

INVITED REVIEW ESSAY

Crippling Feminist Technoscience

Feminist, Queer, Crip. By ALISON KAHER. Bloomington: Indiana University Press, 2013.

Disability in Science Fiction: Representations of Technology as Cure. By KATHRYN ALLEN. Palgrave MacMillan, 2013.

Seizing the Means of Reproduction: Entanglements of Feminism, Health, and Technoscience. By MICHELLE MURPHY. Durham, N.C: Duke University Press, 2012.

The Posthuman. By ROSI BRAIDOTTI. Cambridge, UK: Polity Press, 2013.

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In feminist technoscience studies (FTS), the term *technoscience* conveys that scientific knowledge and technological worlds are active constructions of entangled material, social, and historical agents. Feminist analyses of assisted reproduction, environmental harm, digital media, and cyborg bodies constitute some of the work of FTS, a close sibling of the new materialisms and post-positivist feminist philosophies of science. Technoscience is also a familiar object of inquiry for scholars of critical disability studies (DS). DS's historical, sociological, and philosophical engagements with medicine, the politics of design, selective reproduction, fictional cyborgs, and technology users make clear that DS and FTS scholars share at least some understandings of technoscience. However, whereas feminist disability studies has emerged as a field containing hybrid developments and reciprocal critical exchanges between feminist and disability theories of embodiment, knowledge, and ethics (Garland-Thomson 2011; Tremain 2013), the field of feminist disability technoscience studies is only on the cusp of emergence.

The missing ingredient, it seems, has been the technoscientific elaboration of *crip theory*. *Crip*, a concept paralleling the critical work of *queer* in sexuality studies, is a highly debated and contested term marking resistance to what Robert McRuer calls "compulsory able-bodiedness" (McRuer 2006). Crippling actively resists compliance with supposedly normal embodiment, behavior, and desired futures. Instead, it

understands disability as productive possibility and resource. The texts under review each provide a crucial puzzle piece imagining the futures of a crip feminist technoscience studies (CFTS). This field dwells with the insights of feminist materialism and FTS while also remaining attentive to what types of difference and embodiment are valued, omitted, or normalized when we talk about disability, objectivity, and technology. Read together, the four books braid ethical and political concerns with diverse methodological tactics that will serve CFTS well as it becomes a recognized trajectory for critical and activist inquiry.

Alison Kafer's *Feminist, Queer, Crip* is a technology that produces, organizes, politicizes, and mobilizes critical studies of technoscience. That is, it is not merely a material object, a set of well-researched scholarly arguments, or a helpful teaching tool (though it is all of those things). Rather, *Feminist, Queer, Crip* is an agentive tool and demonstrative manifesto of crip futurity. Kafer weaves her own politicized, embodied experiences through savvy engagements with familiar theorists, including Jodi Dean, Jasbir Puar, Laddelle McWhorter, José Esteban Muñoz, Lee Edelman, and Heather Love, leaving no doubt about the crucial place of crip analytics in the canon of feminist and queer critical social, political, and literary theories. The book earns its place in this canon on its own terms: through a series of active demonstrations of what a feminist queer crip analytic can do to create accessible futures. Kafer's overarching theme—that we should agitate against the depoliticization of disability in our understandings of futurity—reaches out of the text into the lifeworld, where feminist, queer, and crip activists build coalitions to create environmental and reproductive justice, liberate disability-shaming billboards with spray paint, find restrooms that disabled and gender nonconforming people can access, and invite readers to reach back in and take part.

Of particular interest to queer theorists, bioethicists, and activists alike, the first several chapters distinguish between curative time (the temporality of medical treatment, nostalgia for able-bodied pasts, and a eugenic impulse for a disability-free future) and crip time (the alternative temporalities of crip embodiment, reproduction, and engagement with social and built environments). Crippling Edelman's *No Future*, Kafer shows us that the expectations of reproductive futurity also operate through compulsory able-bodiedness and able-mindedness, framing cure and elimination as the ideal and preferred future for disabled people, characterizing disabled lives as not worth living, and writing the lived realities of the most marginalized people out of the present. In a series of case-study chapters—on the “Ashley Treatment,” consisting of growth attenuation procedures for a developmentally disabled girl referred to as “Ashley X”; bioethical conflicts over Deaf lesbians attempting to conceive a deaf child (put in conversation with Marge Piercy's feminist utopian novel, *Woman on the Edge of Time*); and the Foundation for a Better Life's billboard campaign promoting personal overcoming and representing disability as tragedy—Kafer's meticulous feminist and queer analyses of news media, literature, and visual and medical representation reveal that the tensions in all of these cases emerge from conflicts over the existence of disabled people in ideal futures.

The book's fifth chapter, “The Cyborg and the Crip,” lays a sophisticated yet radical foundation for what I am calling CFTS, providing the most accessible, concise,

and rigorous critique of Donna Haraway's cyborg concept, and its circulation within feminist theories, to date. In their attempt to celebrate a post-essentialist hybridity of body, identity, and machine, Kafer insists, cyborg theories actually depoliticize disability. That is, rather than understanding disability as a construction of medical knowledge and inaccessible worlds, FTS scholars conflate disabled people with cyborgs and use their bodies as evidence of an inevitable post-human future. As a result, "'cyborg' and 'physically disabled person' are seen as synonymous. Or, rather, that 'person with physical disabilities' is a self-evident, commonsense category of cyborgism" (105). By contrast, Kafer reminds us of the serious economic, physical, and functional barriers to accessing and using adaptive technologies, which often leave disabled people with an "ambivalent relationship to technology" (119).

Rather than eschewing technology altogether, Kafer shows us what a CFTS analytic can do: "Crippling the cyborg, developing a non-ableist cyborg politics, requires understanding disabled people as cyborgs not because of our bodies (e.g., our use of [adaptive technologies]), but because of our political practices" (120). Crip feminist technoscientific practices thus include those that politicize disabled people's relationships to technologies produced by the military or pharmaceutical companies, while valuing the technoscientific activism that has characterized disability rights history. Such activism includes demands for accessible worlds, technologies that resist compulsory heterosexuality and able-bodiedness, DIY technology activism, and disabled people's use of technologies as diverse as the internet and wheelchairs to participate in political actions.

In the final two chapters, Kafer crips environmental justice by drawing upon a foundational claim of DS: that environments—both natural and built—are actively constructed rather than given. Knitting together feminist materialism, eco-critique, critical race theories, and disability cultural production, Kafer demonstrates the possibilities for crip eco-politics that "take disability experiences seriously, as sites of knowledge production about nature" (148). She builds upon this engagement with "environment" and "nature" by exploring crip possibilities for environmental politics and activism: crip, anti-ableist environmental justice and reproductive justice work, which foregrounds race and class analysis alongside feminist and disability politics, and "restroom revolutionaries" working toward restroom access for crips and gender nonconforming people. In all of these cases, concrete examples of art, cultural production, and activism underscore that creating accessible futures requires understanding disability as a critical technoscientific phenomenon grounded in a relational politics of interdependence.

Whereas Kafer foregrounds real life disabled people, new work in disability science-fiction studies catalogues the normalizing role of technology in literature, television, and film. An edited volume of work by junior, senior, and independent scholars, many of whom are new to DS, Kathryn Allen's *Disability in Science Fiction: Representations of Technology as Cure* marks an important milestone for CFTS: the entrance of the social-constructivist model of disability into science-fiction scholarship. Scholars in DS and FTS will be especially interested in Allen's critical introduction and several theoretical chapters, most notably those by Antonio Cascais, Joanne

Woiak, and Hioni Karamanos, which demonstrate the theoretical purchase of crip critiques of cure, rehabilitation, and enhancement. Echoing Kafer, Allen reminds us, “the impulse to imagine our future selves as post-human paragons ignores the lived realities of the various bodies that rely on prosthetic technology today in ways that are mundane, visceral, and difficult” (11). Thus, although focused on fiction, the volume serves as a constant reminder of the ideological and cultural work of representation for nonfictional disabled people.

Although rarely engaging directly with feminist, queer, or anti-racist theories, the essays in *Disability and Science Fiction* capture the value of DS for technoscience scholarship. Most of the authors draw upon a canonical set of disability theorists. Their (fairly uniform) field-building work thus consists of matching disability theories to textual examples (rather than producing new disability theory). Hardly a scholarly limitation, this consistent elaboration of the social model renders the volume as a whole more teachable. A course on disability science fiction could very effectively assign a few key DS texts alongside these essays and their primary sources, which include *Star Wars*, *Avatar*, *The Bionic Woman*, *Flowers for Algernon*, and the novels of Octavia Butler.

The volume’s constructivism also displays the range of what a CFTS analytic can do. From chapters on prosthetics and cyborgs (by Donna Binns, Netty Mattar, and Brent Cline) and physical disability (Ralph Colvino and Leigh McReynolds) to architecture (Robert Cape Jr.), autism (Christy Tidwell), and genetic disability (Gerry Canavan), the volume’s variety of engagement makes it exciting to imagine a next wave of disability science-fiction studies. Following Kafer, this work could engage with science fiction through critical feminist, queer, and crip theories of embodiment, futurity, and normalization. We can also imagine future work in this area that incorporates feminist technoscience theories, which show us that the adaptation and reuse of technology can subvert logics of cure and normalization to serve activist political purposes.

A text foregrounding precisely such technoscience activism, Michelle Murphy’s *Seizing the Means of Reproduction: Entanglements of Feminism, Health, and Technoscience*, contributes to feminist-materialist, crip, and anti-racist FTS through a critical history of the 1970s women’s self-help movement in California. Murphy focuses on feminists as agents of technoscience, coining the term *procedural feminism* to describe the ways that they “appropriated, revised, and invented reproductive health care techniques” (1). Feminist procedural activists used technoscience to practice epistemic activism, contest medical objectivity, and make “technoscientific counter-conduct” (3) a key method of feminist praxis. In a fresh reading of both familiar and forgotten spaces, such as feminist health clinics (chapter 1), practices, such as group cervical exams (chapter 2), and technologies, such as Pap smears (chapter 3) and low-tech menstrual self-regulation devices (chapter 4), Murphy vividly and accessibly renders, through storytelling and archival images, the assemblages of feminists and technologies that produced the women’s health movement.

Crucially, Murphy shows how enacting technoscience as activism can mobilize affective economies and posit alternative epistemologies (cleverly termed “immodest

witnessing”). A more general notion of procedural activism, modeled on Murphy’s procedural feminism, could be a core concept for CFTS, describing the politicized technoscience activism that Kafer so carefully locates in her crip cyborg theory. Using Murphy’s concept as a guide, we can imagine crip feminist technoscience scholarship about how the design, invention, and use of tools, machines, and even built environments can become a site for crip “hactivism” (such as disabled people self-inventing adaptive technologies, designing accessible restrooms, and developing low-cost, 3D printed prosthetics).

Murphy’s most elegant, attentive, and significant contribution is her diligent attention to race and the construction of whiteness in feminist attempts to do technoscience. Even when race does not appear intelligible as a factor in feminist technoscience, Murphy shows that whiteness nevertheless circulates to produce privilege, access, and self-determination for white US feminists and to deny epistemic and political agency to women of color, both domestically and internationally. This framing is the crucial thread that connects the book’s chapters on self-help clinics, group cervical exams, Pap smears, and the differential framings of reproductive technologies promoted domestically for individualistic freedom but internationally to curtail fertility and population growth.

Murphy’s attention to the critical geographical concept of scale enables this layered reading of the Cold War-era biopolitics of race, fertility, pregnancy cessation, and calculated reproductive health risks. Each chapter is a teachable case study, but the persistent threads of race, feminist, and technoscience analysis woven throughout are an impressive methodological demonstration. Murphy seamlessly executes her analyses of assemblage, using shifts in scale to identify actors, networks, and technologies mobilizing feminist self-help. Although human agency is still its central focus, this methodological complexity and rigor makes the book a crucial contribution to feminist materialism and post-humanist studies of technology.

Whereas Murphy turns to the past to find protocol activism, Rosi Braidotti’s *The Posthuman* shows us how to use the tools of feminist philosophy to frame technoscientific futures beyond what (following queer and crip critique) we can think of as compulsory humanity. Through a Spinozist, materialist, monist, and (at times vertiginous) nomadic approach, Braidotti produces a methodically crafted argument. As in Murphy’s book, the chapters each work at a different scale, progressing through constructions of the human self (through figures such as the Vitruvian Man), life beyond compulsory humanity, population-level biopolitics, and the possibilities for the future of humanistic disciplines and higher education in a post-human world. At all scales, the post-human is “a relational subject constituted in and by multiplicity. . . express[ing] an embodied and embedded and hence partial form of accountability, based on a strong sense of collectivity, relationality, and hence community building” (49). This description echoes feminist materialist theories emphasizing entanglement and material agency (such as Karen Barad’s agential realism), as well as Kafer’s political-relational model of disability and Murphy’s historical mapping of assemblages. What distinguishes Braidotti from Kafer and Murphy, however, is a conception of

agency modeled on *zoe*, an understanding of living organic matter—both human and nonhuman—as “intelligent and self-organizing” (60).

Post-human challenges to the anthropocene are inevitable, Braidotti tells us, and entangled with technologies promoting life and destroying it. Here, the feminist cyborg concept appears to mark the inevitable shift to a post-human world: “We can therefore safely start from the assumption that the cyborgs are the dominant social and cultural formations that are active throughout the social fabric. . . . The Vitruvian Man has gone cybernetic” (90). The evidence? Prosthetically-enhanced humans such as the disabled Olympic runner Oscar Pistorius (196), “figures of mixity, hybridity, and interconnectiveness” (curiously described as “transsexual” or “androgynous”) (97–98), and even the “fast-changing field of disability studies [which] is almost emblematic of the post-human predicament” (146). These characterizations, common in the tradition of feminist cyborg theories, leave us to wonder what role body–technology interfaces may play in a post-human future besides serving as what Allen calls “post-human paragons” (11). But, Braidotti assures us, the post-human future implicates all of us as we interface with the proliferation of everyday technologies, such as smartphones, and the advanced use of drones, genetic engineering, and other technologies with violent and even eugenic possibilities.

The book’s most surprising and original contribution comes when Braidotti takes familiar post-humanist arguments into new territory by discussing the futures of disciplines and the university system. In the future “multi-versity,” she predicts, traditional humanities disciplines will be replaced with post-humanities: “Humanistic Informatics, or digital Humanities; Cognitive or neural humanities; Environmental or sustainable Humanities; Bio-genetic and Global Humanities” (184). This vision of the future is timely given the ongoing attacks on the humanities, and philosophically justifies scholarly interest in fields such as animal studies and eco-criticism by granting them a place in the multi-versity to come. As recent university politics demonstrate, however, the future is now and the shift toward the post-humanities has begun as an effort to shore up, rather than to render problematic, the corporate, revenue-generating university. At Emory University, for instance, visual studies, journalism, and graduate programs in education studies, the interdisciplinary liberal arts, and Spanish were cut to create new technoscience-driven programs studying contemporary China, digital media, interdisciplinary neuroscience, and global health. As critics noted, the Emory administration privileged the technoscientific novelty of these fields in its decision-making, but failed to anticipate the disproportionate impacts of restructurings on marginalized students and scholars, particularly nontenured faculty and people of color (Sullivan 2012). Recent events should make us seriously evaluate whether a post-human multi-versity can avoid casting such displacements as inevitable or neutral, and instead maintain technoscience as a productive site for crip feminist futures. How will digital, neural, environmental, and global humanities avoid reproducing the systematic racist, sexist, heteronormative, and ableist hierarchies existing within universities today? Rather than emphasizing new neoliberal disciplines with the greatest revenue-generating possibilities, we could imagine a multi-versity that values critical post-humanistic scholarship and teaching on feminist, crip, anti-racist, and queer notions of interdependence.

Rather than valorizing digital humanities for temporally syncing us with an inevitable cyborgian future, we could imagine a role for CFTS in training students to build accessible digital worlds, foster digital scholarship on access and inclusion, and receive funding commensurate with the goals of facilitating economic and functional access to new technologies, particularly for women, people of color, and disabled people. Braidotti invites us to think about how technoscientific shifts—particularly shifts in how bodies and societies interact with technological possibility—produce new forms of relational and procedural politics, although the broader implications of these politics for accessible crip futures remain to be determined.

The texts under review mark histories, futures, and fictions of technoscientific enactment, with high stakes for bodies typically excluded from ideal futures. The task of the emerging field of CFTS will be not only to politicize the lived realities of people with and without access to technology, but also to use crip feminist insights to agitate against compulsory normalcy. Following recent feminist technoscience projects of making, hacking, and designing, CFTS, too, should not only concern itself with critique, but also with crafting practices of design and world-building, enacting crip feminist technoscience to create more accessible futures.

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