

Misfits Meet Art and Technology: Crippling Transmethodologies

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Abstract

This article thinks with disability theory and artistic praxis to explore how disabled artists repurpose and invent technologies in artistic processes designed to enact care and access, extend embodiment, satiate the senses, and create crip culture. Drawing on four examples, we claim that disabled artists are creative technologists whose non-normative culture-making practices approach accessibility as a transmethodological process that requires and generates new forms of interconnected technology and artfulness. Disabled artists, as “creative users,” change the uses and outcomes of technology, *dis-using* technologies in ways that lead to a more dynamic understanding of access and with it, of crip cultures as processual, artful, and political.

Keywords

disability arts, technology, creative users, difference-centered design, misfit creativity, access aesthetics, dis-use

Misfits Meet Art and Technology

To engage with the creative works (videos, stills, websites) featured in this article, please go to <https://revisioncentre.ca/misfits-meet-art-and-technology> (password: *misfit*). In this article, we draw on four case studies of disability artistry to claim that disabled, mad, D/deaf, neurodivergent, fat, and aging artists¹ are creative technologists whose political and non-normative culture-making practices teach us to approach accessibility as a transformational or transmethodological process that requires and generates new forms of interconnected technology and artfulness. By transformational or transmethodologies, we mean approaches to inquiry informed by trans and other neo-materialist theories that aim to transgress disciplinary/ interdisciplinary methodologies for gathering and validating knowledge, and reaching beyond existing formulas, to examine what new experiences and new realities emerge when knowledge systems productively entangle (Barad, 2015; Braidotti, 2019; Chen, 2012; Keegan, 2020; Khawaja & Kousholt, 2021; Springgay & Truman, 2017). For instance, when disabled artists experiment with technologically mediated modes of creative praxis in ways that proliferate material (affective, sensorial) connections between bodies and worlds, they expand possibilities for crip embodiment and life. We develop this idea drawing on the co-production of technology and art generated through *Bodies in Translation: Activist Art, Technology and Access to Art* (BIT), a transdisciplinary research program that uses decolonized and crippled lenses to cultivate disability, D/deaf, fat, mad, and aging arts on Turtle Island (North America). The “we” in this article refers

to five BIT-affiliated co-authors who come together as an interdisciplinary, intergenerational group of crip, queer, fat, mad, racialized, and allied researchers and artist-scholars who take critical interest in disability arts and its potential to transform sociomaterial life: to make space for disability and difference. As the case studies we have selected show, the creatively disruptive ways disabled artists access, use, create, and interact with technology confound eugenic-norms governing western understandings of embodiment and with this, the euro-masculine-abled subject’s privileged status as authoritative architect-arbiter of “knowledge” and “culture” (Braidotti, 2013; Chen, 2012). Disability arts works to pry open spaces of knowledge and cultural production for non-normative creativities to presence and activate our abounding vitalities (Collins et al., 2022; Collins et al., 2023a & 2023b; Johnson et al., 2024; Rice, Pendleton Jiménez, et al., 2020; Rice et al., 2017; Taylor et al., 2023).

Use and Dis-Use of Creative Technologies

Our approach to the ways disabled people intra-act with technology shifts away from ableist and instrumentalist

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ends—meaning technological development or use that upholds or remains aligned with colonial capitalism’s metrics of profitability, productivity, and perfectibility (Ahmed, 2019)—and toward artful and political engagements that create disability culture and justice (Rice et al., 2022). Bringing into play various artists’ works as exemplars, we claim that when crip makers repurpose existing technology and invent new technologies in artistic processes designed to enact care and access, extend embodiment, and create welcoming spaces, they challenge understandings of technology’s proper purpose and use. In challenging conventional notions of use, their tech experiments call out and confound baked-in mythologies about technology’s presumed orientation to disability—that of the technofix. Yet disabled makers’ subversive tech experiments do more than unsettle technofix representations: Extending into the material realm, they play with, transgress, subvert, and flip technofix practices in ways that activate non-normative vitality and access as creative life-affirming praxis. Through their transformative engagements with technology, disabled artists crip technologies and their use, creatively using technology to disrupt the neoliberal logics and eugenic-normative impulses increasingly driving its development. In so doing, they create something new. This “something new,” we maintain, is motivated by a desire for disability and for generating and mobilizing “crip cultural practices,” many of which use technology, to anticipate and presence the multiple ways that bodies of difference and art come together in satiating ways to create crip culture (Chandler, 2019; Chandler et al., 2019, 2021; Rice, Temple Jones, & Mündel, 2022; Rice, et al., 2022).

This analysis requires us to begin from a difference-affirming space that troubles the assumed subject of technology, the imagined prototypical human that is foundational to the human sciences, as critical post-humanists such as Braidotti (2013, 2019) and Chen (2012) have shown. This standardized version of the human has at its core ableist, white supremacist, and imperialist tendencies, positioning some of us as more human than others, and excluding many from the category (Liddiard et al., 2019; Rice, Dion, et al., 2020; Rice, Riley, et al., 2021; Viscardis et al., 2019). Importantly, its normative vision of the human underpins technological infrastructures and operations. Technology studies scholar Amrute (2019, p. 59) uses the phrase “corporeal attunements” to describe how “bodies are trained, molded and erased in the everyday operations of technological systems,” most palpably exemplified in the hardwiring of power/oppression into systems designed with a standard (white, westernized, non-disabled) user in mind. She argues that bringing situated bodies into the story of technology development can expose system neutrality as a fiction and re-presence bodies as resources “for imagining a different future” (Amrute, 2019, p. 59).

Rather than troubling the technology or the user, cultural theorist Ahmed (2019) troubles the uses—or metrics for valuing bodies and technologies in western traditions—arguing that scholars have predominantly thought of the relation of use to things “as an instrumental relation” (p. 6); that is, where someone or something acquires value to the extent that it can enrich or improve individuals, collectivities, and nations according to the logics of an ableist colonial capitalist order). In tracing this genealogy, she identifies “*forness* as key to why use matters” (p. 7); *forness* matters because what a technology (or a life) is for, how it is used, and who gets to determine its use value are questions of power. When we think about use in relation to technology, we might speculate that its *forness* of use (who and what the technology is for) is not determined at one point but may be established and reestablished by multiple users at different times to different ends. While an ableist capitalist order impresses upon bodies of difference hegemonic ideas about how technology can improve disability’s (apparently limited) use value, those same bodies might *dis-use* technology in ways that challenge normative expectations of usefulness. As Ahmed notes, “use radiates with potential even if we tend to associate the useful with the charmless and unadorned. . . . The magical and mundane can belong in the same horizon; use can be plodding and capacious at the same time” (pp. 5–6). Following Ahmed, we assert that disabled artists’ orientations to technology encode both the mundane—the essential, vital, urgent—ways they critique systemic ableism and create access, as well as the magical—the whimsical, exuberant, absurd—ways that they crip and queer ableist notions of use toward *dis-use*. By keeping form and function continuously in play, disabled artistry pushes past normalizing technofixes that seek to assimilate difference (e.g., creating access through concealing or suppressing bodymind non-normativities) to generate anti-assimilationist approaches that desire difference and produce their own aesthetic (and material) effects.

Extending Amrute’s and Ahmed’s analyses, we consider the relation of disabled bodies to technologies and their normative uses as one of mis-attuning or misfitting. In theorizing disability-worldly relations, disability studies scholar Garland-Thomson (2011) mobilizes metaphors of “fitting” and “misfitting” to explain how certain arrangements between bodyminds and environments are experienced as comfortable/in sync (in the case of fittings) and disjointed and out of sync (in the case of misfittings). She writes, “the degree to which the shared material world sustains the particularities of our embodied life at any given moment or place determines our fit or misfit” (Garland-Thomson, 2011, p. 596). Solutions to the problematics of misfitting cannot hinge on modifying misfit bodies to conform to ableist standards as misfitting emerges from the situated relations of bodies with their sociomaterial worlds. Moreover, misfitting, for all the injustices and harms it

causes, also fosters crip creativity: “Acquiring or being born with the traits we call disabilities fosters an adaptability and resourcefulness that often is underdeveloped in those whose bodies fit smoothly into the prevailing, sustaining environment” (Garland-Thomson, 2014, p. 604). Given this, technofix attempts to fit non-normative lives into normative culture, such as prosthetics designed primarily for cosmetic purposes, ultimately absence disability and disability’s creativity. Such erasure, insofar as it disappears embodied differences, crip creativity, and the technologies that presence them, also effaces crip culture and with it, crip surviving and thriving. So rather than asking how technology might improve disabled people’s assimilation into a hegemonic order, we ask, “How might centering misfits in technology development and use enhance disabled people’s access to art, culture, and life itself?”

Disabled people’s experiences with technology and access are contingent upon various sociomaterial facilitators and barriers (e.g., income, existing infrastructure, histories of spaces) that are felt unevenly among users, meaning that disabled people are subjects of widespread and multi-layered digital divides (Jones et al., 2021, 2022). From this angle, we might think of disabled artists as on the frontlines of human-technological intra-actions and as such, as having insight into the political problematics and possibilities of these relationalities, and specifically in striving for access while stretching toward the aesthetic. Through their intersectional experiences with art, access, and the sociotechnical world (Jones et al., 2021), the artists whose work we lift devise practices that contribute to what crip scholars’ Hamraie and Fritsch (2019) call “crip technoscience”—or efforts to alter, hack, and tinker with existing tools and material arrangements to make more accessible worlds. The case studies also follow crip technoscience by engaging with “access as friction” (Hamraie & Fritsch, 2019, p. 10), which in recognizing how disabled (and non-disabled) people’s access needs/desires can rub up against each other, resists assimilation into normative life, and ignites and welcomes disruption, promoting “interdependence as [a] political technology” (p. 12). By bringing technology into conversation with art and access, in other words, disabled artists push into “access frictions” in how they emphasize the technology–access nexus with an aesthetic or artful edge, and how they attend closely to what emerges for different embodiments at this juncture. The artists push past “universal” design standards in recognizing that the most vitalizing practices for some communities, such as having ASL interpreters present, do not make access “better for everyone,” yet are essential for Deaf people’s active participation. Working from the knowledge that difference “cannot be fully anticipated, planned for, known or mastered” (Rice et al., 2015, p. 523), disability-led access works creatively and affirmatively to transform how our communities access arts and culture processually, iteratively, as an

ever-unfolding project. It is critical to note that despite the efforts of disability rights and justice movements to undo misfittings and push into access frictions, our disparate positionings in the sociomaterial world and our heterogeneous experiences of difference, combined with the normative-eugenic impulses that underpin technology development/use, mean many of us still *misfit*. We see political and aesthetic entwinement as a site from which we can reimagine and redress aspects of misfitting (through disusing technology, generating critical access practices that recognize, presence, and lift heterogeneous difference) even as we recognize that we will always desire difference-oriented design praxis as no one technology can possibly fit or work for every bodymind.

Below, we draw on four examples of disability artistry from artists with whom *Bodies in Translation* (BIT) has collaborated over the last 7 years. Our analysis attends to how these creators use technologies in new ways that desire, imagine, presence, centralize, animate, and aestheticize non-normative embodied intra-actions. Taking disability as their creative entry point, each challenges normative understandings of the human by representing embodied difference in ways that are authentic to and driven by their lived experiences (Chandler et al., 2021). Pushing beyond *representation* (how disability is represented and how people experience those representations), these artists contest systemic ableism *materially* (viscerally, physically, spatially, temporally) through reconfiguring spaces, relationships, and communication practices to create micro-worlds where misfits can *comfortably misfit* (or at least dwell together in working through the frictions of our misfittings). By opening new modes of exchange and new affective channels between individual and social bodies, disabled artists assert the political agency, creativity, and collectivity of non-normative peoples as culturally vital (Chandler et al., 2023; Dion Fletcher & Ferguson, 2021; Kelly et al., 2023; LaMarre et al., 2019; LaMarre et al., 2021). Finally, each of the artists takes interest in what we might call socially oriented art, art-as-social-practice, public genre art, or the so-called educational or activist turn in art and all have contributed to the international wave of disability and non-normative arts that has shaken up the art world over the past few decades.

Creative Experiments as Transmethodologies

We orient to the makers’ creative experiments as transmethodologies, making the case that their artistic practices engage multiple, seemingly discordant fields (e.g., technological development, human or difference-centered design, arts-based research, disability studies, critical access, critical race and Indigenous studies, feminist studies, affect theory, crip technoscience studies, aesthetics, art theory and praxis), genres (video and digital art, performance art,

storytelling, vibrotactile art), and sensory registers (aural, visual, tactile, haptic, rhythmic, affective) in transversal processes (where different knowledge systems and methods at play inform each other; Braidotti, 2019) to expand disabled people's access to art and to build crip culture. We mobilize the richly textured prefix "trans" to foreground materialist research processes that aim to activate subjects perceptually and affectively, and in the process, make material change in the world (Barad, 2015; Springgay & Truman, 2017). According to critical materialist scholars who work with "trans" as theory and methodology (Barad, 2015; Chen, 2012), these methodologies recognize the ontological instability of all matter (human/nonhuman, organic/inorganic, recognizing "nature's nonessentialist nature"; Barad, 2015, p. 387); the agency of research processes (researchers' embodiments, knowledges, research tools, contexts) in solidifying and/or shifting relations that constitute the world; and thus, the researchers' ethical responsibilities in cultivating approaches that reconfigure that world in difference-affirming ways (Rice, Riley et al., 2021). While "methodology" typically means the philosophical principles, theories, or values used to understand a problem and the attendant actions taken to interrogate the problem in accordance with those principles, transmethodologies put under question the need for theoretical-methodological alignment. They encourage instead well-justified transversal bridgings and crossings to "bring to light the often messy, non-linear, and complex research processes" (Khawaja & Kousholt, 2021, p. 2) required to cultivate difference-affirming practices toward system transforming praxis. This resonates with what Haraway (2016) describes as research processes governed by an ethical-political commitment to "staying with the trouble" and arts-based researcher Loveless recasts affectively as those embracing "polydiscipline-amory" (Loveless, 2019, p. 59)—approaches to studying problems (e.g., systemic ableism) at multiple entangled registers (discursive, affective, structural, material) to develop accounts and design interventions capable of undoing or disassembling the forces that sustain them.

Mel Chen (2012) mobilizes "trans" to challenge hierarchies of animacy embedded in western knowledge systems that rank diverse lifeforms—from human to animal to plant—on a hierarchical chain depending on an entity's perceived vitality or aliveness/sentience. For instance, according to Chen, rendering sky, water, air, and land as insensate enacts an "ontological dismissal" (p. 4) of their vitality. Chen speculates about what trans offers methodology if understood "not as a linear space of mediation between two monolithic, autonomous poles [male/female]" but instead as "more emergent than determinate, intervening with other categories [disability, non-normativity, etc.] in a richly elaborated space," thus expanding what we imagine as animate, as vital, as deserving of care and sensitivity. Putting trans

and queer theory into dialogue with quantum physics, technoscience scholar Barad argues that if we start from the quantum principle that all matter operates agentially, then this necessarily encompasses human transitioning processes "where trans is not a matter of changing in time, from this to that, but an undoing of 'this' and 'that,' an ongoing reconfiguring of spacetime mattering" (Barad, 2015, p. 411). In this way, we can think about sex/gender and other bodily transitions as transformative in proliferating possibilities for embodiment and opening new trajectories of becoming. For Keegan (2020), compelling critiques of the limits of representational analyses for transformational change within trans studies itself have prompted a turn to approaches that draw on the "material experience of trans embodiment" to attend to the liberatory possibilities of moving within, between, and beyond the given forms (sex, gender, or human; p. 73). Thinking with these writers, we orient to crip artists as technologists and transmethodologists who innovate crip cultural practices, including by using technologies (low/high, slow/fast) to proliferate sensory connections between bodies and worlds, to intensify, modulate, and recalibrate body-worldly relations in life-affirming ways, and to bring into being new forms, patterns, affects, meanings, and experiences that did not previously exist.

Crippling Technology as Aestheticized Praxis: Carmen Papalia's *Long Cane*

To offer an example of an artful set of technology-driven transmethodological practices that considers "access friction," we turn first to artist Carmen Papalia's art practice, specifically his performance *Long Cane* (Papalia, 2009). In this whimsical performance (see stills and listen to Papalia talk about his work at: <https://revisioncentre.ca/misfits-meet-art-and-technology>; Password: misfit), Papalia has fashioned together eight standard-issued white canes to create what he calls a "super long cane" (Papalia, 2009). He walks around a city block with this long cane which does little to help him get around. It does, however, allow him to take up space—a lot of space—in a way that both keeps benevolent strangers at bay and draws attention to the absurdity of navigating ocular-centric space as a blind person in the absence of other sensorial possibilities for making sense of space and one's position within it. Speaking to the ongoing "mobility device" performance series of which *Long Cane* is a part, Papalia states that when he is out in the world, he is always a spectacle (Chandler, 2018). But in these performances, he is in control of the spectacle he creates. *Long Cane* invites audiences to gawk at that the incongruity and bizarreness of the ocular-centric built environment from a non-visual ontology and begin to reimagine new ways of organizing space (Chandler, 2018).

In providing the context for this performance, Papalia, who identifies as a "non-visual learner" and navigates the world in an embodiment conventionally known as blind,

describes his complex relationship with the standard-issued white indicator cane which guides him as he navigates the world (Papalia, 2009). Though a necessary tool for Papalia to move through a world that was not built with his embodiment in mind, the white cane reminds him—and us—that he is a misfit. Given that “an object can be how you encounter a system” according to Ahmed (2019), Papalia’s articulated opposition to the objective of this rehabilitative technology to facilitate his movement within an ocular-centric world, which disrupts his movements while leaving the normative world intact, highlights the *foreness* of both the cane and his place in the wider world—bringing attention to the “access friction” Papalia experiences between his body, its technological addendum (the cane), and an ableist world. *Long Cane* (Papalia, 2009) is Papalia’s artistic response to this “access friction” which emerges from his misfitting status. In this performance, Papalia has tinkered with white cane technology. He does not redesign his mobility device altogether; rather, he alters or *dis-uses* technology by subverting its intended use to draw our attention to the cane as a symbol of culture’s misplaced emphasis on altering the movements of misfitting bodies rather than retrofitting ableist built environments and (re)imagining new ways of organizing space to center and desire disabled people’s minds, bodies, senses, and emotions.

Papalia’s artful intervention reminds us that since technology is integral to building (in)hospitable worlds, we can use art to orient to technology as a vital force for disability world-making. Through this example, we see how approaches to “access friction” stem from a relational ontology. In the case of Papalia’s work, by drawing attention to crip ontologies as a way of affectively animating misfitting interactions between disabled bodies and the world through art, we might be moved to materialize more “just” body-worldly relations that center and desire difference. As a creative technologist, Papalia politicizes his performance in probing the “privileging of vision in western theories of knowledge and art” and he aestheticizes his movements as performance in offering audiences an “alternative economy of looking that reflects a disability aesthetics” (Bunch, 2021, p. 241). This relational counter-normative aesthetics is rooted in Papalia’s own embodied experiences as a non-visual learner who recognizes that there exists wide variability in what blind folks can see, and yet who, like others so labeled must navigate a world structured by the hegemony of the visual as the privileged pathway to knowing, sensing, and being (p. 241).

Papalia’s *Long Cane* offers a potent example of crip community’s ongoing, intersectional, multimodal encounters with technology and accessibility, surfacing a kind of politicized culture-making practice. To imagine beyond the ableist (and other oppressive) technology regimes, we use our next example to think with BIT-supported artistic production that surfaces how we might artfully engage with ambivalences and possibilities at the art–technology–disability nexus.

A (Brief) Cultural History of Human–Technology Relations: Vanessa Dion Fletcher’s words

Another, second dimension of the disability–technology interface brought to us by disability artists centers on how technologies and the relations that produce and regulate them come with cultural histories that shape difference. The “use” of language as a technology, for example, can both be a colonial tool in reproducing norms and reinforcing pathology, and also be a site for contestation and reimagining, modeling a blend of disability, technology, and creativity. To illustrate this, we draw on a film, *words* (2014), created by Indigenous neurodiverse artist, Vanessa Dion Fletcher (Lenape and Potawatomi). Dion Fletcher created this film as part of multimedia storymaking workshops hosted by the Re•Vision Centre for Art and Social Justice, the research center out of which BIT is run (Rice et al., 2018). During this workshop, artists experimented with sound, image, and video technology to unleash counter-representations that challenge normative ideas about what disability is, from the dominant culture and the mainstream disability rights movement.

Dion Fletcher’s *words* (view at <https://revisioncentre.ca/misfits-meet-art-and-technology>; Password: misfit) explores how being labeled as “learning disabled” due to her non-normative ways of spelling (related to her storing and processing of the written word) can occur only in a cultural context that places a high premium on writing. This film features a blank piece of white paper on which a pencil-wielding hand writes out homophones such as “hole” and “whole,” interspersed with sentences pulled from a psychologist’s diagnostic report in which the writer-speaker is being objectified. The film’s voiceover is of Dion Fletcher sounding out consonants and vowels as she works to put spoken words into written language, bringing us into the experience of being a neurodivergent person struggling to decode and sound text. By using homophones, she invites us to question our faith in the reliability of language as a reflection of the real (Dion Fletcher & Ferguson, 2021). As she contrasts the similar soundings of homophones with their different spellings and opposing meanings, she exposes the arbitrariness of relations that cultures create between meanings, soundings, and spellings, and in turn, of the arbitrariness of labeling her poetic politicized ways of spelling (and ways of processing) “disability.” The video asks us whether learning difficulty, as a diagnostic category, could have come into existence had Dion Fletcher not experienced violent dispossession from an Indigenous culture and tradition that privileges oral communication. She writes,

English is my first language, it is my only language, it is not my language. . . It was when I started school when language was taken out of my mouth and put onto the page that I started to understand it as a system. A complex system I could not control

and was constantly failing at. As an Indigenous woman, I learned the ways that language was used to alienate and oppress my family, my ancestors, and the ways it continues to oppress me, both as a cultural experience and a disabled experience. . . (Dion Fletcher, 2018, p. iii)

Since the genesis of disability studies as a field, scholars have been mapping the relationship between disability and technology, and more recently some have attended to disability as a colonial construct (Rice, Dion, & Chandler, 2021; Rice, Jones, et al., 2021). This recent disability studies' analysis is indebted to Indigenous scholars from diverse nations, including Tisawii'ashii Manning (Anishinaabe), Kelsey (Seneca), Lovern (Cherokee), and Mackey (Cheyenne) who have argued that a deficiency-based concept of disability was not part of an Anishinaabe, Seneca, Cheyenne, or Cherokee worldviews, nor did it exist within these communities and nations prior to the imposition of eurocentric colonizing knowledges. It thus follows that for Indigenous peoples, dismantling ableism must involve recuperating Indigenous ontologies and practices to reincorporate bodies of difference into the Indigenous body politic. This is an essential part of decolonizing disability studies (Rice, Dion, & Chandler, 2021).

Decolonizing disability studies also has to do with resisting visions of a future free of disability and funded to develop technologies that serve colonialism's neoliberal notions of a productive citizenry (Rice et al., 2017). Despite disability scholars' and activists' call for disability leadership and developers' acknowledgment that design centered on difference is "effective design," the development of user-centered design principles, such as barrier-free and universal design, has not translated into difference-led design in practice. According to Hamraie (2017, p. 18), while early struggles for access in disability activist movements resisted imperatives for normalization and assimilation as they pushed for accessibility legislation, the radical edges of this activism were smoothed out as inclusive design advocates attempted to "sell" accessible design to corporate interests and state regulators. In tracing this history, Hamraie uncovers a troubling development: The most effective, and perhaps the only, way to elicit the public and private sector buy-in needed to create accessibility legislation and ensure its compliance, has been through the universal design-popularized idea that "accessible design is good for everyone" (Hamraie, 2017, p. 19). Because of the ways that ableist logics continue to shape conceptions of the "all" (Goodley, 2014), the language surrounding accessibility has become so distanced from disability that those whose vantagepoints should be privileged in agenda-setting have remained peripheral, and in the case of Indigenous perspectives, almost completely effaced. Many designers and technologists have continued down the same assimilationist and curative road as their predecessors (Hamraie, 2017).

The evolution in thought demonstrated in Dion Fletcher's work follows debates that surfaced around the beginning of this century over whether technology would liberate disabled people by offering opportunities for fuller integration (Finkelstein, 1980; The Union of the Physically Impaired Against Segregation [UPIAS], 1976) or oppress and disempower, thus furthering people's isolation. In general, disability studies scholars and activists acknowledged the unstoppable wave of technology on the horizon but were cautious to embrace the promises of the technological/digital revolution. Critical of the *foreness* of technological advances (Ahmed, 2019), many were concerned not just with the possibility of a disempowered future or of an oppressive past, but also of a discriminatory present. They raised questions about technology's in/capacity to create change if discriminatory attitudes and practices persisted in its development and use (Cornes, 1991); technology's affordability and its role in delimiting access for disabled people (Illich, 1973; Sheldon, 2004); and technologists' design agendas and needs, specifically how these would be defined, and by whom (Johnson & Moxon, 1998). These concerns mirrored the disability movement's maxim "nothing about us without us" (Charlton, 1998) and its calls for maximal agency on the part of disabled people and allies in setting technology's agendas and directions. Contributing to disability studies' critique of investments in technology as normalizing and rehabilitative tools, Shew (2020, 2023) argues that as disabled people frequently use, depend on, or prefer life with technology (though not all can afford/access it), it is impossible to exclude disability experience from the design process altogether.

Although Dion Fletcher's non-normative ways of spelling typically are read as arbitrary, she explains that she capitalizes words that hold significance for her, thus overriding the rules of English grammar that require writers to capitalize only those considered significant (formal names, titles) to the hegemonic white settler colonial order, repurposing the *foreness* of technology of language toward her own use (for this same reason we refrain from capitalizing words like English and white). Dion Fletcher's film demonstrates how, just as humans act on technology, technologies, too, act on humans, and presence difference in ways that are unpredictable and unforeseen. These ideas—ideas that technologies, such as written languages and diagnostic tests might surface difference, and that emergent technologies might do so in yet-to-be imagined ways—expose the promises of technoableism (Shew, 2020, 2023) as misguided in its attempts to execute the ableist desire to expunge disability. This idea also opens possibilities for revisioning body-mind difference as a desirable way of being in the world. Dion Fletcher's creative use of communication technologies (writing, videomaking, diagnostic tests) might be thought of as emancipatory in highlighting ableist colonial relations surrounding the imposition of those technologies.

As such, her film brings into view settler colonial structures, including symbolic systems and knowledge regimes, that arrogantly insist on the superiority of English over Lenape or Potawatomi and of the written over the spoken word. The film repurposes the English language to produce a creative disruption—*dis-using* the master's tools, to play on Audre Lorde's well-known words, to dismantle the master's house (2003). This transmethodological mis or dis-use creatively surfaces differences in Dion Fletcher's way of processing and retrieving information (that colonial logics have subsequently devalued) and presences incommensurability between Indigenous and settler worldviews—between the former that affirms and latter that ranks and hierarchizes difference (Rice, Dion & Chandler, 2021).

Still, there is work to be done. Drawing on the work of disability justice activist Mia Mingus (2011), when we treat inaccessibility primarily as a logistical problem that can be solved by a technological intervention, we discount the ways that colonialism, anti-Black racism, and other forms of oppression intersect in disabled people's lives to delimit access to cultural life. Mingus's warning gestures toward what we call "technoeugenics" to refer to ability-enhancing technologies driven by visions of an improved human species—a contemporary manifestation of eugenic or "new-genic" (Malacrida, 2015) thought. Hendren (2020) draws attention to technoeugenic thought through the connection she makes between the 19th century institutionalized segregation of intellectually disabled people in the interest of progress—a demonstrably racist move in North America (Carlson, 2010)—and today's independence-driven technological development targeted at pushing disabled people toward the workforce. Ability-enhancing modes of thinking about technology deny any associations with 20th century eugenics movements; but they nonetheless aspire to "human betterment" in much the same way that eugenicists in the last century did—through technological developments aimed at eradicating difference in favor of creating fitter humans for a fitter nation (or corporation). Thus, while "TechnoAbleism" (Shew, 2018) refers to technologies that aim to fit disabled bodies into normative environments and understandings of/desires for the human, technoeugenics goes further: it seeks to enhance and perfect normative standards, where what is deemed as species-typical is "upgraded" such that the majority no longer qualify as normal. Technoeugenics draws attention, not just to the ableism that underpins technology's development, but also to the eugenicist drive for perfectibility that undergirds its trajectories. We orient to eugenics as a logic underlying technology development to trouble technologies ostensibly created to assimilate disabled people into normative society. Technoeugenics exposes that technology's trajectories are not apolitical but rather wrapped in racist, ableist, and colonialist ideals of human development and evolutionary "progress."

Techno Disruptions as World-Making: Deirdre Logue's *Admiring All We Accomplish*

Artists also collaborate to use technology in disruptive ways, crippling their intended purposes to presence disability and create new worlds. In this third case study, we see collaborative artistic approaches where art is both produced and accessed through the disability-technology interface in ways that exceed the "use" of technology to fix disability or to facilitate disabled people's inclusion into normative culture. In 2017, Tangled Art + Disability, a Toronto-based gallery dedicated to showcasing disability art and advancing crip curatorial practices, presented video artist Deirdre Logue's *Admiring All We Accomplish*, an exhibition co-produced by BIT. For this exhibition, Logue responded to Tangled's requisite to build accessibility into the artwork presented in the gallery by partnering with disability artist David Bobier. Logue and Bobier co-developed an artful approach to interacting with her video-work using his vibratactile technology (watch a video on this collaboration at: <https://revisioncentre.ca/misfits-meet-art-and-technology>; Password: misfit). Bobier co-leads BIT's work, exploring different ways that technologies can be used as affordances that facilitate disabled people's access to the arts by offering his expertise. As director of Vibrafusion Lab (London, Ontario), Bobier repurposes vibrotactile technology to crippled ends. Vibrotactile technology uses vibration to amplify the vibrations inherent in soundwaves to stimulate the tactile sense. It can be applied as a sensory substitution technology (e.g., converting sound into vibration) or as a stand-alone means of communication. On the BIT project, Bobier explores different ways vibrotactile technologies, motion tracking technology, face/voice recognition software, and the creation of disability-affirming virtual realities can produce installations, performances, and video art as well as an online knowledge platform that brings disability arts and disability culture to diverse and non-normative audiences.

Logue could have chosen to use assistive technology (e.g., Bluetooth technology that would allow wearers to hear audio description), which would allow disabled audiences to integrate themselves into the normative way to experience a gallery. Referring to our discussion of Papalia's *Long Cane*, this would cause disabled visitors to alter their embodied ways of being to leave the gallery and its expectation for how to experience the art undisturbed. Instead, she collaborated with Bobier to develop an alternative possibility: the duo created haptic extensions for each of the video pieces in her show. For example, alongside a row of monitors playing a series of Logue's videos, they built an accessible stage that vibrated in-sync with the sounds of the videos. The vibratactile technology installed in the stage amplified the soundwaves of the videos,

turning them into vibrations strong enough to be felt when standing, sitting, or lying on the stage. Through the vibrating stage, all audiences, including D/deaf, hard-of-hearing, blind and low-vision audiences, and wheelchair users were able to feel the video soundtracks through their bodies. These haptic extensions invited audiences to participate in Logue's video artwork in an immersive, multisensory way that challenged dominant ways of experiencing art. Instead of using technology to fix disability or to facilitate disabled people's inclusion into normative culture, Logue innovated existing technology by extending and enhancing audience's multisensory experiences of her video work. She used vibratactile technology beyond its intended purpose but consistent with how it has been used within a disability community of practice, established by Bobier and collaborators, to promote access to art—and to life—for crip community. Thus, Logue's use vibratactile technology was shaped by her disability politic and promoted an understanding of disability as vital.

Part of what makes Logue's videos so captivating is how they combine monotonous, mundane imagery, such as a static image of a screen door or a tight shot of someone dribbling a basketball, with a sensorially rich soundtrack, like fingernails scratching at a screen or the repetitive thud of a basketball being dribbled at close range, amplified throughout the gallery. The combination of imagery, sounds, and the vibratory sensations they produce are integral elements of these videos and cannot adequately be captured through an audio description or captions as an intermediary. In her video *Rubber Talk*, for instance, Logue chews on an inflated balloon until it pops in her face. For a sighted person who hears, this is a tense video to experience. The sounds and sights of her teeth chewing on the balloon, waiting for it to pop in her face, fills the body with a particular kind of angst. As the haptic extension for this video, Logue worked with Bobier to create a sculpture of a balloon that vibrated with apprehensive sound created by Logue as she chewed, a creeping vibration startled with a haptic jolt as the balloon popped.

To capture audience experience, Chandler visited Logue's show with blind artist Alex Bulmer so that Bulmer (2019) could review the exhibition. Although Logue had recorded an audio description of the show that audiences could access using headsets, Bulmer asked Chandler to provide live audio description while she held the haptic extensions as Chandler had previously seen the show and knew what to expect. The first time Bulmer watched the *Rubber Talk* video, she asked Chandler not to describe the visuals; she wanted to experience the installation using only her senses, which were heightened by the vibrations the haptic extensions provided. The second time they played the video, Chandler described the visuals. When the balloon popped on the screen, in Bulmer's hand, and in Chandler's description, Bulmer

exclaimed, "Oh that makes so much sense! Let's watch it again!" When they played the video a third time, Chandler held back on audio description and Bulmer re-experienced the art through sound, vibration, and her mind's eye. In discussing *Admiring All We Accomplish* after visiting the exhibition, Bulmer (2019, p. 152) described her experiences thusly:

When I, as a non-sighted person, am watching television or when I'm at a video installation that's being described, I am imagining the images on a screen. I'm not just sort of randomly thinking of them in my head. I'm actually imagining that experience of watching a screen with images. And what the vibrations did for me was, I wasn't just focusing on what was out there on a screen, I was actually very much aware of what was going on in my body.

By providing multiple ways of experiencing the work that anticipated and centered disability, Logue conveyed that there was no correct way, and therefore no incorrect way of experiencing the videos. The gallery's open-ended approach to access facilitated Bulmer's engagement with different access pathways (audio description, vibration, etc.) into the artwork that were offered in experimental sequences. As Bulmer and Chandler accessed this artwork together, the intended use of the vibrating extensions "changed hands" from Bobier and Logue's initial intention, to how Tangled imagined community members like Bulmer might engage with them, to how Bulmer and Chandler ended up using them, and in so doing, changed and reanimated the intended "usefulness" of the technologies (Ahmed, 2019, p. 39). This approach to access as affordance altered and extended the sensory field on offer within the gallery space, creating something new and giving visitors tactile experiences that brought them closer to the work (and given the status of touch as a privatized, intimate sense in the west's hierarchical coding of senses, closer to each other), laying the conditions for which we might "mingle with" the art and its many crip community-generated uses (Ahmed, 2019; Chandler et al., 2018).

Logue's collaborative work demonstrates that through disability arts, we can imagine different relationships between technology and disability, one in which disabled people mobilize technology to resist technoableist and technoeugenic desires to eliminate disability. More than this, attending to how disabled people purposefully use and disuse technology opens us up to imagining accessible worlds and creating transformational change toward disability liberation. Crip cultural practices enact a disruptive politic to create new cultural practices that center the ways that disabled people create and engage art. They also move beyond disruption to create technologies aimed at centering and extending the sensory worlds of non-normative experiences. Rather than trying to fit into a pre-shaped container,

disability arts, together with crip cultural practices, encourage transformational meetings in the very makeup of that container.

Culture-Making With Artful Technology: Creative Users Projects

Through their interactions as artists and creative technologists, Papalia, Dion Fletcher, and Logue, with their collaborators, creatively interfere with technologies and their intended uses to create artful ends. In so doing, they not only comment on body–world relations but *transgress* and *transform* those relations through *dis-using* technologies in ways other than those uses that correspond with their intended functions (Ahmed, 2019)—including colonial neoliberal logics and eugenic-normative motivations. Using technology in these artful ways makes and claims cultural space for non-normativity via new transmethodologies that capture the transgressive, transcorporeal intensity of access friction, crip cultural practices, collaboration, and other body–world relations that these creative technologists meet with varying artworks. The purpose of these projects is not to create better or more technologies as part of a curative imaginary, but to artfully experiment with technologies to create more affective, visceral, and enlivening artistic experiences/interactions/uses for artist and audience.

In cooperation with this experimentation, we turn to our fourth case study: artistic and technologically mediated culture-making practices by crip creatives rooted in a processual or neomaterialist understanding of disability. Neomaterialism holds that difference is not located in an individual bodymind but rather in the “intra-actions,” or ongoing exchanges that constitute people and their worlds (Barad, 2007). This perspective offers a relational way of thinking about the materiality of non-normative embodiments without essentializing or losing the important element of understanding how differences get produced in and through their ongoing worldly entanglements (Rice, 2018; Rice, Riley et al., 2021). A crippled neomaterialist frame analyzes how power shapes the relations of bodies and worlds to center (and normalize) some bodyminds at the expense of others, and re-imagines those relations discursively and materially to expand possibilities for what differences and worlds can become. For Garland-Thomson (2011, p. 592), bodies, like other organic and non-organic matter are “dynamic phenomena,” produced continuously through the entanglement of discourses with “the shifting forms of agency inherent in all materiality.” Rather than falling back into the “technoableist” praxis of developing technologies only to assimilate difference, our final case study, Creative Users Projects (CUP), foregrounds technological innovation and transmethodological creative culture-making practices enacted by and co-designed with disabled communities

working on technologies-to-be (Jones et al., 2021; Shew, 2020).

CUP is a Canadian disability-led, shape-shifting grassroots disability arts-focused organization wherein its founding artists take interest in the creative potential located in the ways that disabled people misfit with the world designed around us. Artists speak back to how disabled communities are described in the techno-design world as “extreme users”—a term commonly used in technology-driven discourse to describe disabled users as outside the norm. As CUP founder Lindsay Fisher (personal communication with Fisher, Nov. 16, 2014) explains,

[Our name] plays with the word “user,” a term used in inclusive design research wherein disabled people are commonly referred to as “extreme users.” Our vision was to build a forum where people can share their stories, be creative and explore what it means to be a *creative user* in a world that has been designed for one body. We believed that, given the space, opportunities, and the tools, we could transform how society relates to disability and difference and build a more inclusive future.

Implicitly aligning with a crip neomaterialist perspective that understands difference as emerging in the coming together, or misfit, of bodyminds and worlds, disability technology scholar Shew (2018, p. 3) notes that understanding disability-related technology “as merely about solving individual problems for individual people is to fail to see that bodies are never bodies alone. Every body has a context in which it sits—and our technological imagination must take that context into account.” Thus, although many technologies are designed with difference in mind, disabled people are often included in the process in the hypothetical only, as outlier or “extreme” users of technology, as a challenge which a design will prove its merit by meeting. Shew (2018, p. 47) offers a useful critique of this sort of hypothetical inclusiveness as she queries:

The notion that technology has the power to make people whole is seductive. But it also reinforces ableist tropes that work strongly against disability inclusion and flourishing. The stakes are real: this rhetoric informs the design of the world all around us, and the self-perceptions of disabled people themselves, who live with bodies that become stigmatized through our failures of technological imagination.

Drawing on Garland-Thomson’s misfitting metaphor, Hendren (2020) points to creative innovations that can emerge from the misfitting of disabled bodies “meeting” a world that is not designed for us. These creative innovations encompass wide-ranging inventions from high tech solutions, like a prosthetic arm nimble enough to tie shoelaces, to low tech solutions, such as an apparatus made from a reshaped clothes hanger to allow a father with one arm to

change his baby's diaper (Hendren, 2020, pp. 55; 67). Importantly, in disability-led design processes, disabled users challenge *foreness* by remaking the "meetings" of our bodies and worlds in ways that bring both the mundane and magical into play when (re)imagining a technology's *dis-use*. Working from the community's desires and mobilizing crip technoscience and difference-centered design, CUP's crip design interventions transform how we understand access problems and with it, how we imagine solutions: here fitting bodies of difference into normative systems carries far less value than working at the threshold where bodies and systems meet to open new pathways for cultivating and accessing crip cultural life.

CUP's latest project, Creative Connector on which BIT is a partner, is an example of "something new" that emerges from transmethodological work: a digital platform built by, with, and for disabled people to connect with accessible cultural events and with professional development, career, and networking/connecting opportunities in the arts and culture sector (<https://www.creativeconnector.art/>). Following practices that involve collective efforts—those which we think of through Hendren's (2020) concept of "meeting" a world not designed for us—CUP uses co-design to imagine, prototype, and user-test their platform with artists and community members. With disabled artists and technologists at the helm, CUP repurposes existing "human-centered" design principles using an iterative approach that we call *difference-centred design*; this praxis centers members of digitally disenfranchised groups such as Deaf, non-visual, neurodivergent, and intellectually disabled users in tailored workshops uniquely designed to surface the desires of each group. In conversations about accessing the arts, diversely-positioned users from urban and rural locations, recognize and contest their disenfranchisement and become energized in realizing that while colonial-ableist eugenics has attempted to normalize, contain and eliminate us, we produce culture and make significant contributions to create a shared cultural life. Lifting the political agency, vitality, and creativity of disabled people and centering our collective interests and desires for this platform, a technology meant to connect disabled people and extend our research across Canadian arts and culture, CUP's methods for technology design and development are informed by users' intersectional experiences with technology, access, art, and their place in the world (Jones et al., 2021).

A neo-materialist angle is useful for rethinking CUP's disability–technology interface because it allows us to theorize disability's materiality in nonessentialist ways that locate the "problem" of disability not in individual bodyminds but in its entangled relations—or mis/attunements—with the world. This also points to the agency of bodies and technologies in the making of the world. Such an approach, with its emphasis on the primacy of

relationality and the agency of all matter in the world's making, helps to account for the artful dynamism of the disability–technology interface—how ableist society develops and mobilizes technologies to contain/eradicate/neutralize difference, and how people (and technologies) act back in creative and counterhegemonic ways, both in presencing difference and repurposing technologies to configure worlds that welcome that difference in. Through this digital design example, we can rethink the "meeting" (Hendren, 2020) of non-normative bodyminds with worlds through people's sociomaterial encounters with art. In the context of disability art and specifically, of practices of criping the arts, disability artists' and curators' awareness of and response to the multiple, open-ended possibilities for this "meeting" leads to new and innovative responses, often using technology, which change the ways we create, exhibit, and experience art and how we understand art's impacts on bodies. In other words, crip culture-making through technology contributes to disability's aesthetic value (Siebers, 2010).

Conclusion: Creative Technologies as Transmethodology

As the four examples above show, doing access-expanding work at the disability–art–technology nexus requires the engagement of disabled people as leaders and co-designers in technology development and even more, using such technology to bring disability/difference to the fore. *Bodies in Translation* draws inspiration from disability design practices that welcome non-normative embodiments as vital to the design process. Working with technologies artistically to answer key questions at this interface surfaces new ways of imagining what embodiments and futures look like for disabled people. By meaningfully engaging with disabled people as artists, cultural producers, technologists, and arts audiences, we move away from assuming disabled people wish to conceal or rehabilitate our disabilities through technology. Instead of accepting that technologies might lead to the creation of more normative embodiments and futures for people who misfit with the world as given, we posit that different and proliferating ways of interfacing with the world offer us new pathways for being and becoming.

Mobilizing technology to create access refers not only to technology created by disabled people but also to the coming together of disabled people as creative technologists to innovate new technology praxis and aesthetics that create community and culture, and the coming together of disabled people to purposefully center disability experiences, studies, and politics to create access to art, culture, life. Given the saturation of our ableist cultural imaginary, society, and marketplace with curative technologies that promise to erase, expunge, or neutralize disability, the workings

of disabled artists are ever more urgent as they highlight an altogether contrary, less well traveled, but perhaps more vital path than that offered by techno-ableist practices at the disability-technology interface (Shew, 2020).

By focusing on technologically innovative practices undertaken by/with disabled artists “from the ground up” (Jones et al., 2021), we show how disabled artists’ difference-attuned (Rice, Cook, & Bailey, 2020) and access-expanding uses of technological engagement invite justice-oriented disruption that opens new possibilities for artful, non-normative, futures. The technologies they create and remake help us to delight in disability—to revel in its differentness, possibilities, and capacity to transform culture.

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Note

1. We recognize the distinctions, as well as the relationalities, between disabled, mad, Deaf, neurodivergent, fat, and aging artists and their embodiments, sensorial experiences, and communities. However, for the purpose of succinctness, we will refer to the art these groups produce under the banner of “disability arts” unless we are referring to a specific artist who does not identify as disabled.

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Eliza Chandler is an Associate Professor in the School of Disability Studies at Toronto Metropolitan University where she teaches and researches in the areas of disability arts, critical access studies, social movements. She leads a research program focused on disability arts and crip cultural practices. Chandler is also a practicing curator.

Fady Shanouda (he/him) is a critical disability studies scholar whose research examines disabled and mad students' experiences in higher education. His scholarly contributions lie at the theoretical and pedagogical intersections of Disability, Mad, and Fat Studies and include socio-historical examinations that surface the interconnections of colonialism, racism, ableism/sanism and fatphobia. He has published scholarly articles on disability/mad-related issues in higher education, Canadian disability history, the anti-fat bias in medicine, and community-based learning.

Chelsea Temple Jones is an Associate Professor in the department of Child and Youth Studies at Brock University in St. Catharines, Canada. Jones is also a senior research affiliate with Re•Vision: The Centre for Art and Social Justice at the University of Guelph. Her research in the areas of critical disability studies and communication studies focuses on the intersection of critical access, technology, and bodymind differences.

Ingrid Mündel is the Managing Director of the Re•Vision Centre. Ingrid holds a PhD in Literature and Performance Studies from the University of Guelph and is an experienced community-based researcher, facilitator, and educator with a particular interest in art-based approaches to community dialogue and social change. Over the last decade, she has worked on a number of projects in Ontario that link University research agendas with a range of social service, arts, and activist communities, and issues.