Technologies of Reproduction: Race, Disability, and Neoliberal Eugenics

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ABSTRACT: When considering the relation between race, disability, and re-production, race and disability tend to figure as *outcomes* of reproduction. It is assumed that one births a child with a certain race and ability status as a function of biological and genetic processes. This paper shifts such analyses of race and disability in the context of contemporary reproduction to examine how race and disability are not only produced but are *productive.* Building on recent work describing race as a technology emergent in certain sociopolitical contexts and used to develop and maintain certain ways of life, intimate and collective relations, and political orders, this essay examines the possibilities for understanding disability as a technology. It argues that race and disability function as technologies in contemporary reproductive practices through the naturalization of choice, the normative production of 'risk,' and the making and unmaking of kinship.

KEY WORDS: Race, Disability, Technology, Reproduction, Neoliberal Eugenics

Historically, biological reproduction has been imagined as the site through which race is produced and managed. More recently, it has also been fig-ured as a site through which to control and prevent disability. Understood in these ways, 'race' and 'disability' become *outcomes* of reproduction—outcomes that can be controlled and managed. This is nowhere clearer than in late nineteenth to mid-twentieth century eugenic thought and practice. At the turn of the twentieth century, the U.S. practiced eugenics through multiple means, including the forced sterilization of the 'feeble-minded,' 'criminals,' and other so-called 'defectives' and the control of immigration and marriage practices. Methods of racialization and disable-ization worked in tandem here to justify the *prevention* of certain imagined classes of people and the *production* of others. For example, biological racism in-

volved a set of pseudo-scientific theories of evolution that claimed superior evolution for some racialized sub-groups of people—"light-skinned, upper class, Western European, heterosexual men" which then "informed how eugenicists understood and treated a series of human variations, many of which we now categorise as disabilities [and] mental illnesses" (Lenon and Peers 2017, 151–152).

Eugenic thought and practice is by no means over or isolated in the past. In fact, there has been a concerted scholarly attempt to rehabilitate eugenics, so to speak, making it more palatable for a neo-liberal environment espousing individual liberty, autonomy, and value pluralism (Mills 2011, 6). This approach aims to disarticulate a "new" or "liberal" eugenics from a state-sponsored, coercive form of eugenics-past. It lauds contemporary genetic and reproductive technologies for offering greater freedoms for parents (and potential children) and argues for the moral distinction between such "state-neutral" practices of today and totalitarian forms of eugenics in the past. Implicitly, "neoliberal eugenics" is also characterized by an increased sense of personal moral responsibility for procreation on the part of the parent(s) such that one is expected to make reproductive choices that maximize a child's capacity to flourish in and contribute to society, while minimizing their chance of being a so-called societal "burden."

Both "new" and "old" versions of eugenics assume the *value* and *capacity* of control over the results of reproduction. As Michael A. Rembis notes:

> Eugenics has endured, in large part because the USA, like most western societies, possesses a central vision of itself as steadily progressing toward a future free of disease and impairment, an assumption based largely upon the perceived ability of experts, the state, and private investors to gain increasing control over nature through the tools of modern science. (2009, 587)

While historically this fantasy of control was openly exercised at the state level, increasingly, the operation of this control has shifted to the individual through the use of assisted reproductive technologies (ARTs) such as gestational surrogacy, in vitro fertilization, and artificial insemination as well as practices such as preimplementation genetic diagnosis (PGD) and prenatal testing. The urge to manifest mastery over the unknowns of procreation coupled with the epistemic assumption that one *can* do this remains constant across both state and individual level interventions. These assumptions rely on the continued construal of race and disability as *biological substances* for which we can control—substances located in particular bodies and managed through forms of biological (and now, biotechnological) means. Today, an emphasis on *genes and genetic profiles* as imagined sites of race and disability shape the continued individualization and biologiziation of race and disability. The

locus of control for race and disability is often wrought through such understandings of genetics. Genes themselves are personified or made to bear the embodiment of race and disability categories. For example, although there are no genes that code for discrete allotment in racial groups as commonly delineated, race is understood as heritable through the expression of certain genetic traits. Likewise, genes themselves are thought to be 'defective,' thereby generating an understanding of so-called genetic *defects, disorders, and disabilities* as housed in the bodies of certain persons or the material substrates of soon to be persons.

Decades of scholarship in critical race and disability studies have critiqued such notions of race and disability as naturalized properties. Literature on the social construction of race and the social model of disability attests to this. And yet, reproduction has remained a site in which the re-inscription of biologized understandings of race and disability persists, albeit oftentimes under the guise of naturalized choice. For example, in ARTs, it is taken for granted that one would wish to racially "match" one's offspring or in embryonic implantation that one would select against disability.[1]

This essay works to challenge the sedimentation of race and disability as *locatable* in individual bodies or material substrates and literally *producible* given certain biotechnological, reproductive arrangements. I argue that race and disability are not passive products of reproduction but are instead *active technologies* in the reproductive affair themselves, instruments produced and used in the service of particular goals and processes and in particular contexts. Building on work describing race as a technology, I expand this theoretical lens to disability and examine how the technologies of race and disability are developed in the sphere of contemporary reproduction. I begin by outlining recent work within critical philosophy of race and critical race studies that theorizes race as a technology. I then explore the pathways opened up by current work in disability studies for conceptualizing disability as a technology. Understanding the function of race and disability *as technologies,* I argue, is crucial for analyzing contemporary reproductive practices and identifying the neoliberal eugenic problematics of naturalized choice, 'risk' production, and kin-making as well as the potentials for more liberatory approaches to race and disability in reproduction.

The target of my investigation is the idea that race and disability operate *merely as products* within the landscape of reproduction—that is, isolatable outcomes dictated by (naturalized) choice. As reproduction is increasingly practiced through assistive technological means, the sense in which race and disability are tools in the process rather than mere products becomes more and more apparent, and yet structural forces have orchestrated a return (or rather, a continuance) of eugenic thought and practice. While I will speak of race and disability in the language of *practices, relations, and forms of social organization* rather than as inhering in individual bodies, this ought not detract from the sense in which such practices *materialize* literal, physical bodies that are enabled and constrained in certain ways by the active and

ongoing construction of race and disability. My goal is to illuminate the oftentimes hidden agency of our ideas of race and disability and their power to not merely *describe* social reality but construct collective forms of life, expectations of relational engagement, and the dynamics of our social and political order.

Race as Technology

There has been a surge of interest in understanding race as a technology in recent years. This has come from a variety of disciplinary backgrounds including sociology, media theory, comparative literature, and philosophy (Coleman 2009; Sheth 2009; Chun 2011; Jones and Jones 2017; Russell 2018). This direction in scholarship aims to escape a framework for understanding the existence of race as tethered to its scientific validity or lack thereof. In adhering to this dichotomy, either one can claim race is real because it is somehow scientifically verifiable or that race is not real because it is not scientifically verifiable. The former position relies on a sort of racial naturalism that can lead to harmful biological essentialism while the latter may lead to the idea that race is *merely* illusory or a social construct, such that its social, political, and material lived reality is eclipsed. In order to escape this impasse, scholars theorizing race as a technology shift questions about the existence of race from a metaphysical arena concerned with what race *is* to a politically inflected discussion of what race *does*—how it operates in society and for what purposes.

Technologies are defined in terms of their instrumentality and can be understood in terms of the methods or processes related to achieving a certain goal or producing a certain effect. Their instrumentality is brought on by human intent and action, which instills meaning and purpose in technologies. In the context of race, technology is thus meant to conjure the sense in which race is both, as Camisha Russell (2018) puts it, produced and productive—it is a product of human meaning making and productive of various subjectivities, social and political realities, and literal, material effects on bodies and environments.

Understanding race as a technology requires attention to the sociopolitical order in which race operates and the goals (expressed or latent) of a given polity.[2] As Falguni Sheth argues, race is a technology that "organiz[es] and manag[es] populations in order to attain certain societal goals, such as political coherence, social unity, and a well-functioning economy" (2009, 22). Sheth describes three dimensions of the technological character of race in modern society. First, it acts as a medium by which society, oftentimes via law, selects what it identifies as potentially disruptive of status quo power operations. In this process, the classification and conceptualization of human beings as belonging to races is formed. The second dimension of race's function as technology is "its subsequent naturalization or reification as an objective category" (Sheth 2009, 32). Race is made to *appear* as a natural feature of

society thereby engaging its third technological dimension: the concealment of the power relation between the state and its populace. Key to the technology of race then is the sense in which it conceals itself *as technology, as political practice.* This allows the technology of race to maintain itself through the seeming 'givenness' of the natural, thus drawing power to enact "seemingly objective moral and political judgments" (Sheth 2009, 23). One goal of understanding race as a technology is therefore to uncover, make transparent, and thereby make it possible to intervene in the depths to which race and racism penetrates.

What does this theoretical shift offer to the study of race? First, it denaturalizes race by highlighting its production within certain sociopolitical contexts and power relations. Technologies, as Russell writes, "do not simply appear as a natural step in some sort of predestined journey of human technological progress; their appearances are much more conditioned and contingent" (2018, 51). Their appearance is not arbitrary, but made and pursued by particular people in particular ways and in particular sociohistorical epochs. Studying race as a technology uncovers the conditions of emergence of race as produced and as productive. Second, Russell points to the reciprocal arrangement of technologies in determining their/our existence. As she writes, "we determine technologies at least as much as they determine us" (Russell 2018, 52). While technologies are tools in the sense that they are 'put to work,' they are not neutral tools since "their very existence is already shaped by the context in which they are brought forth" (Russell 2018, 52). This theorization thus allows for two simultaneous visions of race—one identifying *how* it is put to use in certain contexts (and in certain ways) and the other identifying those background conditions that allow it to be put to use as such. Holly Jones and Nicholaos Jones (2017) describe these dual features as the *grounds* and *conditions* for their understanding of race as an *industrial technology.* What is meant by "industry" is any "relatively self-contained community of people wherein subgrounds of the community divide and coordinate their labor toward creating some good or service for large-scale distribution or consumption" (Jones and Jones 2017, 46). The "grounds" of race refer to "those factors by virtue of which the technology arises and persists" while the "conditions" of race refer to "those factors upon which the technology relies for realizing its distinctive functions, and which shape the impacts resulting from uses of the technology" (Jones and Jones 2017, 46). Such theorization clarifies while building complexity into our understandings of the function of race. Race as a technology is not stable; it persists by way of constantly shifting—shaping and being shaped by a variety of grounds and conditions.

The purpose of understanding race as a *doing* rather than a *being* and situating it in sociopolitical contexts and relations of power has a necessary liberatory angle. As discussed above, technologies are not all-determining. As such, one must conceptualize agency within this matrix of power, but through engagement with the struc-

tural elements of sociopolitical power. The end goal of agency cannot be individual choice but enacting the conditions in which "individual choice" can be genuinely and meaningfully engaged. In what follows, I explore routes opened up by current disability studies literature for conceiving of disability as a technology before finally turning to analysis of race and disability as technologies operative in contemporary reproductive practices.

Disability as Technology

Much work in philosophy of disability and disability studies more broadly has been concerned with the politics of the meaning of "disability." Seeking a move away from medicalized and individualized approaches to the concept of disability and towards discourses informed by social and political contexts and disabled individuals' experience of disability, this work has been indispensable to the ongoing project of disability theory and justice. Building on such work, I aim to move outside discourses of what disability 'is' and provoke discussion of what disability *does*—how it operates in certain contexts and with certain aims and outcomes.

Although it is now more common to understand disability through a social lens and thus as something that is socially *produced*, it is less common to understand disability as itself *productive*, as a tool used within and for the manifestation of broader social and political arrangements. In what follows, I consider the ways in which, akin to studies of race as technology, disability is a technology itself—something that is produced *and productive* within specific sociohistorical and political contexts and used to generate certain arrangements of power and hierarchy within society.[3] To do so, I draw on literature regarding disability as a social system and as a relational quality rather than a property of 'being.'

Recent work in critical disability studies aims to recast the field's orientation from the study of that which has been labeled 'disability' or 'disabled individual(s)' to the study of the *conditions* that congeal in order for 'disability,' as it tends to be understood, to exist, to be intelligible, and to persist. As Julie Avril Minich argues, we need to emphasize disability studies' "*mode of analysis* rather than its object of study" by "scrutinizing not bodily or mental impairments but the social norms that define particular attributes as impairments, as well as the social conditions that concentrate stigmatized attributes in particular populations" (2016). Critical disability methodology thus requires a shift in the field's guiding heuristic from 'disability' to the ability/disability *relation*. Sami Schalk uses the parenthetical adjustment of "(dis)ability" to formulate (dis)ability as a sociopolitical system. As she writes, (dis)ability refers to the "socially constructed system of norms [that] categorizes and values bodyminds based on concepts of ability and disability" (2017). As Schalk further elaborates:

> I use (dis)ability because unlike terms such as gender, which references man, woman, genderqueer, transgender, and other gender identities, disability without the parenthetical adjustment merely references disability and impairment. The term (dis)ability also highlights the mutual dependency of disability and ability to define one another. (2017, 6)

Minich's call for critical disability *methodologies* and Schalk's redesign of (dis)ability expands its function as a concept, providing for an understanding of the boundaries of 'disability' as shifting and porous, informed by material and discursive mechanisms of power and also open to rearticulation. This definition of (dis)ability also makes clear how critical disability studies concerns the liberation of all people "devalued" or "pathologized" by the ableist norms and values of society, which need not (and should not) be limited to those currently labeled or self-defined as disabled, positioning (dis)ability as "an essential ingredient of any political and social analysis" (Hall 2019).

In addition to foregrounding disability as a social system with attendant norms and values requiring criticism and liberatory transformation, disability scholars have developed different heuristics for conceiving disability beyond its status as a substantial property of either bodies or society. In "Desiring Disability Differently: Neoliberalism, Heterotopic Imagination and Intra-corporeal Reconfigurations," for example, Kelly Fritsch outlines what it might mean for disability to be conceived as a relational practice rather than a "thing." As she writes:

> Bodies are formed *within a relation,* rather than formed 'across' or 'between' already-formed bodies. To perceive how bodies emerge within a relation is the emphasize that any given body only ever emerges from, and is constituted by and within, always already tangled relations. (2015, 52)

Therefore, we ought not imagine disability as "a property of a thing." That is to say, it does not inhere in a single body, nor does it inhere in social or physical barriers. As Fritsch writes, "the 'essence' of disability is neither (say) a genetic mutation nor (say) a wheelchair blocked by a flight of stairs" (2015, 52). Rather, disability, as Tanya Titchkosky describes in *The Question of Access: Disability, Space, Meaning,* "is a way of perceiving and orienting to the world rather than conceiving of it as an individual functional limitation" (2011, 4). The *act* of conceiving something as disability, she writes, is "an oriented act of perception, intimately tied to evaluation that guides interaction" (Titchkosky 2011, 5). It is in this way that disability can be 'unmoored' from its articulation within the realm of being and recast as a doing *between* people, places, things, and events.

In other work, Titchkosky has critiqued the Canadian government's discourse on disability and inclusion, describing it as a "technology by which individuals and

populations are constituted as a problem" (2003, 517). In attempts to identify, enumerate, and respond to the demand of inclusion, Titchkosky argues, disability is *constituted as a problem.* As Titchkosky writes:

> Discursive practices that surround a society's 'problem people' are more than a reaction to an already existing difficulty or problem condition. These discursive practices are better understood as the technologies by which individuals and populations are *constituted as a problem,* and also serve as the means through which *collective relations to this problem are governed.* (2003, 520)

In effect reversing the assumed lines of causality, Titchkosky argues that discursive practices that aim to respond to the 'problem' of disability and inclusion are actually *producing and managing* societal relations, organizing populations as "disabled" and "re-constitut[ing] mythical 'normal' life, 'normal' body, or 'normal' movement as unquestionably real" (2003, 526). The technology of disability, in this sense, produces the 'problem' of disability which relies on materializing disability as individual privation, abnormality, loss, and disadvantages and featuring 'solutions' to this problem through individuals seeking individualized solutions, oftentimes through forms of inclusion into 'normal' society as a "economic and social contributor" (Titchkosky 2003, 533). Understanding disability as not just something that is produced but as a *tool* that organizes society and relations, provides for the liberatory space of "re-tooling" and constructing functions of disability *otherwise*—as relational, "interpretively engaged," and "revelatory of the human condition" (Titchkosky 2003, 534).

Thinking disability otherwise, as captured by Minich, Schalk, Fritsch, and Titchkosky is central to developing the notion of disability as a technology. Existing literature on disability and technology tends to focus on technologies as tools for disabled (and sometimes nondisabled) users. Inquiry takes shape through analysis of specific artefacts or processes that are used or generated by disabled individuals. My discussion of technology shifts lenses to develop the frame of disability *as* technology. Understanding disability as a technology asks in what ways the social system of disability has been generated and marshalled in order to achieve certain societal ends. How has disability been practiced and for what overt or covert purposes? For instance, we might ask: how do discourses and practices related to "perfection" and "progress" use disability to enact certain aims? How is disability assembled in the service of utopian or dystopian views of the future? How does disability construct the meaning of 'risk'? How is disability used to produce norms of social cohesion, consolidate state power, or develop certain economic orders? Analysis of disability and race as technology can be applied in a variety of arenas. The remainder of this

paper focuses on the technologies of disability and race as they operate within contemporary reproductive practices.

Technologies of Race and Disability in Contemporary Reproductive Practices

In describing race and disability as technologies my aim is to understand how each have been made and how they have operated (often in tandem) in particular historical and sociopolitical contexts. It is not meant to imply that either has been constructed for a single purpose or has maintained a unified purpose throughout history. Technologies are not merely aids, but forces that reshape meaning and intentionality and they can, as Russell writes, "affect our intentionality with respect to our world [and] our sense of what is possible, desirable, and useful" (2018, 50). Thinking of race and disability as tools—as means by which other sorts of ends are attained—shifts our analysis from the 'being' of race and disability to their formation in and enactment of certain social systems, relational forms, and political orders. As Russell describes, the terminology of 'technology' should bring to mind the very *material* nature of race— and for our purposes here, disability as well—in the sense that we must "go beyond seeing race [and disability] *as constructed* to involve examining the things race [and disability are] *used to construct* and how this is accomplished" (2018, 53).

In this section, I explore how race and disability function as technologies in the reproductive process. Doing so illuminates how race and disability are not only produced, but *productive* as well. As technologies, they enact certain sociopolitical orders, intimate and collective relations, and visions of the future that inevitably structure our present. As I will go on to show, in their dominant functions within contemporary reproduction, race and disability operate as tools furthering neoliberal responsibilization and generating a particularly eugenic social order. Exploring *how* such technologies function is crucial to developing forms of resistance and a "re-tooling" of race and disability within the reproductive process. I outline three ways in which we can understand race and disability as technologies of reproduction: through the naturalization of choice, the production of narratives of 'risk,' and the making and un-making of kin. Underlying many of these processes is the obfuscation of state responsibility for rectifying social, political, and economic injustices and the enactment of eugenic thought and practice. I therefore conclude that we ought to conceive of contemporary reproduction as a site through which the technologies of race and disability must continue to be interrogated and re-tooled and wherein reparative work concerning structural oppressions must occur.

The Naturalization of Choice

Today, assisted reproductive technologies and prenatal and genetic ancestry test-
ing together result in *reprogenetics*, or the use of genetic technologies to generate
or prevent the inheritance of particular genes. In this way, choice in reproduction
becomes more transparent. Oftentimes, this *transparency* of choice is mistaken for
genuine conditions of choosing. Today, this mere *transparency* of choice functions
within a realm where choice is *naturalized.* What I mean by this is that decisions
about race or disability in the context of reproduction are taken to be so self-evident
that they are oftentimes not even posed as questions. While the U.S. fertility indus-
try describes the very constructedness of their aim to "create families," as Seline
Szkupinski Quiroga writes, "what remains unspoken is the desire to create a certain
type of family, one that closely matches, and thus reproduces, the heteropatriarchal
model of a white nuclear family" (2007, 144). To this sexual and racial critique of
U.S. fertility projects, I would add a disability critique, outlining the uninterrogated
desire to reproduce in ways oriented toward normative ability and through aspira-
tions of physical, social, and intellectual fitness. Choices in reproduction are made
more transparent through possibilities like sperm donor selection and genetic se-
lection, but these decisions are not made in a societal vacuum: individual decisions
are made in normative environments that, as Catherine Mills writes "delimit the
boundaries of normal and abnormal bodies" and "[shape] perceptions and valu-
ations of possible bodily lives" (2011, 27). Notably, such boundaries are delimited
quite literally given that many countries mandate that clinics screen donors for her-
itable diseases before including them in their registry. In the U.S., the Food and
Drug Administration (FDA) determines donor-eligibility by the results of donor
screening and testing. Donors must show that they are "free from risk factors for,
and clinical evidence of, infection due to relevant communicable disease agents and
diseases" (U.S. Department of Health and Human Services Food and Drug Admin-
istration Center for Biologics Evaluation and Research 2007, 3). In the UK, the Hu-
man Fertilisation and Embryology Act expressly prohibits selecting gamete donors
and embryos with genetic abnormalities that have the potential of bearing a seri-
ous physical or mental disability, illness, or medical condition. While most clinics
screen donor gametes for genetic anomalies, such practices can vary significantly
given a lack of agreement among physicians about what anomalies are acceptable
and which constitute exclusion. There may also simply be variation among screen-
ing protocols given which tests are available and/or typically performed. These con-
tingent practices help determine what constitutes 'abnormality,' 'disability,' and the
grounds for exclusion in the first place since "what constitutes a disease or disability
is in part determined by what conditions it is possible to test for" (Karpin and My-
kitiuk 2020, 10).

Discourses on preconception, preimplantation, and prenatal screening purport the expressed interest to prevent suffering through the elimination of chromosomal or genetic variation and the risk of future impairment, but given the tenuous links between suffering and the wide variety of chromosomal and genetic variation for which patients, embryos, and gametes are screened, the underlying aim of such discourses ought to more readily be understood via the aspiration to create "normal" or "healthy" children. And yet, there is little consensus on what actually constitutes "health," outside of the biomedical definition of health as the absence of illness or disease. The resultant conflation of difference with ill-health in ART discourses manifests a eugenic practice of which we ought to be cautious.

Consider for example how, while genetic counseling and other reproductive interventions are supposed to be "non-directive," the unstated assumption, from both providers and patients or clients is that these tests and technologies exist in order to reduce the number of children in the world with disabilities and genetic disorders. As Dorothy Roberts writes:

> Given medical professionals' implicit directive favoring genetic selection and powerful stereotypes that negatively depict disabled people, many women are left with a false impression of the nature of parenting a disabled child and the quality of disabled people's lives (which genetic testing cannot predict). (2009, 795)

Beneficence in this context of reproductive decision-making involving a wide range of potential disabilities amounts to extinction, illuminating the systemic, eugenic biases resulting from "free choice."

By making choice appear self-evident in the context of reproductive, reprogenetic decision-making, the social order is naturalized via "casting its features as biological facts" (Roberts 2009, 796). That is, in locating strategies to improve society in the reduction of births of socially marginalized people, attention to social problems and *social, structural solutions* are elided. What follows is the illusion of control of a social order through eugenic reproductive organization. Through the biologiziation of social problems, the state wields its eugenic power via the abnegation of responsibility. While it may appear as though there are major distinctions between overtly state-wielded eugenic power and "liberal" eugenics of today (as some scholars espousing eugenics like to call it), the state is simply exercising this eugenic power differently—through punitive functions like the rollback of welfare and disability-related supports as well as the privatization of remedies for illness and social inequality through the cultural force of individual moral responsibility for not 'burdening' society. Choice is both abundant and forced, generating an air of increased autonomy

with an invisible background of punitive, structural measures against making the 'wrong' choice.

The Production of "Risk"

Another outcome of the technology of race and disability in the contemporary reproductive setting is the production and construction of *risk*. "Risk" here is not a neutral, statistical evaluation. Risk functions discursively to control reproductive outcomes. Increasingly, "risk" is identified as inhering in particular *genes*—embryos are described as "at risk" for physical and mental anomalies. This construction of risk is left uninterrogated and the *social* production of risk and what it entails is elided. As Snyder and Mitchell write, "genetic testing essentially bestows a disability-based identity on an unborn foetus in that parents contemplate whether or not to abort based on their knowledge (or lack of knowledge) of living people with that diagnostic label" (2006, 407). Locating risk in bodies or biomaterial substrates mandates biological "solutions" to managing such risk. The effects or purpose of such production demands "genetic testing serv[e] as a form of privatization that makes the individual the site of governance through the self-regulation of genetic risk" (Roberts 2009, 794). This is a risk that is not neutrally described and managed but is actively connoted as hazardous, thereby demanding elimination.

Moreover, risk in contemporary reproduction is used to buttress existing power hierarchies so that not all risk is "equal." That is, some risks seem to be worth taking given society's investment in whiteness. Take for example the discrepancies between projects that aim to patrol and prevent the procreation of poor and/or black and brown mothers and those ARTs that *produce* risk, *so that* white parents can biologically reproduce. As Roberts writes:

> While welfare reform laws aim to deter women receiving public assistance form having even one additional healthy baby, largely unregulated fertility clinics regularly implant privileged women with multiple embryos, knowing the high risk multiple births pose for premature delivery and low birth weight. The public begrudges poor mothers a meager increase in benefits for one more child but celebrates the birth of high-tech septuplets that require a fortune in publicly-supported hospital care. (2005, 1343–1344)

Additionally, poor, non-white mothers are often punished for substance abuse which might occur during pregnancy while middle-upper class women who use pharmaceuticals to treat their mental health problems are applauded. Both instances carry significant risk and yet technologies of race function to produce the appearance of risk in the former and not in the latter. In her analysis, Roberts show-

cases how "the privatization and punishment of reproduction links together [poor nonwhite women and wealthier white women] to avoid public responsibility for social inequities" (2005, 1344). Population control programs operating through welfare regulations and incentivized sterilization procedures as well as genetic selection technologies that heighten parental responsibility for producing children with the best life chances and the least burden on society serve alongside each other to "reinforce biological explanations for social problems . . . [shifting] responsibility for improving social conditions away from the state" (Roberts 2005, 1344). Both punishment and privatization, I suggest, revolve around "risk" as a heuristic linking racialized and (dis)able-ized forms of genetic control. These forms of management track status quo operations of eugenic thought and action whereby white, middle to upper class individuals are supported in the procreation process while nonwhite, poor, and otherwise marginalized individuals are left unsupported, chastised, or actively barred from procreation.

Additionally, in contemporary pre-birth testing, the rhetoric of 'risk' is often used to refer to the possibility of a child having a particular "genetic defect," but as Gregor Wolbring writes, "risk is not a factual term but a cultural construction of a biased term with an attached negative judgment" (2014, 190). In the discourse of Down Syndrome, for example, he writes, "the term risk is used to justify the availability of pre-birth tests which was first promoted for women over a certain age as they would have an 'increased risk' of a child with Down Syndrome" (Wolbring 2014, 190). Risk is not neutral, and it is only in the context of longstanding structural ableism that it becomes intelligible in this way.

More broadly, "risk" has changed dramatically over the past many decades. As Snyder and Mitchell write, risk used to be "collectivized and mitigated by the state" but with the "neoliberalization of the state," the stratification of life chances have radically increased and "now, to make risk calculation profitable, risks are individualized as subjects are produced through, for example, biopolitical 'high risk' DNA profiles that surveil, screen, and measure individual health indicators" (2006, 21). As they go on to describe, through individualized biometrics, risk is ever-present rather than an isolated event: "rather than having a body that is defined as inherently healthy, the body is inherently ill and always needs to be enhanced or made better" (Snyder and Mitchell 2006, 21). In the context of reproduction this profiling targets conceiving individuals as responsible for risk mitigation not only in their own bodies but in the bodies they may produce and this 'risk' is figured within normative contexts of structural oppressions and eugenic impulses. Our dominant "sociotechnical imaginaries," for example, locate an "'abnormal' embryo as having Down syndrome, and according to this logic there is no future for the future child that embryo might have become with Down syndrome" (Karpin and Mykitiuk 2020). Notions of "risk"

arising through reproductive processes thus expand from their point of identifica-
tion to predetermine futures without disability, naturalizing a present wherein the
avoidance of disability is a given.

The Un/Making of Kinship

As mentioned above, what is created through ARTs is not simply a baby, but fami-
lies themselves. Race and disability in contemporary biotechnological reproduction
function as a kin-making (or un-making) devices. Because there is no fixed natural
basis for establishing kinship, kinship is continually *constructed* and then *natural-
ized,* or *made to appear* outside of human control and manipulation (Thompson
2005). Therefore, part of the "creations of families" that occurs in the fertility clinic
involves, as Russell notes, "ensur[ing] that the *correct* couple or person comes to be
understood as the parent(s) of that child" (2018, 106; emphasis mine). Identifying
the 'correct' couple or person to be matched with the 'correct' child necessitates the
use of "ideas of race, ethnicity, and culture . . . as resources available to fertility pa-
tients in their construction of naturalizing narratives" of parenthood (Russell 2018,
107).

Take for instance the assumption of "racial-matching" in assisted reproductive
practices. As Russell writes, "To create a baby of one's own race, with or without
technological assistance, is considered so natural as not to even constitute a choice"
(2018, 35). This naturalization of choice, as discussed above, becomes apparent only
when the unstated social "rule" of racial matching is disrupted or violated. For ex-
ample, in the 2014 case of *Cramblett v. Midwest Sperm Bank,* the Plaintiff Jennifer
Cramblett sued for "wrongful birth" after being inseminated with the sperm of a
black donor instead of the white donor she had chosen. Cramblett had a black/
mixed race child and in her lawsuit appealed to a loss of "shared genetic traits"
which she presents as an implicit—or 'natural'—desire. She describes her daughter
as "*obviously* mixed-race" and herself as "*obviously* different in appearance" (Lenon
and Peers 2017; emphasis mine), followed by a list of difficulties this presents. And
yet, Cramblett is *no less genetically related* to her daughter than if she had received
any other donor's sperm. Though "individuals are routinely categorized into races
on the basis of certain arbitrary yet heritable traits such as eye shape, hair texture,
stature, and skin color," Quiroga writes, "there is not one gene, heritable cluster of
traits, or characteristic that defines racial membership" and as such "race is not her-
itable" even though "the folk idea that race is reducible to biological features remains
prevalent" (2007, 146). Cramblett's "loss" is actually about the fact that she now
exists in a parental relationship to her genetically-related but "racially distant" kin.
And the loss is one of no longer being able to maintain her sense of (white) self and
the social power that affords. As a technology in the context of reproduction, race

acts as a kin-*un*making device here, un-suturing the literal, physical, and genetic (!) relation Cramblett has to her daughter, thereby maintaining a status quo investment in the property of whiteness and idea of racial purity. Similarly, in *Johnson v. Calvert,* Anna Johnson, a single black woman fought Mark and Crispina Calvert (a white man and Filipina woman) for rights to a child who was genetically "theirs" but whom Johnson had carried and delivered. As Valerie Hartouni describes, a host of racial ideas and images positioned Johnson in the public discourse through a "crude, if not commonplace, set of racial caricatures and cultural narratives" about black women, the black family, economics, and merit (1997, 95). Such discourses were ultimately used to discredit Johnson's claims to having bonded with the child she gestated while supporting the Calvert's connection to the child via their and the child's (white) skin color. In this case, the Calverts were granted parental rights to the child, showcasing how the social system of proprietary whiteness functioned as a kin-making technology while the rights of a gestating woman to her literal kin were eclipsed. Ultimately, as Russell argues, "where race serves as a proxy for kinship, it can become a tool for various parties to a reproductive procedure in naming the 'correct' person or people as the true parent or parents of a child produced" (2018, 41).

The technology of disability also functions within and through kinship-making processes. Contemporary reproductive practices including genetic ancestry testing, prenatal genetic testing, and high-resolution ultrasounds, have consequences for how individuals interpret the act of "making-kin." While conventional understandings of kinship appear limited to the personal or domestic sphere, it is important to recognize "the cultural work performed by the circulation of kinship narratives through various public media as an essential element in the refiguring of the body politic" (Rapp and Ginsburg 2001, 535). As Rapp and Ginsburg describe, the possibility of a disabled child oftentimes demands the incorporation "of unexpected differences into a comprehensive narrative of kinship" (2001, 536).[4] Currently, given the implicit directed-ness of genetic testing and the overriding assumption and expectation of selecting against disability in reproduction, there are significant barriers to doing the cultural work of building "disability consciousness" or "a more expansive sense of kinship across embodied difference" (Rapp and Ginsburg 2001, 534). These barriers are exacerbated given the hyper-agency and therefore, hyper-responsibility placed on parents (in particular, gestating women) for reproductive decision making. Access to medical and social knowledge about disability and *from* disabled individuals is oftentimes sparse while cultural narratives involving a desire for normalcy and a fear of raising a child with a disability abound. Additionally, the literal lack of social and material supports for raising a child with a disability are a real concern that implicitly supports eugenic elimination of those with stigmatized differences, producing a feedback loop in which the routineness of prenatal testing as a health procedure

in contemporary reproduction uses disability (and more specifically, narratives of the 'risk' of disability) to maintain the status quo of expecting a "normal" baby. In her analysis of preimplantation genetic diagnosis (PGD) testing and selection, Mills describes how "the predetermination of the *qualities* of the newborn indicates a transformation in our mode of relating" (2011, 126). Instead of being born for the "unexpected appearance of *who* they are," the newborn "is born for *what* they are" (Mills 2011, 96). Disability functions here as a mediation of forms of relating and belonging at the site of reproduction and acts in ways that *materializes* bodies and kinship networks by regulating their social appearance.

Conclusion

At present, the technologies of race and disability in the context of reproduction coalesce to produce various forms of eugenic thought and practice. Participation in this schema is oftentimes subtle and made to be nearly inescapable given the structurally ableist and racist dimensions of society. But in working to address these eugenic harms, understanding race and disability as technologies crucially identifies the active and productive ways race and disability manifest effects related to the organization of society. This infuses within analyses of race and disability a sense of agency and responsibility for engaging with race and disability not as outcomes of reproduction but as tools producing our social and material worlds themselves. Conceiving race and disability as technologies of reproduction opens up discussion of their functioning beyond the establishment of the naturalization of choice, production of 'risk,' and maintenance of dominant forms of kinship and urges us to consider how to structurally "re-tool" our creations.[5] My discussion of the dominant functioning of disability and race in ARTs is therefore not meant to be deterministic. Technologies can develop different and perhaps resistant purposes in relation to their dominant designs and operations. Much work is ongoing on these fronts and we ought to acknowledge the cultural and political work that disability and race can perform.

As technologies working against the grain of dominant culture, race and disability construct and reconstruct collective and intimate relations and ways of being in and envisioning the world. Take for example Rapp's and Ginsburg's analysis of kinship and their call for structural, social and material changes in order to enhance "disability consciousness," bridging the gap between "the medical knowledge of a fetal anomaly and social knowledge about life with a child who bears that condition" (2001, 543). Within disability justice communities, authors and activists have articulated the notion of "crip doulaship" to describe the ongoing work of disabled (and non-disabled) kin-making and the development of different cultures and communities founded on disability consciousness. In an interview with Leah Lakshmi

Piepzna-Samarasinha, Stacey Milbern articulates "crip doulaing" as the process of "crips mentoring and assisting with birthing into disability culture/community, different kinds of disability, etc.," (Piepzna-Samarasinha 2018, 240). This experience is both ubiquitous in disability communities and made invisible in an ableist world. Crip doulaing concerns the rebirth of the self as disabled or as differently disabled. It is a practice of becoming that involves, as Milbern describes, "maybe learning how to get medicine, drive a wheelchair, hire attendants, change a diet, date, have sex, make requests, code switch, live with an intellectual disability, go off meds, etc. etc." (Piepzna-Samarasinha 2018, 240). Support in navigating this process is indispensable and necessary in a world that lacks such structures of support. Naming disability as a process emerging through doulaship works to build alternative worlds with new lexicons. As Piepzna-Samarasinha writes:

> Naming disability as a space we can be born into, not alone but supported and welcomed by other disabled people—and then again and again as we acquire new disabilities or discover words for things that have been there all along—that warm doulaed space creates a container that changes not only the entire way both individuals can experience disability but the ways disability communities can be formed. (2018, 241)

In part, as a corrective to disability avoidance structures in ART, doulaship makes disability futures real and viable. Crip doulaship makes other worlds possible, building societal structures conducive to developing knowledges, skills, and "wildly imaginative solutions," to navigating the 'every day.' It illuminates the ways in which "disabled people . . . [think] of ideas abled people never would have, primarily by focusing their time and efforts on using what they do have, the space between them, rather than putting their attention on the limitation or lack of ability" (Piepzna-Samarasinha 2018, 252). This has potential repercussions for challenging and re-working our present political and economic structures, affective economies, and interpersonal engagements. In the context of ART, crip doulaship offers a radical reassessment and *reinvestment* in disability as generative itself—not something to avoid, but something to build new worlds through and around.

Likewise, amidst the problematic functioning of race and disability as contemporary technologies of reproduction, Roberts writes that she can still "imagine a new utopia arising from feminists' radical resistance to enlisting women as genetic screeners in service of a neoliberal agenda, a resistance that is emboldened by new alliances—joining reproductive justice with antiracist, disability rights, and economic justice movements that recognize their common interest in contesting a race-based reprogenetic future" (2009, 800). Understanding race and disability as technologies, as productive rather than mere products of the reproductive endeavor, allows us to

interpret the reproductive arena in more complex and nuanced ways, rejecting a narrow focus on the adjudication of individual reproductive decisions and employing a broader, structural analysis of the conditions under which such decisions are made. This helps provide the basis and context for the formation of solidarity networks working against the grain of dominant power structures. The development of shared social and political goals across separated segments of society is one way in which the technologies of race and disability can work to construct different societal norms, values, and ways of relating. For example, we might consider race and disability as technologies through which social, political, and economic reparations can be manifest—not in response to a supposed harm located in or identifiable by the raced or disabled body, but to a set of explicit and implicit eugenic social conditions. What might race and disability *do* here? What can and should be done given deep-rooted and intertwined histories of racist and ableist oppression? At the very least, these questions are explicitly provoked by an analysis of race and disability as technology and provide a conceptual corollary to the expansion of social welfare programs and the development of reparations programs on the basis of living under racist and ableist forms of power.

The functioning of race and disability within ARTs does not begin and end with the naturalization of choice, production of 'risk,' and formation of kin-making and un-making procedures, but rather gives way to a potential re-tooling of race and disability in more liberatory ways. Ongoing work by disability justice and anti-racist authors and activists as well as critical race and disability scholars is forging such liberatory, productive futures for the technologies of race and disability. Future work must continue down this path.

ENDNOTES

1. In identifying the default to "racially match" one's offspring in ART, I am not making normative claims, but merely describing the current state of affairs. There are various ethical and political reasons given our current societal arrangement why choosing to racially "match" one's offspring as a racially marginalized person would be important. My focus is on how ARTs make it so biological manipulation signals a racializing process that thereby, implicitly, "re-biologizes" race.

2. There is a long history of critical theorists on race and racialization who put forth an understanding of race attendant to its emergence from and operation in various socio-political environments, including, as one reviewer of this essay helpfully pointed out, CLR James, Cedric Robinson, Sylvia Wynter, Frantz Fanon, and Alia Al-Saji. While these theorists do not use the language of technology, they employ the underlying critical-theoretical elements of understanding race as technology. The language of technology helps further illuminate the workings of race and racialization, especially in a present environ-

ment in which biological assumptions about race are making a resurgence through forms of biotechnological engagement such as ARTs and genetic profiling.

3. Casting these approaches to disability under the heading of *disability as technology* aims to center disability as socially and materially productive rather than a (mere) social or material product. While this approach undoubtedly intervenes in the politics of meaning and is therefore indebted to the fundamental tenets of disability studies, it emphasizes the practical consequences, the materializations of disability that are operative on personal, interpersonal, societal, and structural scales.

4. This of course assumes the birth of a disabled child into a family unaware of and (seemingly) unaffected by disability. For many disabled individuals or those with histories of disability in their ancestry, the work of building disability consciousness and making it a central form of preparing for, welcoming, and connecting with their children is already an explicit part of the kin-making process.

5. By using the language of "re-tooling" I do not mean to suggest a type of individual agency to correct structural harms or dominant constructions of power and hierarchy. What I do mean to suggest is that we might be able to understand and theorize the effects of a *possible* structural retooling by reflecting on the ways in which individuals are presently constructing resistant communities and imaginaries and oftentimes making decisions against the grain of dominant power hierarchies. These acts coalesce to provide the contours of more liberatory forms of being, relating, and belonging.

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