, J. (2011, October 5). *Quiet hands*. Just Stimming... [Weblog]. <https://juststimming.wordpress.com/2011/10/05/quiet-hands/>
- Benjamin, R. (2019). *Race after technology: Abolitionist tools for the new jim code*. Polity.
- Bennett, C. L., & Rosner, D. K. (2019). The promise of empathy: Design, disability, and knowing "the other." *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems*, 1-13. DOI: 10.1145/3290605.3300528
- Britton, R. L., & Paehr, I. (2021). Con(fuse)ing and re(fuse)ing barriers. *A Peer-Reviewed Journal About*, 10(1), 70-84.
- Brown, L. X. Z. (2020, May 11). *Living archive & repository for the Judge Rotenberg Center's abuses*. Autistichoya. <https://autistichoya.net/judge-rotenberg-center/>
- Chandler, E., Ignagni, E., & Collins, K. (2021). Communicating access, accessing communication. *Studies in Social Justice*, 15(2), 230-238.
- Chun, W. H. K. (2011). *Programmed visions: Software and memory*. MIT Press.
- Clare, E. (2017). *Brilliant imperfection: Grappling with cure*. Duke University Press.
- Costanza-Chock, S. (2020). *Design justice: Community-led practices to build the worlds we need*. MIT Press.
- Couldry, N., & Mejias, U. A. (2019). Data colonialism: Rethinking big data's relation to the contemporary subject. *Television & New Media*, 20(4), 336-349.
- Disability Visibility Project. (2019, October 26). Call for stories: #PowerToLive... [Weblog]. <https://disabilityvisibilityproject.com/2019/10/26/call-for-stories-powertolive/>
- Dokumaci, A. (2019). A theory of micro-activist affordances: Disability, disorientations, and improvisations. *South Atlantic Quarterly*, 118(3), 491-519.
- Dolmage, J. T. (2017). *Academic ableism: Disability and higher education*. University of Michigan Press.
- Egner, J. E. (2018). "The disability rights movement was never mine:" Neuroqueer disidentification. *Gender & Society*, 33(1), 123-147.
- Ellessor, E. (2016). *Restricted access: Media, disability, and the politics of participation*. NYU Press.
- Erevelles, N., & Minear, A. (2010). Unspeakable offenses: Untangling race and disability in discourses of intersectionality. *Journal of Literary and Cultural Disability Studies*, 4(2), 127-145.

- Gardner, P., Surlin, S., Akinyemi, A., Rauchberg, J. S., Zheng, R., McArthur, C., Pappaionnou, A., & Hao, Y. (2021). Designing a dementia-informed, accessible, co-located, gaming platform for diverse older adults with dementia, family, and carers. In Q. Gao & J. Zhao (Eds.), *Human aspects of it for the aged population* (pp. 58-77). Springer.
- Goodley, D., Lathom, R., & Runswick Cole, K. (2014). Posthuman disability studies. *Subjectivity*, 7, 342-361.
- Gotkin, K. (2019). Crip club vibes: Technologies for new nightlife. *Catalyst: Feminism, Theory, Technoscience*, 5(1), 1-7. <https://doi.org/10.28968/cftt.v5i1.30477>
- Gotkin, K., Hickman, L., Hamraie, A. & Critical Design Lab. (2020). *Remote access: Crip nightlife participation guide*. Critical Design Lab. <https://www.mapping-access.com/remote-access>
- Grace, I. (2013, October 30). *Are you neuroqueer (part 2)?* NeuroQueer. <http://neuroqueer.blogspot.com/2013/10/are-you-neuroqueer-part-2.html>
- Hampton, L. M. (2021). Black feminist musings on algorithmic oppression. *FACCT '21: Proceedings of the 2021 ACM Conference on Fairness, Accountability, and Transparency*, 1-11. DOI: 10.1145/3442188.3445929.
- Hamraie, A. (2017). *Building access: Universal design and the politics of disability*. University of Minnesota Press.
- Hamraie, A., & Fritsch, K. (2019). Crip technoscience manifesto. *Catalyst: Feminism, Theory, Technoscience*, 5(1), 1-33. <https://doi.org/10.28968/cftt.v5i1.29607>
- Hedva, J. (2015). *Sick woman theory*. Mask Magazine. <http://www.maskmagazine.com/not-again/struggle/sick-woman-theory>
- Hughes, J. M. F. (2016). *Nothing about us without us: Increasing neurodiversity in disability and social justice advocacy groups*. Autistic Self Advocacy Network. <https://autisticadvocacy.org/wp-content/uploads/2016/06/whitepaper-Increasing-Neurodiversity-in-Disability-and-Social-Justice-Advocacy-Groups.pdf>
- Indigenous Action Media. (2014). *Accomplices not allies*. <https://www.indigenousaction.org/wp-content/uploads/Accomplices-Not-Allies-print.pdf>
- Kafer, A. (2013). *Feminist, queer, crip*. Indiana University Press.
- Kim, E. (2017). *Curative violence: Rehabilitating gender, disability, and sexuality in modern Korea*. Duke University Press.
- Lazar, A., Edasis, C., & Piper, A. M. (2017). A critical lens on dementia and design in HCI. *CHI '17: Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems*, 2175-2188. DOI: 10.1145/3025453.3025522.
- Lebrecht, J., & Newnham, N. (Directors). (2020). *Crip Camp* [Documentary film]. Higher Ground Productions.
- Lewis, T. (2021, January 1). *January 2021 working definition of ableism*. Talila A Lewis [Weblog]. <https://www.talilalewis.com/blog/january-2021-working-definition-of-ableism>
- McIlwain, C. (2019). *Black software: The internet and racial justice, from the afronet to black lives matter*. Oxford University Press.
- Montgomery, C. (2001). *Critic of the dawn*. Ragged Edge Online, 2. <http://www.raggededgemagazine.com/0501/0501cov.htm>
- Nakamura, L. (2013). *Cybertypes: Race, ethnicity, and identity on the Internet*. Routledge.
- Noble, S. U. (2018). *Algorithms of oppression: How search engines reinforce racism*. New York University Press.
- Ono, K. A. (2009). Critical/cultural approaches to communication. In W. F. Eadie (Ed.), *21<sup>st</sup> century communication: A reference handbook* (pp. 1-12). SAGE.
- Piepzna-Samarasinha, L. L. (2018). *Care work: dreaming disability justice*. Arsenal Pulp Press.
- Roscigno, R. (2019). Neuroqueerness as gugitive practice: Reading against the grain of applied behavioral analysis scholarship. *Educational Studies*, 55(4), 405-419.
- Sedgwick, M. (2021). Review of: *Crip camp*. Film. James LeBrecht and Nicole Newnham. Higher Ground Productions. 2020. *Disability Studies Quarterly*, 41(1). <https://dsq-sds.org/article/view/7843/5878>
- Sequenzia, A. (2015, February 11). *My thoughts on aba*. AWN Network. <https://awnnetwork.org/my-thoughts-on-aba/>

- Shew, A. (2020). Ableism, technoableism, and future ai. *IEEE Technology and Society Magazine*, 40-50.  
[https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=9035527&casa\\_token=xG2XiRNtQTUAAAAA:9yZRmvVNcIVKaXmjUajq69ZF3RD\\_FoykXo3Htaz6U8fiT9shj\\_4gm7FYc8Y3Ls1xu2nHORw&tag=1](https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=9035527&casa_token=xG2XiRNtQTUAAAAA:9yZRmvVNcIVKaXmjUajq69ZF3RD_FoykXo3Htaz6U8fiT9shj_4gm7FYc8Y3Ls1xu2nHORw&tag=1)
- Sins Invalid. (2019). *Skin, tooth, and bone: The basis of the movement is our people – A disability justice primer* (2<sup>nd</sup> Ed.). Sins Invalid.
- Smilges, J. L. (2020). Bad listeners. *Peitho*, 23(1). <https://cfshrc.org/article/bad-listeners/>
- Spiel, K., Gerling, K., Bennett, C. L., Brulé, E., Williams, R. M., Rode, J., & Mankoff, J. (2020). Nothing about us without us: Investigating the role of critical disability studies within hci. *Extended Abstracts of the 2020 CHI Conference on Human Factors of Computing Systems*, 1-8. DOI: 10.1145/3334480.3375150.
- Stramondo, J. (2019). The distinction between curative and assistive technology. *Science and Engineering Ethics*, 25(4), 1125-1145.
- Wacjman, J. (1991). *Feminism confronts technology*. Pennsylvania State University Press.
- Walker, N. (2015, May 4). *Neuroqueer: An Introduction*. NeuroQueer.  
<http://neuroqueer.blogspot.com/2015/05/neuroqueer-introduction-by-nick-walker.html>
- Williams, R. M. (2018). Autonomously autistic: Exposing the locus of autistic pathology. *Canadian Journal of Disability Studies*, 7(2), 60-82.
- Williams, R. M. (2019). Metaeugenics and metaresistance: From manufacturing the ‘includable body’ to walking away from the nroom closet. *Canadian Journal of Children’s Rights/Revue Canadienne des Droits des Enfants*, 6(1), 60-77.
- Williams, R. M., & Gilbert, J. E. (2020). Perservations of the academy: A survey of wearable technologies applied to autism intervention. *International Journal of Human-Computer Studies*, 143, 1-20.
- Williams, R. M., Ringland, K., Gibson, A., Mandala, M., Maibaum, A., & Guerreiro, T. (2021). Articulations toward a crip HCI. *Interactions*, 28(3), 28-37.
- Yergeau, M. R. (2018). *Authoring autism: On rhetoric and neurological queerness*. Duke University Press.
- Ymous, A., Spiel, K., Keyes, O., Williams, R. M., Good, J., Hornecker, E., & Bennett, C. L. (2020). “I am just terrified for my future” – Epistemic violence in disability related technology research. *CHI ‘20 Extended Abstracts*, 1-16. DOI: 10.1145/3334480.3381828.