

DISABILITY HISTORY

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Over twenty years ago, Douglas Baynton summed up the relationship of disability to history, an assessment which also applies to the history of science: "Disability is everywhere in history, once you begin looking for it, but conspicuously absent in the histories we write."¹ Baynton's thesis appeared in Paul Longmore and Lauri Umansky's *The New Disability History*, a landmark 2001 anthology that positioned disability as an analytical framework and contingent term akin to gender, sex, race, and class. The statement became a rallying cry for a new historical subfield, building on decades of disability activism. "Disability history" distinguishes itself from "the history of disability," traditionally located in the history of medicine or education, wherein disabled people are depicted as anonymous patients or passive "victims"; disability is imagined to be the sequelae of disease or injury rather than a temporally and culturally complex phenomenon; disability categories and terminology are largely taken for granted and applied to historical cases in a presentist manner; and disability seems disconnected from the historian, the archive, librarianship, and research or interpretive methods.² Disability history, on the other hand, takes disability not just as a "topic to be studied, but rather a tool of analysis," as Catherine Kudlick asserts. Disability historians pursue an "understanding of all the elements, including politics, economics, and culture, that shape relationships for the disabled."³

While the histories of technology and medicine have taken disability history "turns" during the past two decades, exchanges between the history of science and disability studies have been notably slower to emerge. Covering a wide temporal scope, from the ancient world to

¹ Baynton, "Disability and the Justification of Inequality."

² On librarianship, specifically, classification and description and the ways they can mislead historians and inform problematic narratives about disability, see Rosen, "Disability in the Library and Librarianship."

³ Kudlick, "Social History of Medicine and Disability History." For a related argument about "disability anthropology," see Rogers, "Syndrome in Search of a Virus."

the present, the 2024 *Osiris* volume we edited on “Disability and the History of Science” marked a new field by discussing knowledge production about physical and behavioral difference in disciplines ranging from mathematics to public health to the social sciences.⁴ The volume’s authors also produced histories of seemingly ahistorical disabilities and “universal” scientific concepts as impairment.

One of the most complicated topics at the intersection of disability history and the history of science remains disability expertise. Whether in laboratory research or historical epistemology, disability has been a frequent object of investigation, made to yield generalizable truths. Scientists manufacture and mine impairments for insights into physiology, but disability is not usually imagined to be the seat of insight itself. By most accounts, science defines disability, not the other way around. If modern science is defined as a rational, replicable, systematic approach to gathering data, defining facts, and making universal truth claims, disability is more often associated with irrationality and variance, the particular and the minor. Although popular stories about disabled scientists are becoming more common, disabled people are extremely underrepresented in the scientific professions today. When disability history is placed in conversation with the history of science, the boundaries between scientific, lay, and disability expertise are called into question. A “disability history of science” also foregrounds disabled science workers, disability epistemology, and what we call *disability sciencing*: engagements with scientific tools, terms, and processes that center disability.⁵

DEFINING DISABILITY

When disability typically appears in the annals of science it is an aside, or one among many encyclopedic details, rather than part of a sustained disability analysis. Just as often, disability serves a purely rhetorical purpose, a tendency David Mitchell and Sharon Snyder call “narrative prosthesis”: the use of impairments or disabled people as discursive props to convey a lesson, explain a motivation, or otherwise reinforce an argument.⁶ Disabled figures rouse sympathy, inspire wonder (as Jessica Martucci discusses in terms of the “supercrip” scientist⁷), warn of dystopian scientific consequences, offer a perfunctory tribute to diversity, act as shortcuts or stock characters (“the mad genius”), or serve as thought experiments in deductive reasoning about the senses or past human behavior.⁸ In the sciences themselves,

⁴ Viridi, Mills, and Rose, eds, *Disability and the History of Science*.

⁵ After arriving at this term independently, we found that it had been coined by anthropologist Leslie A. White in the 1938 article “Science Is *Sciencing*.”

⁶ Mitchell and Snyder, *Narrative Prosthesis*.

⁷ Martucci, “The Supercrip in the Lab.”

⁸ On rhetorics of disability in popular photography, see Garland-Thomson, “The Politics of Staring.”

disability and its rehabilitation are often a conjectural justification for grant funding (e.g., “broader impacts” statements in National Science Foundation grant applications) or a false advertisement for new products. Mara Mills has described this as an “assistive pretext”: the use of disability as a pretense, or as a mere precursor (test case) for research ultimately directed at other goals or markets.⁹

Disability is a commonplace of human existence, even if its definition varies across time and culture, hence the “everywhereness” of disability in history. Myths about disability in the published record, however, obscure the details of past disabled lives and the particular social conditions in which they were lived, as Eric Harvey discusses.¹⁰ Such myths can also obscure the actual uses of assistive devices or the harms caused by research and industry. In certain cases that Stacey Milbern terms as “access washing,” the benevolent rhetoric of aid for disabled people is used to cover up harms to other groups (e.g., weaponizing the Americans with Disabilities Act of 1990 to justify the removal of unhoused people from public spaces or the closure of voting sites).¹¹ Mitchell and Snyder call this the “double bind” of disability representation: disability is ubiquitous as a symbol, metaphor, or basis for analogy across many written genres, but as a historical fact, disability rarely receives prolonged or critical attention.¹²

In another rhetorical mode, historians of science working in the tradition of historical epistemology have used disability as a foil in proofs showing that certain phenomena, such as madness or “sexual deviance,” are not-disabilities but casualties of epistemic violence. Historical epistemology, defined by Lorraine Daston as “the history of the categories that structure our thought, pattern our arguments and proofs, and certify our standards for explanation,” draws inspiration from Michel Foucault’s work on “the history of the ahistorical.”¹³ Historians taking this approach might characterize specific epistemes (governing logics) at different moments in the history of science; describe the cultural context of scientific categories (e.g., rationality) that create the “conditions of possibility” for the present; or uncover the “styles of reasoning” and collusions of knowledge and power that bring particular phenomena into existence. Daston points to Ian Hacking and Arnold Davidson as exemplars of this method, two scholars for whom disability has been “good to think with.”¹⁴ Similar to theories of medicalization and “the social construction of x,” historical

⁹ Mills, “Deaf Jam.”

¹⁰ Harvey, “The Blind and Their Work in Mesopotamia.”

¹¹ Milber, “Notes on ‘Access Washing.’”

¹² Mitchell and Snyder, “Double Bind of Representation.”

¹³ Daston, “Historical Epistemology,” 282; Daston, “Science Studies and the History of Science,” 810.

¹⁴ Lévi-Strauss, *Totemism*. As one example from Hacking, see “Making Up People.”

epistemology has revealed particular disabilities to be contingent on the cultural order, while leaving intact the broader category of disability itself.

For instance, in Davidson's work on the emergence of sexuality, he concludes that "sexuality itself is a product of the psychiatric style of reasoning" that taxonomized "perversions" as sexual rather than anatomical, while linking them to diseases or disorders.¹⁵ One of his cases is a photograph (fig. 1), taken from James Shaw's 1903 psychiatric textbook *The Physiognomy of Mental Diseases and Degeneracy*, of a person labeled "deaf-mute," with a "sexual perversion" marked by "effeminacy."¹⁶ While arguing that the diagnosis of "sexual perversion" was brought into being by modern psychiatry, Davidson makes no remark at all about the "deaf-mute" label. We are left to assume that deafness (even "deaf-muteness") is a timeless disability, one that does not require analysis or inspire curiosity. As a presumably "anatomical" phenomenon, it seems to bear no relation to the modern emergence of sexuality against the backdrop of sexual perversion, other than to reinforce the pathologized frame. More to the point, "real" disabilities are often required for the rhetorical acrobatics of historical epistemology to land: *I will now demonstrate for you that X is not really a disease, a disorder, a disability.*¹⁷ In the smiling photo of Shaw's case, two nonapparent but stigmatized disabilities are ambiguously interconnected in the caption; Davidson shows one to be an artifact of the history of science, treating the other as somehow self-evident.

Disability historians expand the work of historical epistemology—and what Hacking calls historical ontology—to offer social context for the seemingly transparent disability categories established and naturalized by the modern sciences.

¹⁵ Davidson, "Sex and the Emergence of Sexuality," 23.

¹⁶ Davidson, "Sex and the Emergence of Sexuality," 36.

¹⁷ Disability activists have chastised the efforts of groups who appeal for demedicalization by contrasting their traits or identities to disabled others—who, by implication, are deserving of medical labeling and stigma. Baynton, "Disability and the Justification of Inequality," 50–51.

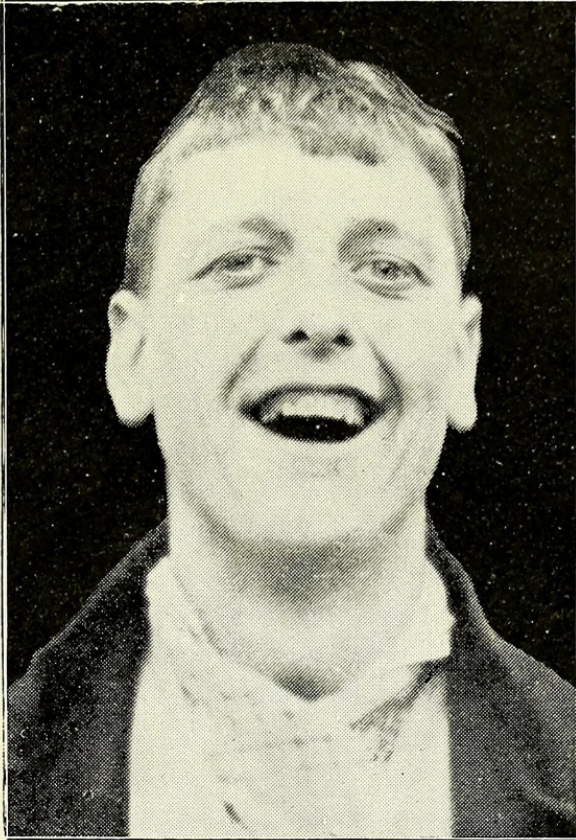


Fig. 31.—Sexual Perversion with Deaf-Mutism.

Figure 1: A headshot of a young, white person with short hair who is wearing a blazer and smiling. Below the photo, the caption says "Fig. 31—Sexual perversion with deaf-mutism." James Shaw, *The Physiognomy of Mental Diseases and Degeneracy*, 1903. In the public domain. Also reprinted in Arnold Davidson, "Sex and the Emergence of Sexuality," 36.

EXPERTISE AND "SCIENCING"

Disability history in the context of history of science also emphasizes the roles that disabled people have played in knowledge production and scientific work. Disability is rarely imagined to be the source of expertise, especially the kind of expertise that produces (rational, neutral, universal) scientific facts and theories. Building on the idea of "lay expertise," disability studies scholars and activists have recently coined the terms *disability expertise*, *disability gain*, and *disability activist affordances* to emphasize the knowledge, skills, methods, and technology arising from disability experiences and relations (e.g., interdependence or activism).¹⁸ Studies of patient expertise, popularized in medical sociology in the late 1970s,

¹⁸ On deaf gain, see Bauman and Murray, eds., *Deaf Gain*. On disability expertise, see Hartblay, "Disability Expertise"; on activist affordances see Dokumaci, *Activist Affordances*.

in fact spurred the wave of scholarship on “lay experts” in science and technology studies (STS) in the following decade. Interest in lay expertise was powered by “patient-centered medicine” and calls for patient involvement in describing illness and making healthcare decisions, as well as broad critiques of the “antidemocratic” tendencies of “expert culture.”¹⁹ Historians of science have now published abundant case studies of “lay participation in science” by amateurs, artisans, students, “citizen scientists,” and science workers of all kinds. At the same time, they have historicized the notion of expertise itself. Jeremy Vetter, editor of a special issue of *Science in Context* on lay observation, concludes that there was an “increasing hardening of the distinction and hierarchy between lay and expert by the late nineteenth century.”²⁰

Disability expertise is grounded in personal and community experience, whether that be embodiment and illness or creative responses to “mis-fit” in an ableist built environment.²¹ Yet disability expertise mostly appears in narratives of medical and technical intervention or innovation, where it participates in a “hierarchy of expertise” involving (nondisabled) life scientists, physicians, corporations, and other powerful actors.²² It is rarely seen as carrying the authority or generalizability to produce scientific facts and theories, especially in fields where the object of study is not directly related to disability. Addressing the problem of epistemic hierarchies, Robert Kohler has contrasted “cosmopolitan knowledge” with “residential knowledge.”²³ Vetter suggests replacing the place-bound term *residential* with *experiential*, arguing that experiential knowledge (which is often community expertise) “may help scholars overcome problems with previous categories that are often contrasted with the general and universal in scientific knowledge, such as local, folk, traditional, or [I]ndigenous. Such terms have been criticized for their tendency to privilege science over other knowledge systems.”²⁴ Often theorized in relation to science and technology, disability expertise might also be musical, or artistic, or representative of any number of other fields. Far from a binary, scientists routinely incorporate or compel disability expertise—by patenting, pirating, commandeering, collaborating, testing, and otherwise capitalizing on experiential knowledge and disabled labor.²⁵

¹⁹ Prior, “Belief, Knowledge, and Expertise,” 43.

²⁰ Vetter, “Lay Participation,” 137.

²¹ Garland-Thomson, “Misfits,” 593.

²² For an early use of the phrase “hierarchy of expertise,” see Hilgartner, “Dominant View of Popularization.”

²³ Kohler, *All Creatures*, 184.

²⁴ Vetter, “Lay Participation,” 132.

²⁵ See, for example, Susan Schweik, “Archaeology of the ‘Feebleminded.’”

We suggest that disability also entails the kind of insight about norms and bias in infrastructure or protocols that comes from exclusion. As with other subjugated knowledges, to borrow an argument from standpoint feminism, one often “sees better from a standpoint of oppression.”²⁶

Nevertheless, expertise carries certain pitfalls for disability scholarship, as it can seem to require conventional intelligence, agency, authority, training, or results-driven kinds of inquiry.²⁷ Meant to acknowledge epistemic hierarchy and injustice, lay expertise can seem to reinforce status distinctions and privilege modern science. Social scientists and disability studies scholars alike have often extended expertise to additional groups without critiquing the concept itself. Expertise limits our understanding of the pervasiveness of science in everyday life—what science is and could be. To think beyond expertise, we propose *sciencing* to describe the vastness of engagement with scientific theories, ideas, activities, and methods.

Sciencing is a word coined in the 1930s by Leslie White, a founding figure in the University of Michigan Department of Anthropology, to describe certain academic disciplines and their habits of mind. Although we differ from White in our use of the term, we share his interest in imagining science as a verb, “a way of behaving.”²⁸ *Sciencing* has recently been appropriated and revised by K–12 science educators to refer to techniques such as prediction, data collection, testing, and natural history. With a similar emphasis on practices, in our volume *sciencing* encompasses organized interventions into the physical world before and beyond modern and Western science.²⁹ It is done by professionals and nonprofessionals; we do not see the term as synonymous with popularization.

Just as *tinkering* has been ranged alongside engineering in the history of technology, *sciencing* makes room for open experiments, citizen science, and crowdsourced observations. Everyday people discuss, debate, test, rehearse, and tacitly or formally learn scientific concepts from a young age. To study disability *sciencing*, one is not limited to expertise or monumental paradigm shifts and theory-production. It also includes processes devised by disabled scientists, to make their work *work* within ableist labs and field environments.

²⁶ Asdal, Brenna, and Moser, “Politics of Interventions,” 19.

²⁷ In her contribution to *Osiris* 39, Susan Schweik notes the problem of conflating expertise with “critical innocence.” See Schweik, “Archaeology of the ‘Feeble-minded,’” 146n58.

²⁸ *Sciencing* “is a *process* (verb) and not an *object* (noun).” White, “Science Is *Sciencing*,” 372. In a similar manner, Christopher Small deploys the term *musicking* as a verb. See Small, *Musicking*. See also *linguaging* in Henner and Robinson, “Unsettling Languages.”

²⁹ See, for instance, Cain, *Sciencing*.

Emerging scholarship similarly emphasizes that disability and disability expertise alter historical method. The contributors to *Osiris* 39, for instance, claim new sources and interpretation techniques for the history of science, overturn familiar narratives, apply disability analyses to established archives and concepts (impairment, invisible disability, safety), investigate premodern and non-Western terms overlooked by Anglophone disability studies, and discuss accessibility issues for disabled historians. The authors read against the grain to address the problem of characterizing disability history despite archival and popular mythologizing or along the archival grain and along the bias grain to factor in corrupt sources and archival absences.³⁰ For instance, in the article “Enumerating Infirmity: Disability, Demography, and Empire, 1820-1950,” Aparna Nair discusses research strategies for disabled historians, specifically the democratizing effect of digital sources for those unable to travel for various reasons, and the new digital archives (e.g., census records) that disabled historians can turn to for developing disability histories of science. And in “The Blind and their Work in Mesopotamia in the Third and Second Millennia BCE,” Eric Harvey takes on the problem of entrenched literary myths about blindness, extending from antiquity to the present on a nearly global scale, arguing that newly-translated accounting records offer a more representative portrayal of blind people’s lives as workers in the ancient period. Many other contributors reckon explicitly with the violence and erasures of the bureaucratic, medical, imperial-scientific, and institutional archives and images on which their arguments rely.

DISABILITY HISTORIES OF TECHNOLOGY AND MEDICINE

If disability histories of science are limited, there are now abundant disability histories of medicine, design, and technology.³¹ Before historians of technology and medicine began integrating disability perspectives into their work, disability activists and theorists in the humanities were critically engaging with those fields, as well as media studies and STS. Disability theorists cataloged omissions and biases: rampant misrepresentation of disability (e.g., metaphoric uses of “prosthesis” and “cyborgs”); lack of diversity in narratives of design and technological use; sentimentalizing, objectifying, or otherwise stigmatizing histories of medicine; and problems of scholarly access.³² A watershed for disability histories of technology and medicine was the publication of *Artificial Parts, Practical Lives: Modern Histories of Prosthetics*, edited by Katherine Ott, David Serlin, and Stephen Mihm, in 2002—

³⁰ Stoler, *Along the Archival Grain*. For “reading along the bias grain,” see Fuentes, *Dispossessed Lives*.

³¹ Linker, “On the Borderland”; Williamson and Guffey, *Making Disability Modern*; Fritsch et al., eds., “Crip Technoscience”; Hamraie and Fritsch, “Crip Technoscience Manifesto.”

³² Mitchell and Snyder, “Double Bind of Representation,” 2, 7–8; Longmore and Goldberger, “The League of the Physically Handicapped”; Kafer, “The Cyborg and the Crip: Critical Encounters,” in *Feminist, Queer, Crip*, 105, 118.

one of the first collections to insist that so-called assistive technology *is* technology and should not be marginalized in either engineering or the humanities.³³

Following this publication, dozens of monographs, journal issues, and edited collections have highlighted disability making, engineering, computing, hacking, maintenance, and repair—ranging from accommodations to more minor or radical forms of technology design and activism. New research has centered the experiences and contributions of disabled people, or examined the ableist rhetorics and policies that underpin design, marketing, and tech work.³⁴ Scholars working at the crossroads of disability studies, STS, history of technology, and media studies have announced new paradigms for disability methods, making, equity, and “technical cultures,” including “design justice,” “crip technoscience,” “disability media studies,” and “dismediation.”³⁵

The word *disability* has medical and legal meanings, as well as being “claimed” for identity and rights-based political efforts; it can signal inclusion (e.g., increasing participation by disabled scientists) in addition to particular disabled ways of knowing and doing.³⁶ Because of the breadth of “disability,” and the likelihood of disabled people to fall anywhere on the political spectrum, activists and scholars have reclaimed the word *crip* from its historical pejorative to signal intersectional and antiassimilationist work.³⁷ Hamraie and Fritsch’s concept of crip technoscience, for instance, refers to design that resists rehabilitative imperatives, rather than any and all making by disabled engineers or lay experts. Dozens of other terms—for example, *technoableism*, *assistive pretext*, *disability dongle*—guide the way for analyzing bias and technology, and these appear throughout the articles in *Osiris* 39.³⁸ “Disability histories of science” include examples of crip making, sciencing, and knowing in the historical record, as well as disability activist engagements with scientific standards and exclusion from work or healthcare, disability-studies-informed histories of scientific concepts, and analyses of scientific disablement and labor in settings not premised on assimilation and rehabilitation, such as enslavement and institutionalization.

³³ Ott, Serlin, and Mihm, eds., *Artificial Parts, Practical Lives*.

³⁴ A few examples: Petrick, *Making Computers Accessible*; Ellcessor, *Restricted Access*; Jones, ed., *Rethinking Modern Prostheses*; Hamraie, *Building Access*.

³⁵ We borrow the phrase “technical cultures” from Haring, *Ham Radio’s Technical Culture*. Costanza-Chock, *Design Justice*; Hamraie and Fritsch, “Crip Technoscience Manifesto”; Ellcessor and Kirkpatrick, eds., *Disability Media Studies*; Mills and Sterne, “Dismediation: Three Proposals, Six Tactics.”

³⁶ Linton, *Claiming Disability*.

³⁷ McRuer, *Crip Theory*. On the ways “crip” has been taken up or translated beyond the Anglophone sphere, as well as the parallel Spanish term *disca*, see McRuer, “Crip World-Making.”

³⁸ Shew, *Against Technoableism*; Mills, “Deaf Jam”; Jackson, Haagaard, and Williams, “Disability Dongle.”

Historians of medicine have likewise responded to widespread censure of “the medical model of disability” by disability activists since the 1970s. Equally present in medicine and the history of medicine (and culture writ large), the medical model is a reductive take on disability that individualizes and biologizes impairment and other forms of physical difference, approaching them as problems that require medical intervention, as opposed to social change. The medical model is related to medicalization, a sociological theory from the same decade that criticizes the encroaching authority of medical diagnosis and treatment over phenomena once considered moral, legal, or otherwise social issues (e.g., alcoholism). Drawing on the insights of antimedicalization critics from the 1970s, such as Irving Zola, Ivan Illich, and Michel Foucault, early scholars in disability studies overwhelmingly emphasized the roles of physiology and health care in defining and segregating “the normal” and “the pathological” between the late nineteenth and mid-twentieth centuries: the period most closely identified with the rise of medicine and medicalization.³⁹ Indeed, medical sociology played a foundational role in launching the academic field of disability studies: what would eventually become the flagship journal, *Disability Studies Quarterly*, began in 1980 as a newsletter for that section of the American Sociological Association. In 1982, the Society for Disability Studies was founded as a special interest group, titled the Section for the Study of Chronic Illness, Impairment, and Disability, within the Western Social Science Association (now the World Social Science Association). As disability history emerged as a subfield, it shared the strong critique of medicalization and the medical model.

Beth Linker called for greater integration between medical and disability histories in a 2013 position paper in the *Bulletin of the History of Medicine*.⁴⁰ Medical historians had long analyzed the social “framing of disease” as well as social “determinants of health,” but disability studies pushed them to go further in contesting the authority of medical terminology and frameworks—to question, for instance, the validity of diagnoses used to enforce ideals of normality and efficiency across education, employment, popular representation, and even access to medical care itself (e.g., “quality of life” protocols).⁴¹ A growing number of disability histories of medicine excavate the construction of health benchmarks and screening protocols, and the ways they sort and align bodies according to cultural expectations.⁴² In addition to revising problematic representations and assessments of disability, medical histories informed by disability studies point out “disability data gaps”—places where research overlooks disability or excludes disabled people.⁴³ And they address similar “data

³⁹ Canguilhem, *The Normal and the Pathological*. Clarke et al., eds., *Biomedicalization*.

⁴⁰ Linker, “On the Borderland.” See also Kudlick’s, Livingston’s, and Wilson’s commentaries on Linker’s paper.

⁴¹ Rosenberg and Golden, *Framing Disease*.

⁴² For instance: Linker, “A Dangerous Curve”; Rose and Salzman, “Bionic Ballplayers.”

⁴³ McGuire, *Measuring Difference, Numbering Normal*.

gaps” in the history of medicine itself, by preserving and researching disability archives and giving prominence to disability perspectives.

“MODELS” OF DISABILITY BEYOND MEDICALIZATION

Beyond medicalization, several other models and theories exist to explain how disability came into being and has been defined and managed, especially in the modern period. Second-generation medicalization theorists, such as Peter Conrad, acknowledge that medicalization is not driven by medicine alone—market forces, laws, the pharmaceutical industry, engineering, and insurance have played as much of a role as physiology, physicians, and hospitals.⁴⁴ Since the 1980s medicalization has increasingly been supplanted by *biomedicalization*—technoscientific medicine representing a confederation of molecular biology, genetics, computing, and data science, which accelerates the surveillance of what Linker refers to as *anticipatory disability*.⁴⁵ The popularity of the medicalization thesis, however, has overshadowed other scientific discourses, leading to their scholarly neglect in disability studies. As Emily Lim Rogers discusses, medicalization itself has resulted in the conundrum of unmedicalized or incompletely medicalized disabilities; moreover, the globalization of medical and biomedical theories and practices is stratified and always incomplete.⁴⁶ Moreover, as Sari Altschuler and Cristobal Silva caution, the integration of disability and medical history becomes “more complicated the farther back in time we pursue our inquiries.”⁴⁷

Rather than stretch Western medicine to cover every instance of disablement and its regulation, some have pointed to other structures and epistemes.⁴⁸ Numerous models for the characterization, perception, and experience of disability have been proposed, which may also coexist in a given time and place.⁴⁹ The religious model understands disability to be an act of divine retribution; the charity model treats disabled people as victims of fate, deserving sympathy or pity. Marta Russell further identifies a “money model of disability” in capitalist societies, wherein “the disabled human being is a commodity under which social

⁴⁴ Conrad, *The Medicalization of Society*.

⁴⁵ Clarke et. al., *Biomedicalization*; Linker, “Disability Futures.”

⁴⁶ Rogers, “A Syndrome in Search of a Virus.”

⁴⁷ Altschuler and Silva, “Early American Disability Studies,” 13.

⁴⁸ Foucault used the word *episteme* as shorthand for “epistemological field,” or the “conditions of possibility” that give rise to particular sciences and ways of knowing. Foucault, *Order of Things*, xxii.

⁴⁹ For a critique of the “models” approach for multiplying competing ontologies of disability, see Beaudry, “Beyond (Models of) Disability?”

policies are created or rejected based on their market value.”⁵⁰ In the United States, decisions about who is institutionalized and how disability is categorized in terms of cost versus benefit, for instance, are made by Medicaid policymakers and nursing home managers concerned with profits. Likewise, as argued by Mills and Dan Bouk, and Sarah F. Rose, even decisions about who receives life insurance or workers’ compensation are as likely to be made by actuaries and administrators as by physicians and other medical professionals.⁵¹

As Coreen McGuire explains, the industrialization thesis is an even broader argument about industrial capitalism, the popularization of the word *disability* in English, and its undertones of “inability to work.” This thesis holds that “the rise of industrial factory work standardized through Taylorism is . . . a major example of why nonstandard bodies that worked well in cooperative agrarian communities were increasingly excluded from the workplace.”⁵² Although it is still widely used, others have amended the industrialization thesis by pointing out that disability always abounded in certain workplaces, even after industrialization (e.g., mining).⁵³ In the context of enslaved labor, moreover, a different calculus applied to fitness for work, with certain disabled people being “excluded,” others being valued—for example, see Eric Harvey on deliberately blinded enslaved workers in ancient Mesopotamia—and entire populations being debilitated in a calculated manner.⁵⁴

Elizabeth Guffey and Bess Williamson have recently proposed a design model of disability, co-present with the medical model in the modern period, in which disability is defined “through function in material—and increasingly digital—environments.”⁵⁵ Compared to medicine, design “does not envision bodily cure or rehabilitation as the only response to disability. Instead, it delivers agency to material—and increasingly digital—artifacts by imagining that objects and spaces can do the work of inclusion.” Architecture, design, and engineering manage populations and set the terms for bodily capacity in ways distinct from medicalization, but no less far-reaching.

From a history of science perspective, a scientific management model of disability has been as important as medicine or design in defining, counting, and regulating disabled lives.

⁵⁰ Russell, *Beyond Ramps*, 98.

⁵¹ Mills and Bouk, “The History of ‘Impairment’”; Rose, “The Workmen’s Compensation Law Is a Direct Slap in the Face.”

⁵² McGuire, “Relational Disability and Invisible Illness in Industrial Britain.”

⁵³ Blackie, “Disability and Work during the Industrial Revolution”; Rose, “‘Crippled’ Hands”; On the industrial paradigm, see Oliver and Barnes, *The New Politics of Disablement*.

⁵⁴ Harvey, “The Blind and Their Work in Mesopotamia.” On disability and transatlantic chattel slavery, see Hunt-Kennedy, *Between Fitness and Death*.

⁵⁵ Guffey and Williamson, “Introduction: Rethinking Design History through Disability.”

Examples of scientific management predate the industrial period. Science is rarely pure—it has mostly been inseparable from money, bureaucracy, and government. Beyond the contributions of the life sciences to medicalization, there is a range of fields from mathematics to psychology to engineering that were (and are) enrolled in the project of administering lives and labor within large systems, from ancient governments to modern corporations. In the process, disabled people have been classified and set apart for particular tasks (or fees, in the case of life and health insurance), or otherwise outright debarred. While disability scholars have noted connections between scientific management and eugenics, or examined particular instances when scientific management in the twentieth century was applied to disabled bodies, the scope of applied science as it has been intended to define and manage disability has not yet been mapped.⁵⁶ In many cases, disability served as the proving ground for management innovations in science and engineering, from insurance to punch card computing, as Mills and Bouk discuss in their history of “impairment.”⁵⁷

Scientific management is often associated with Frederick Winslow Taylor, whose early twentieth-century “science” entailed observing and subdividing work tasks; and then testing, sorting, and training workers to achieve productive efficiency (or maximum output) to satisfy capitalist production. Yet the union of science and management long precedes Taylorism. Unlike the medical and design models, the scientific management model of disability has roots in ancient empires; namely, the control of enslaved people and mass labor, as Eric Harvey shows. It existed in administrative bureaucracies prior to industrialization, even if industrial capitalism expanded its reach and accelerated its output.⁵⁸

Many activist theories have also been proposed to supplement or counter the array of top-down models that correlate disability to medicine, technology, design, and capitalism. The influential social model of disability has roots in the activism of the Union of the Physically Impaired Against Segregation (UPIAS) in the United Kingdom; in particular, their 1976 booklet *The Fundamental Principles of Disability*, which argued that “society . . . disables physically impaired people. Disability is something imposed on top of our impairments by the way we are unnecessary isolated and excluded from full participation in society.”⁵⁹ Decades of scholarship exploring the social model have not only countered the medical model but also anatomized the obstacles created by architecture, pedagogy, design, popular media, and other social formations, setting the stage for them to be revamped. Whereas the social model portrays these structures as excluding disability, or defining it in negative terms, the

⁵⁶ Snyder and Mitchell, *Cultural Locations of Disability*; Rose, *No Right to Be Idle*.

⁵⁷ Mills and Bouk, “The History of ‘Impairment.’”

⁵⁸ On disability and work in industrial capitalism, see for example: Stone, *The Disabled State*; Schweik, *The Ugly Laws*.

⁵⁹ Union of the Physically Impaired Against Segregation and the Disability Alliance, *Fundamental Principles of Disability*, 3. Hunt, also edited *Stigma*, with an early version of the social model articulated in his essay “A Critical Condition.”

money and scientific management models are also attuned to the valuation and exploitation of impairment and disability in different medical and social settings.

Not often remarked on—yet amenable to a history of science analysis—are the ways the social sciences heavily informed the development of the social model of disability. Although the social model often appears to be founded on the critique of medicalization among other normative sciences, several founders of the UPAIS were social science professionals, such as Vic Finkelstein, a National Health Service psychologist. Mike Oliver, a sociologist and later the first professor of disability studies in the United Kingdom, brought the UPAIS principles into academia and first elaborated them in a textbook of social work, *Social Work with Disabled People* (1983).⁶⁰ Criticism of the social model for neglecting impairment and phenomenology on the one hand and cultural and political forces on the other can be traced to its academic anchoring in postwar sociology, with its positivist emphasis on the study and modification of social structures (e.g., education).⁶¹

Today, there are also cultural, identity, and materialist models of disability, as well as models that emphasize the nature of disability as a political category—one open to contestation and change, and shaped by power beyond institutions—such as Alison Kafer’s “political-relational model.”⁶² Many activists and scholars insist upon multiple “crip genealogies” for disability experience, criticizing the social model, as well as the political paradigm of disability rights, for overrepresenting contemporary Northern, Western, and white disabled perspectives.⁶³ Even when globalized, scientific theories and practices related to disability are always locally instantiated—and shaped by economic, colonial, racial, and other forces.

DISABILITY HISTORIES OF SCIENCE: A TURNING POINT

The history of science has largely been missing from these burgeoning conversations about disability taking place across the history of technology, medicine, and design, as well as media studies and STS.⁶⁴ Disability rarely appears as an explicit subject or object in scholarly histories of science, although on occasion it has provided an interpretive lens for examining motivation or method in a scientist’s career. Simultaneously, the history of science and its objects of study have received less direct criticism from disability activists and scholars than have technology and medicine. Even if biomedicine itself is the product of scientific research

⁶⁰ Oliver, “The Social Model in Action.” See also Paul van Trigt, “Historicizing the Social Model.”

⁶¹ Wendell, *The Rejected Body*; Venkat, *At the Limits of Cure*; Bell, ed., *Blackness and Disability*.

⁶² Kafer, *Feminist, Queer, Crip*.

⁶³ Chen et al., eds., *Crip Genealogies*.

⁶⁴ A German edited volume that introduces disability studies to the history of science largely contains chapters on the history of medicine. Groß and Söderfeldt, “Disability Studies” Meets “History of Science.”

and computing, much disability studies critique is pitched at the individualizing and applied, or proximate, aspects of medicine: the diagnoses, treatments, and medical technologies that directly affect a disabled person and define disability as their personal responsibility.

Although History of Science Society (HSS) meetings are not reflective of the universal state of the field, a survey of papers over the past decade (fig. 2) suggests that papers that explicitly mentioned disability in the title were often submitted by scholars who consider themselves to be disability historians (including the authors), or who have primarily published works on disability and medicine. A closer examination of the titles presented at HSS over the last decade reveals that disability has mostly been interwoven within histories of what are referred to as the “soft sciences”—anthropology, psychiatry, public health, and medicine. We note what is still missing: despite the centrality of disabled people across time and space, their roles and the topic of disability are only beginning to be charted in most of the “applied” sciences, and are still nearly absent from histories of “basic” science.

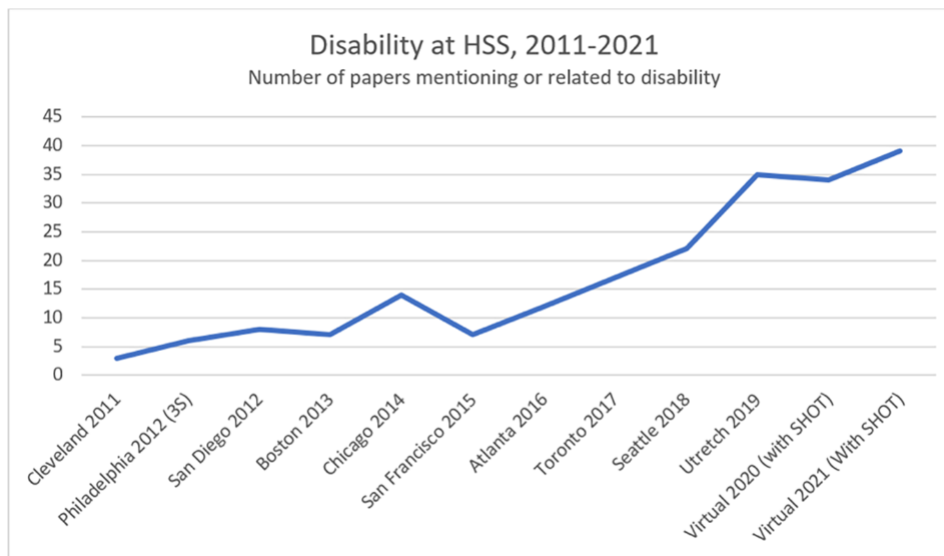


Figure 2: Number of papers related to disability at the History of Science Society Annual Meetings between 2011 and 2021. Titles gathered from the History of Science Society annual meeting programs, available online at <https://hssonline.org/page/futurepastmeetings>. Note: not all of the papers counted engage with the field of disability studies or disability history methodology, and we acknowledge that the 2015 shift could have been driven by HSS Program Chairs.

On the one hand, the “minor,” “applied,” and “social” sciences have not been minor at all in the making of modern disability. What we now understand to be the social sciences—demography, economics, sociology, anthropology, the speech sciences—became professionalized in the same period as the medical specialties. Especially in their applied forms, they helped set the terms of modern disability. Sometimes they conscripted medicine to achieve their goals, as in the case of physicians hired by deaf schools or corporations or the state. At other times, this set of sciences worked in parallel to medicine within broader projects of population statistics and racial classification, or they addressed groups of people

abandoned and abused by medicine, such as those segregated in institutions for the “feeble-minded.”⁶⁵

On the other hand, if disability does not seem to be relevant to the scientific method, nor a topic of investigation outside the life and human sciences—in the “hard” realm of physics, chemistry, astronomy, and geology—it signals the need for further research.⁶⁶ Many branches of science are not primarily concerned with humans, or life, but they remain human pursuits. While certain theories within the life sciences, such as evolution and its relationship to the history of eugenics, have readily been connected to disability, the physical sciences and their laws, such as the theory of relativity, plate tectonics, and atomic theory, seem more removed, if not neutral. Unlike patients (in the case of medicine) or users (in the case of technology), people on the receiving end of the hard sciences may be several times removed from the site of production, and there may be no commodity or popular representation linking the scene of scientific action directly to the public—even if there are end users or implicated actors affected downstream.⁶⁷ Foucault famously argued that “man did not exist” before the rise of the human sciences across the long nineteenth century; we are also interested in the unexpected yet far-reaching contributions of astronomy’s error curve on making modern disability, of chemistry and materials science on health, and of environmental studies on theorizing disability beyond the human.⁶⁸

A handful of disability studies scholars have insisted on the need for more work informed by the history of science. Aimi Hamraie argues that the neglect of historical epistemology in disability studies means that the material effects of certain disciplines, and the knowledge they generate about disability, have gone unquestioned. Disability studies (DS), moreover, has limited the span of its own contributions to epistemology: “DS scholars have missed important opportunities to build the capacity of DS as a field that does a range of epistemological work,” Hamraie asserts.⁶⁹ This is partly an effect of the “nothing about us without us” mission statement in disability activism, which also serves as a theoretical framework and historical methodology for the academic field.⁷⁰ Disability studies has long advocated that histories of disability must incorporate perspectives of disabled people

⁶⁵ Trent, *Inventing the Feeble Mind*.

⁶⁶ For an exception, see Mialet’s *Hawking Incorporated*.

⁶⁷ Monica Casper and Adele Clarke define end users as “those individuals and groups who are affected downstream” by industry and innovation; we would add science. Implicated actors are “those silent or not present but affected by the action.” Casper and Clarke, “Making the Pap Smear into the ‘Right Tool’”; and Clarke, *Disciplining Reproduction*, 267, paraphrased in Oudshoorn and Pinch, “How Users and Non-Users Matter,” 6.

⁶⁸ Foucault, *Order of Things*, 336.

⁶⁹ Hamraie, “Historical Epistemology,” 110, 115.

⁷⁰ Charlton, *Nothing about Us without Us*.

themselves, leading to an emphasis on social and cultural histories. This approach has transformed historical analysis in architecture, art, medicine, policy, and technology—and promises to do the same in history of science.⁷¹ Yet the scientific disciplines generate theories, industries, and bureaucracies that sometimes require structural critique. Moreover, it can be difficult to tell a “bottom-up” story while analyzing a field and its logics at a *longue durée* scale. Hamraie suggests that paying attention to the history of disability research programs, such as universal design, can reveal “new epistemic practices” that rethink standards of scientific evidence, validity, and neutrality—for instance, the reworking of traditional, ableist anthropometry into a “disability anthropometry.”⁷² However, analyses of disability epistemology in most branches of science beyond rehabilitation, physical therapy, architecture, and design are still uncommon.

Disabled actors in the broader history of science can also be difficult to identify. This is especially complicated by the fact most disabled scientists work within medical and clinical professions and, by virtue of self-stigma or professional ableism, do not openly disclose their disability or align themselves with disability advocates.⁷³ Whereas in popular culture, scientists are regularly equated with disability (e.g., being “mad” or “autistic”), usually as a signifier of their genius,⁷⁴ scientists and scientific workers, with few exceptions, have not left many records about their personal lives. Furthermore, while disabled test subjects and disability expertise have informed many scientific insights and innovations, from botany to acoustics, it becomes more difficult to locate the “lay” expert in the domain of megastudies, big datasets, automated equipment, and corporate science (with closed archives and nondisclosure agreements).

When disability *is* present in the history of science record, sources have to be read not only critically with regard to rhetoric but carefully regarding the ways scientific categories travel and different people experience labeling. In the case of colonial archives, the same terminology might be applied in distinct ways to residents of the metropole and different types of colonies. Aparna Nair shows how the British imperial census, represented as “the apogee of colonial science,” used “infirmity” to refer to “inability to earn a living” in the metropole, versus “salubriousness” or “success of the project of settler colonialism” in New South Wales.⁷⁵ Across England, New South Wales, and India, the census subcategories for infirmity differed and were inflected by race, gender, and (in India) caste. Census returns further show how disabled people in households across the empire used the category of

⁷¹ Viridi, *Hearing Happiness*; Williamson, *Accessible America*.

⁷² Hamraie, “Universal Design Research.”

⁷³ Hogan, *Disability Dialogues*.

⁷⁴ As exemplified by the sitcom *The Big Bang Theory*, which also featured Stephen Hawking in several episodes.

⁷⁵ Nair, “Enumerating Infirmity.”

infirmity to claim or deny disability status, and to form narratives around their own disabilities.

Racial and settler ableism in classification processes are similarly documented in Trevor Engel's work. Revisiting the archives of physical anthropology, Engel argues that certain cultural practices of Native American Chinookan-speaking people were pathologized in the mid-to-late nineteenth century—a diagnosis continuously disputed by Chinookans themselves—exposing the limits of the medical model of disability for depicting the source and ubiquitous acceptance of new disability categories.⁷⁶ Colonialism has also played a major role in stratified disablement, as Stefanie Hunt-Kennedy and Jenifer Barclay outline, at once debilitating entire populations and demanding able-bodied performance from subordinated subjects.⁷⁷ Medicine operating within colonial societies—what Adria Imada terms “carceral medicine”—imposes impossible regimes and expectations of self-regulation.⁷⁸

The library, administrative, and medical sciences have played a major role in documenting disability, prior to changes in modern education and publishing that allowed increasing numbers of disabled people to speak for themselves—and thus to demand “nothing about us without us” in the historical record as well as the political sphere. On the one hand, the sciences have often contributed to the absence and misrepresentation of disability in the archive. Marginalized people who were institutionalized or experimented on, or denied health care and education, are often missing in the archive and have kept no records on account of their oppression. Those who were deemed irrelevant for the statistics compiled by a subjugating nation were often not “counted,” as Jacob Steere-Williams notes regarding colonial public health archives.⁷⁹ On the other hand, the sciences can also provide—intentionally or unintentionally—some of the most durable and large-scale records of disabled lives, as Harvey shows for ancient Mesopotamian accounting documents, and as Nair suggests regarding the census—records that must be interpreted as carefully as any others.

Beyond mere inclusion, the question remains as to how the history of science is changed by disability expertise and disability studies epistemology. Stuart Blume, Vasilis Galis, and Andrés Valderrama Pineda suggest that it has been easier to apply the insights of disability studies to the politics of technology: “The challenging questions that disability raises for STS go beyond those relating to the politics of technological change to include questions relating

⁷⁶ Engel, “A Most Remarkable Trait.”

⁷⁷ Hunt-Kennedy, *Between Fitness and Death*; Barclay, *Mark of Slavery*; Boster, *African American Slavery and Disability*.

⁷⁸ On Imada's concept of “carceral medicine,” see Imada, *Archive of Skin*, 8-10.

⁷⁹ Steere-Williams, “Carbolic Colonialism.”

to knowing, to knowledge production, and in particular to embodiment.”⁸⁰ “Crip technoscience” informs numerous important case studies, but these have almost entirely focused on technology, specifically device design, alteration, and use, rather than broader technological systems, industries, and processes—or science, as originally called for by Aimi Hamraie and Kelly Fritsch.⁸¹

CONCLUSION

Ongoing scholarship in the disability history of science entails making multiple interventions: examining disciplinary knowledge about disability in different places and times, and in translation; parsing “disability” into subcategories or considering related terms that have escaped historical analysis; looking at mathematical and other techniques used by bureaucracies and governments to manage disabled people; taking disability as a form of data used to sort people or extract value from them. Scholars in the field are increasingly asking how disability has been a shaping force in the sciences, beyond the study of disability itself: examining disability epistemologies about the natural world; locating disabled scientists and tracing patterns of sciencing by disabled people; considering the insights that disability has provided about scientific methods, research tools, research subjects, and collaboration; tracing ableism, racial ableism, and settler ableism, as well as disability appropriation, in scientific theories, institutions, technologies, and labor.⁸² If disability is part of science in context, the sciences have also reshuffled the world of disability, naming new impairments, eradicating or arresting others, and in still other cases producing their own injurious or debilitating effects.

The *Osiris* volume 39 on disability and the history of science, from which this entry is adapted, came together as the novel coronavirus SARS-CoV-2 and the resulting COVID-19 pandemic became the latest deadly barrage on a global scale. As our contributors to the volume faced challenges with archive closures, shifts in work and family responsibilities, and concerns regarding their own health, we became all the more aware of the urgency of disability studies as an expert discourse in our personal lives, work environments, and social worlds. Our group includes blind, deaf, hard of hearing, neurodivergent, and acutely and chronically ill

⁸⁰ Blume, Galis, and Valderrama Pineda, “STS and Disability,” 102.

⁸¹ Leah Lakshmi Piepzna-Samarasinha uses the related phrase “crip science,” mostly in analogy with “crip skills” and “crip emotional intelligence.” Piepzna-Samarasinha also uses *crip science* to refer to technologies, cultures, and talents. Piepzna-Samarasinha, *Care Work*.

⁸² Theories of epistemology in disability studies tend to be “situated.” For instance, *cripistemology*, coined by Merri Lisa Johnson and Robert McRuer, foregrounds disabled ways of knowing, thinking, and feeling. In a slightly different register, Liat Ben-Moshe’s *dis-epistemology* proposes that disability can be a disorienting force within conventional scholarship or institutions, leading to new forms of knowledge. Many of our authors—Martucci and Schweik, for example—examine aspects of disability technoscience that exceed disability experience. Johnson and McRuer, “Cripistemologies: Introduction”; Ben-Moshe, “Dis-orientation, Dis-epistemology and Abolition.”

scholars, and collectively, we approached the work through “crip time.” The *Encyclopedia of the History of Science* offers the ability to update articles on the website, create unexpected associations, and link to further scholarship, thus enabling another sense of “becoming” over time. Extending the ethos of the original volume, we hope that this entry on disability history will be read and returned to with duration and flexibility.⁸³

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BIBLIOGRAPHY

- Altschuler, Sari, and Cristobal Silva. “Early American Disability Studies.” *Early American Literature* 52, no. 1 (2017): 1-27.
- Asdal, Kristin, Brita Brenna, and Ingunn Moser. “The Politics of Interventions: A History of STS.” In *Technoscience: The Politics of Interventions*, edited by Kristin Asdal, Brita Brenna, and Ingunn Moser, 7-53. Oslo: Unipub, 2007.
- Barclay, Jenifer L. *The Mark of Slavery: Disability, Race, and Gender in Antebellum America*. Urbana: University of Illinois Press, 2021.
- Bauman, H-Dirksen L., and Joseph J. Murray, eds. *Deaf Gain: Raising the Stakes for Human Diversity*. Minneapolis: University of Minnesota Press, 2014.
- Baynton, Douglas C. “Disability and the Justification of Inequality in American History.” In *The New Disability History: American Perspectives*, edited by Paul K. Longmore and Lauri Umansky, 33-57. New York: New York University Press, 2001.
- Beaudry, Jonas-Sébastien. “Beyond (Models of) Disability?” *Journal of Medicine and Philosophy* 41, no. 2 (2016): 210-28.
- Bell, Christopher M., ed. *Blackness and Disability: Critical Examinations and Cultural Interventions*. East Lansing: Michigan State University Press, 2011.
- Ben-Moshe, Liat. “Dis-orientation, Dis-epistemology and Abolition.” *Feminist Philosophy Quarterly* 4, no. 2 (2018).
- Blackie, Daniel. “Disability and Work during the Industrial Revolution in Britain.” In *The Oxford Handbook of Disability History*, edited by Michael Rembis, Catherine Kudlick, and Kim E. Nielsen, 177-95. Oxford: Oxford University Press, 2018.

⁸³ “Crip time” refers to the complexity of disabled experience that requires flexibility and accommodation in order to complete tasks. As Kafer writes, “rather than bend disabled bodies and minds to meet the clock, crip time bends the clock to meet disabled bodies and minds.” Kafer, *Feminist, Queer, Crip*, 27.

Blume, Stuart, Vasilis Galis, and Andrés Valderrama Pineda. "STS and Disability." *Science, Technology & Human Values* 39, no. 1 (2014): 98-104. ([Link to IsisCB](#))

Boster, Dea H. *African American Slavery and Disability: Bodies, Property, and Power in the Antebellum South, 1800-1860*. New York: Routledge, 2012. ([Link to IsisCB](#))

Cain, Sandra E. *Sciencing*. 4th ed. Upper Saddle River, NJ: Prentice Hall, 2002.

Canguilhem, Georges. *The Normal and the Pathological*. Translated by Carolyn R. Fawcett. New York: Zone Books, 1991. ([Link to IsisCB](#))

Casper, Monica J., and Adele E. Clarke. "Making the Pap Smear into the 'Right Tool' for the Job: Cervical Cancer Screening in the United States, c. 1940-1995." *Social Studies of Science* 28, no. 2 (1998): 255-90. ([Link to IsisCB](#))

Charlton, James I. *Nothing about Us without Us: Disability Oppression and Empowerment*. Berkeley: University of California Press, 2000.

Chen, Mel Y., Alison Kafer, Eunjung Kim, and Julie Avril Minich, eds. *Crip Genealogies*. Durham, NC: Duke University Press, 2023.

Clarke, Adele E. *Disciplining Reproduction: Modernity, American Life and "the Problems of Sex."* Berkeley: University of California Press, 1998. ([Link to IsisCB](#))

Clarke, Adele E., Laura Mamo, Jennifer Ruth Fosket, Jennifer R. Fishman, and Janet K. Shim, eds. *Biomedicalization: Technoscience, Health, and Illness in the U.S.* Durham, NC: Duke University Press, 2010. ([Link to IsisCB](#))

Conrad, Peter. *The Medicalization of Society: On the Transformation of Human Conditions into Treatable Disorders*. Baltimore, MD: Johns Hopkins University Press, 2007. ([Link to IsisCB](#))

Costanza-Chock, Sasha. *Design Justice: Community-Led Practices to Build the Worlds We Need*. Cambridge, MA: MIT Press, 2020.

Daston, Lorraine. "Historical Epistemology." In *Questions of Evidence: Proof, Practice, and Persuasion across the Disciplines*, edited by James Chandler, Arnold I. Davidson, and Harry D. Harootunian, 282-89. Chicago: University of Chicago Press, 1994.

Daston, Lorraine. "Science Studies and the History of Science." *Critical Inquiry* 35, no. 4 (2009): 798-813. ([Link to IsisCB](#))

Davidson, Arnold I. "Sex and the Emergence of Sexuality." *Critical Inquiry* 14, no. 1 (1987): 16-48.

Dokumaci, Arseli. *Activist Affordances: How Disabled People Improve More Habitable Worlds*. Durham, NC: Duke University Press, 2023.

Ellcessor, Elizabeth. *Restricted Access: Media, Disability, and the Politics of Participation*. New York: New York University Press, 2016.

Ellcessor, Elizabeth, and Bill Kirkpatrick, eds. *Disability Media Studies*. New York: New York University Press, 2017.

Engel, Trevor. "A Most Remarkable Trait': Flathead Skulls, Indigenous Pathologization, and Transinstitutionalization." *Osiris* 39 (2024): 117-34.

Foucault, Michel. *The Order of Things: An Archaeology of the Human Sciences*. Translated by Alan Sheridan. New York: Vintage Books, 1994.

Fritsch, Kelly, Aimi Hamraie, Mara Mills, and David Serlin, eds. "Crip Technoscience." Special issue, *Catalyst: Feminism, Theory, Technoscience* 5, no. 1 (April 2019).

Fuentes, Marisa J. *Dispossessed Lives: Enslaved Women, Violence, and the Archive*. Philadelphia: University of Pennsylvania Press, 2016.

Garland-Thomson, Rosemarie. "Misfits: A Feminist Materialist Disability Concept." *Hypatia* 26, no. 3 (2011): 591-609.

Garland-Thomson, Rosemarie. "The Politics of Staring: Visual Rhetorics of Disability in Popular Photography." In *Disability Studies: Enabling the Humanities*, edited by Sharon L. Snyder, Brenda Jo Brueggemann, and Rosemarie Garland-Thomson, 56-75. New York: Modern Language Association, 2002.

Groß, Dominik, and Ylva Söderfeldt, eds. "*Disability Studies*" Meets "*History of Science*": *Körperliche Differenz und soziokulturelle Konstruktion von Behinderung aus der Perspektive der Medizin-, Technik- und Wissenschaftsgeschichte*. Kassel: Kassel University Press, 2017.

Guffey, Elizabeth, and Bess Williamson. "Introduction: Rethinking Design History through Disability, Rethinking Disability through Design." In *Making Disability Modern: Design Histories*, edited by Elizabeth Guffey and Bess Williamson, 1-17. London: Bloomsbury, 2020.

Hacking, Ian. "Making Up People." *London Review of Books*, August 17, 2006. <https://www.lrb.co.uk/the-paper/v28/n16/ian-hacking/making-up-people>.

Hamraie, Aimi. *Building Access: Universal Design and the Politics of Disability*. Minneapolis: University of Minnesota Press, 2017. ([Link to IsisCB](#))

Hamraie, Aimi. "Historical Epistemology as Disability Studies Methodology: From the Models Framework to Foucault's Archaeology of Cure." *Foucault Studies* 19 (2015): 108-34.

Hamraie, Aimi. "Universal Design Research as a New Materialist Practice." *Disability Studies Quarterly* 32, no. 4 (2012). <https://dsq-sds.org/index.php/dsq/article/view/3246/3185>.

Hamraie, Aimi, and Kelly Fritsch. "Crip Technoscience Manifesto." *Catalyst: Feminism, Theory, Technoscience* 5, no. 1 (April 2019). <https://doi.org/10.28968/cftt.v5i1.29607>.

Haring, Kristen. *Ham Radio's Technical Culture*. Cambridge, MA: MIT Press, 2008. ([Link to IsisCB](#))

Hartblay, Cassandra. "Disability Expertise: Claiming Disability Anthropology." *Current Anthropology* 61, no. S21 (2020): S26-36.

Harvey, Eric. "The Blind and Their Work in Mesopotamia in the Third and Second Millennia BCE." *Osiris* 39 (2024): 57-74.

Henner, Jon, and Octavian Robinson. "Unsettling Languages, Unruly Bodyminds: A Crip Linguistics Manifesto." *Journal of Critical Study of Communication and Disability* 1, no. 1 (2023): 7–37.

Hilgartner, Stephen. "The Dominant View of Popularization: Conceptual Problems, Political Uses." *Social Studies of Science* 20, no. 3 (1990): 519–39. ([Link to IsisCB](#))

Hogan, Andrew J. *Disability Dialogues: Advocacy, Science, and Prestige in Postwar Clinical Professions*. Baltimore, MD: Johns Hopkins University Press, 2022. ([Link to IsisCB](#))

Hunt, Paul. "A Critical Condition." In *Stigma: The Experience of Disability*, edited by Paul Hunt, 145–62. London: Geoffrey Chapman, 1966.

Hunt-Kennedy, Stefanie. *Between Fitness and Death: Disability and Slavery in the Caribbean*. Urbana: University of Illinois Press, 2020. ([Link to IsisCB](#))

Imada, Adria. *An Archive of Skin, an Archive of Kin: Disability and Life-Making during Medical Incarceration*. Oakland: University of California Press, 2022. ([Link to IsisCB](#))

Jackson, Liz, Alex Haagaard, and Rua Williams. "Disability Dongle." *Platypus: The CASTAC Blog*, April 19, 2022. <https://blog.castac.org/2022/04/disability-dongle/>.

Johnson, Merri Lisa, and Robert McRuer. "Cripistemologies: Introduction." *Journal of Literary and Cultural Disability Studies* 8, no. 2 (2014): 127–47.

Jones, Claire L., ed. *Rethinking Modern Prostheses in Anglo-American Commodity Cultures, 1820–1939*. Manchester: Manchester University Press, 2017. ([Link to IsisCB](#))

Kafer, Alison. *Feminist, Queer, Crip*. Bloomington: Indiana University Press, 2013.

Kohler, Robert E. *All Creatures: Naturalists, Collectors and Biodiversity, 1850–1950*. Princeton, NJ: Princeton University Press, 2006. ([Link to IsisCB](#))

Kudlick, Catherine. "Comment: On the Borderland of Medical and Disability History." *Bulletin of the History of Medicine* 87, no. 4 (2013): 540–59. ([Link to IsisCB](#))

Kudlick, Catherine. "Social History of Medicine and Disability History." In *The Oxford Handbook of Disability History*, edited by Michael Rembis, Catherine Kudlick, and Kim E. Nielsen, 105–24. Oxford: Oxford University Press, 2018.

Lévi-Strauss, Claude. *Totemism*. Translated by Rodney Needham. Boston: Beacon, 1963.

Linker, Beth. "A Dangerous Curve: The Role of History in America's Scoliosis Screening Programs." *American Journal of Public Health* 102, no. 4 (2012): 606–16.

Linker, Beth. "Disability Futures, Scientific Ableism, and the Making of Modern Epidemics." *Osiris* 39 (2024): 261–79.

Linker, Beth. "On the Borderland of Medical and Disability History: A Survey of the Fields." *Bulletin of the History of Medicine* 87, no. 4 (2013): 499–535. ([Link to IsisCB](#))

Linton, Simi. *Claiming Disability: Knowledge and Identity*. New York: New York University Press, 1998.

Livingston, Julie. "Comment: On the Borderland of Medical and Disability History." *Bulletin of the History of Medicine* 87, no. 4 (2013): 560-64. ([Link to IsisCB](#))

Longmore, Paul K., and David Goldberger. "The League of the Physically Handicapped and the Great Depression: A Case Study in the New Disability History." *Journal of American History* 87, no. 3 (2000): 879-91.

Martucci, Jessica. "The Supercrip in the Lab: Seeking Disabled Scientists in the History of Science." *Osiris* 39 (2024): 205-21.

McGuire, Coreen. *Measuring Difference, Numbering Normal: Setting the Standards for Disability in the Interwar Period*. Manchester: Manchester University Press, 2020. ([Link to IsisCB](#))

McGuire, Coreen. "Relational Disability and Invisible Illness in Industrial Britain." *Osiris* 39 (2024): 169-84.

McRuer, Robert. *Crip Theory: Cultural Signs of Queerness and Disability*. New York: New York University Press, 2006.

McRuer, Robert. "Crip World-Making." In *Crip Authorship: Disability as Method*, edited by Mara Mills and Rebecca Sanchez, 274-81. New York: New York University Press, 2023.

Mialet, H  l  ne. *Hawking Incorporated: Stephen Hawking and the Anthropology of the Knowing Subject*. Chicago: University of Chicago Press, 2012. ([Link to IsisCB](#))

Milbern, Stacey. "Notes on 'Access Washing.'" Disability Justice Network of Ontario, last updated April 25, 2020. <https://www.djno.ca/post/notes-on-access-washing>.

Mills, Mara. "Deaf Jam: From Inscription to Reproduction to Information." *Social Text* 28, no. 1 (2010): 35-58.

Mills, Mara and Dan Bouk. "The History of 'Impairment.'" *Osiris* 39 (2024): 27-56.

Mills, Mara and Jonathan Sterne. "Dismediation: Three Proposals, Six Tactics." In *Disability Media Studies*, edited by Elizabeth Ellcessor and Bill Kirkpatrick, 365-78. New York: New York University Press, 2017.

Mitchell, David T., and Sharon L. Snyder. "Disability Studies and the Double Bind of Representation." In *The Body and Physical Difference: Discourses of Disability*, edited by David T. Mitchell and Sharon L. Snyder, 1-31. Ann Arbor: University of Michigan Press, 1997. ([Link to IsisCB](#))

Mitchell, David T., and Sharon L. Snyder. *Narrative Prosthesis: Disability and the Dependencies of Discourse*. Ann Arbor: University of Michigan Press, 2001.

Nair, Aparna. "Enumerating Infirmary: Disability, Demography, and Empire, 1820-1950." *Osiris* 39 (2024): 75-94.

Oliver, Michael. "The Social Model in Action: If I Had a Hammer." In *Implementing the Social Model of Disability: Theory and Research*, edited by Colin Barnes and Geof Mercer, 18-31. Leeds: Disability Press, 2004.

Oliver, Michael, and Colin Barnes. *The New Politics of Disablement*. Basingstoke, UK: Palgrave Macmillan, 2012.

Ott, Katherine, David Serlin, and Stephen Mihm, eds. *Artificial Parts, Practical Lives: Modern Histories of Prosthetics*. New York: New York University Press, 2002. ([Link to IsisCB](#))

Oudshoorn, Nelly, and Trevor Pinch. "How Users and Non-Users Matter." In *How Users Matter: The Co-Construction of Users and Technology*, edited by Nelly Oudshoorn and Trevor Pinch, 1-25. Cambridge, MA: MIT Press, 2005.

Petrick, Elizabeth R. *Making Computers Accessible: Disability Rights and Digital Technology*. Baltimore, MD: Johns Hopkins University Press, 2015. ([Link to IsisCB](#))

Piepzna-Samarasinha, Leah Lakshmi. *Care Work: Dreaming Disability Justice*. Vancouver, BC: Arsenal Pulp, 2018.

Prior, Lindsay. "Belief, Knowledge, and Expertise: The Emergence of the Lay Expert in Medical Sociology." *Sociology of Health and Illness* 25, no. 3 (2003): 41-57.

Rogers, Emily Lim. "A Syndrome in Search of a Virus: ME/CFS, Disease Paradigms, and the Social Function of Pathogens." *Osiris* 39 (2024): 280-97. ([Link to IsisCB](#))

Rose, Sarah F. "'Crippled' Hands: Disability in Labor and Working-Class History." *LABOR: Studies in Working-Class History* 2, no. 1 (2005): 27-54.

Rose, Sarah F. *No Right to Be Idle: The Invention of Disability, 1840s-1930s*. Chapel Hill: University of North Carolina Press, 2017. ([Link to IsisCB](#))

Rose, Sarah F., and Joshua A. T. Salzmänn. "Bionic Ballplayers: Risk, Profit, and the Body as Commodity, 1964-2007." *LABOR: Studies in Working-Class History* 11, no. 1 (2014): 47-75.

Rosen, Stephanie S. "Disability in the Library and Librarianship." In *Crip Authorship: Disability as Method*, edited by Mara Mills and Rebecca Sanchez, 282-96. New York: New York University Press, 2023.

Rosenberg, Charles E., and Janet Golden. *Framing Disease: Studies in Cultural History*. New Brunswick, NJ: Rutgers University Press, 1992. ([Link to IsisCB](#))

Russell, Marta. *Beyond Ramps: Disability at the End of the Social Contract*. Monroe, ME: Common Courage, 1998.

Schweik, Susan M. "Archaeology of the 'Feeble-minded': In the Archives with Lee Swearingin." *Osiris* 39 (2024): 135-49.

Schweik, Susan M. *The Ugly Laws: Disability in Public*. New York: New York University Press, 2009.

Shew, Ashley. *Against Technoableism: Rethinking Who Needs Improvement*. New York: W. W. Norton, 2023.

Small, Christopher. *Musicking: The Meanings of Performing and Listening*. Middletown, CT: Wesleyan University Press, 1998.

Snyder, Sharon L., and David T. Mitchell. *Cultural Locations of Disability*. Chicago: University of Chicago Press, 2006.

Steere-Williams, Jacob. "Carbolic Colonialism: Plague, Public Health, and Disability in British India." *Osiris* 39 (2024): 225-43.

Stoler, Ann Laura. *Along the Archival Grain: Epistemic Anxieties and Colonial Common Sense*. Princeton, NJ: Princeton University Press, 2008.

Stone, Deborah A. *The Disabled State*. Philadelphia: Temple University Press, 1984.

Trent, James W., Jr. *Inventing the Feeble Mind: A History of Mental Retardation in the United States*. Berkeley: University of California Press, 1994. ([Link to IsisCB](#))

Trigt, Paul van. "Historicizing the Social Model: Some Preliminary Thoughts about the History of Disability, Science, and Politics in Postwar Britain and the Netherlands." In *"Disability Studies" Meets "History of Science": Körperliche Differenz und soziokulturelle Konstruktion von Behinderung aus der Perspektive der Medizin-, Technik- und Wissenschaftsgeschichte*, edited by Dominik Groß and Ylva Söderfeldt, 93-103. Kassel: Kassel University Press, 2017.

Union of the Physically Impaired Against Segregation and the Disability Alliance. *Fundamental Principles of Disability*. London: Union of the Physically Impaired Against Segregation and the Disability Alliance, 1976. <https://disabledpeoplesarchive.com/wp-content/uploads/sites/39/2021/01/001-FundamentalPrinciplesOfDisability-UPIAS-DA-22Nov1975.pdf>.

Venkat, Bharat Jayram. *At the Limits of Cure*. Durham, NC: Duke University Press, 2021. ([Link to IsisCB](#))

Vetter, Jeremy. "Lay Participation in the History of Scientific Observation." *Science in Context* 24, no. 2 (2011): 127-41. ([Link to IsisCB](#))

Viridi, Jaipreet. *Hearing Happiness: Deafness Cures in History*. Chicago: University of Chicago Press, 2020. ([Link to IsisCB](#))

Wendell, Susan. *The Rejected Body: Feminist Philosophical Reflections on Disability*. New York: Routledge, 1996.

White, Leslie A. "Science Is *Sciencing*." *Philosophy of Science* 5, no. 4 (1938): 369-89.

Williamson, Bess. *Accessible America: A History of Disability and Design*. New York: New York University Press, 2019. ([Link to IsisCB](#))

Williamson, Bess, and Elizabeth Guffey. *Making Disability Modern: Design Histories*. New York: Bloomsbury, 2020. ([Link to IsisCB](#))

Wilson, Daniel J. "Comment: On the Borderland of Medical and Disability History." *Bulletin of the History of Medicine* 87, no. 4 (2013): 536-39. ([Link to IsisCB](#))