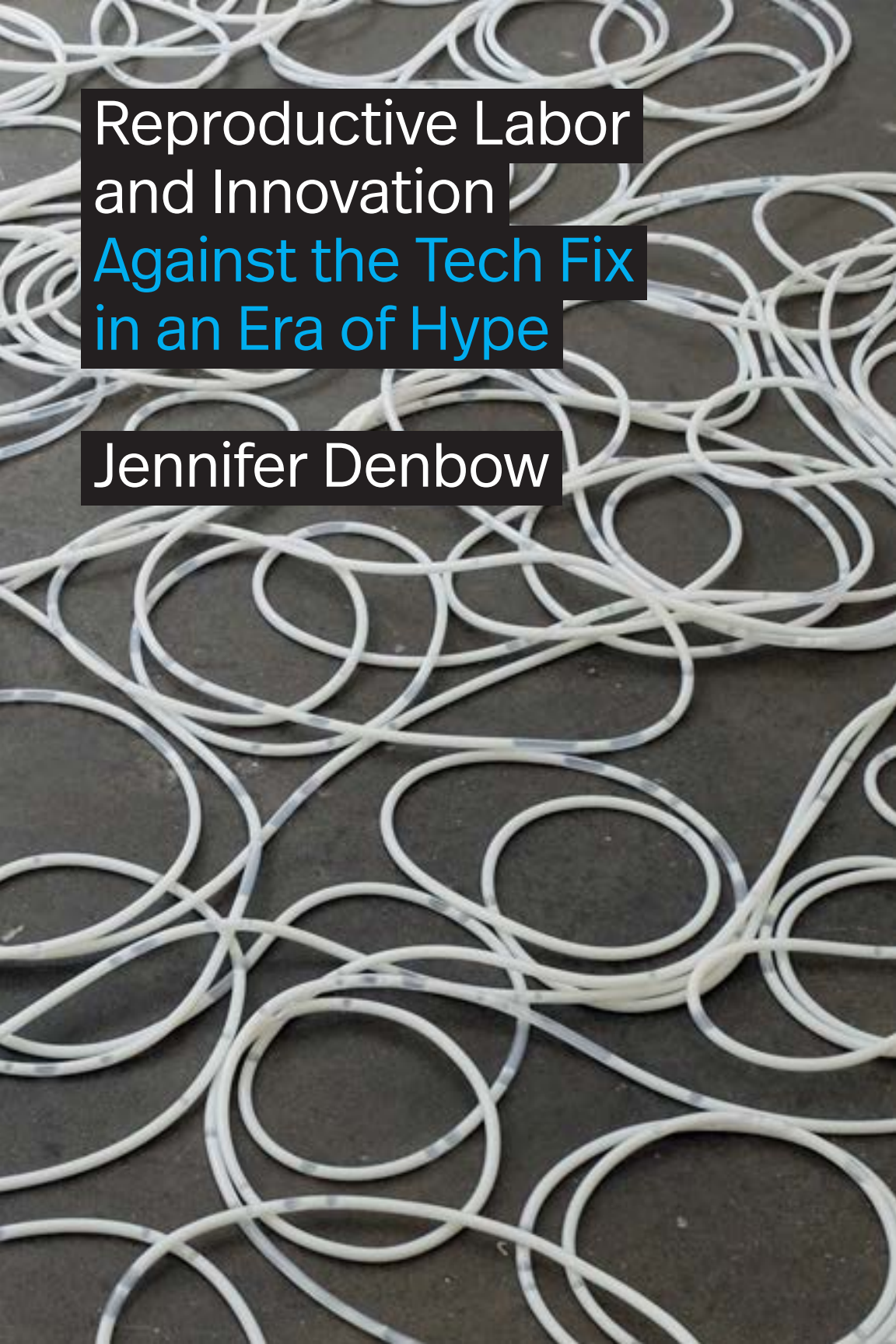
Reproductive Labor and Innovation
Against the Tech Fix in an Era of Hype
Jennifer Denbow

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and Innovation

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# REPRODUCTIVE LABOR AND INNOVATION

## Against the Tech Fix in an Era of Hype



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# INTRODUCTION: OTHERING REPRODUCTION

## *Neoliberalism and the Innovation/Reproduction Binary*

More powerful people can fob the work of care onto others: men to women, upper to lower class, free men to slaves, those who are considered racially superior to those whom they consider racially inferior groups. Care work itself is often demanding and inflexible. People who do such work recognize its intrinsic value, but it does not fit well in a society that values innovation and accumulation of wealth.

Joan Tronto, *Caring Democracy*

I composed this book partly in my campus office in a concrete building erected in 1980 at the public university where I am a professor. The building, with the uninspired official names of "Faculty Offices North" and "Building 47"—but informally known by the moniker "the maze"—houses the faculty and staff offices for most of the College of Liberal Arts. My office sits on the ground floor, and a dirt slope dominates the view from my office window. As I wrote this book, I watched construction crews above the dirt slope erect a new building that now houses the William and Linda Frost Center for Research and Innovation. The center, which opened as I was completing revisions to this manuscript, towers over the squat liberal

arts building. The new building's interior offers shiny spaces for "cutting-edge" research and laboratories. A little room is reserved for the liberal arts, but only in areas where it intersects with technology.[1]

One of the donors for whom the new building is named is a former CEO of a company that makes chemicals for the oil and gas industry. Although the university is part of the California State University, the largest public university system in the country, declining state funding means that new initiatives, particularly expensive ones like new buildings, need to attract private funding. University initiatives thus need to appeal to donors' sensibilities. My university is far from alone in lauding and pouring resources into the notion of innovation, which has become an almost unassailable idea. It connotes progress, technology, and problem-solving and has become a magnet to attract capital for projects of all kinds.

Because of its location on the upper slope of the hill on which the main campus sits, the Research and Innovation Center is a significant presence in the skyline and a symbol of the importance of innovation to the university. Not far from the new building, on the other side from my office, sits the campus learning lab preschool that my daughter attended. It is located in "Building 38," which, like my office building, is in an older structure with a low profile. When my child was enrolled and with a nominal faculty discount, I paid about a quarter of my take-home salary per month for childcare that was provided until just 4:30 in the afternoon each day.[2] The fact that I could obtain childcare, or in political theorist Joan Tronto's words, "fob the work of care onto others," is an expression of my power and privilege. Professional workers like me generally have the ability to hire others—who are disproportionately women of color and immigrants—to take care of their children, performing work that tends to be poorly remunerated and insecure and leaves childcare workers with less time to care for their own kin.[3]

Why do we in the United States pour resources into innovations while impoverishing those who do the critical work of reproductive labor? Why don't donors line up to fund childcare centers? Why doesn't the state itself more robustly fund childcare? The answer is at once obvious and confounding. Childcare does not bring profit, nor does it appear to solve our social problems or drive our economy. Yet it is absolutely indispensable to the well-being of society and the economy. In the case of social problems, as I argue throughout this book, the degradation of reproductive labor is a chief factor in contemporary social and political ills. In fact, to address these ills, we need to collectively support reproductive labor. Yet innovation has come

to connote problem-solving, and powerful actors present it as a panacea, thus justifying the funneling of resources toward innovation and normalizing the material deprivation of reproductive laborers. The new building on my campus is thus an apt symbol of the societal dominance of technological and business enterprises, overshadowing the humble home of the liberal arts—the place where we sometimes find critiques of the dominance of these enterprises—and the place that is devoted to the care of children.

This book is dedicated to understanding the aggrandizement of innovation and its relationship to the degradation of reproductive labor in the United States. I use the term "innovation/reproduction binary" to describe the dialectical relationship between the fetishization of innovation and the devaluation of reproductive labor, revealing how innovation has been constructed as a panacea to social ills. This notion minimizes investments in reproductive labor, helping to justify both the accumulation of wealth for corporate innovators and the impoverishment of those who perform the bulk of reproductive labor. This book argues that the hypervaluation of innovation and the devaluation of reproductive labor, while usually treated as distinct phenomena, are intertwined facets of how neoliberalism has manifested in the United States and explores how they relate to each other in different contexts.

In this introductory chapter, I explain some of the key concepts of the book—such as innovation, neoliberalism, reproductive labor, and reproductive justice—before providing an overview of US neoliberal policies regarding both innovation and reproduction. I use these policy overviews to argue that the state and capital prize technological fixes to problems and frame them as responsive to public will even while the care deficit—that is, the unmet need for reproductive labor—grows and is widely framed as an individual problem. The chapter then provides a theorization of the innovation/reproduction binary, showing what it does for neoliberalism and arguing that it updates the long-standing liberal public/private and productive/reproductive divides for the neoliberal era while still resting on the devaluation of the reproductive realm.

**Innovation and Neoliberalism**

The positive connotation of innovation is a relatively recent phenomenon. With roots going back to ancient Greece, for much of its history, innovation was used to condemn practices or ideas that were perceived to threaten the established order.[4] Benoît Godin argues that in the nineteenth century

innovation experienced a "semantic rehabilitation," during which it acquired associations with utility and progress. In the twentieth century, innovation gained a commercialized undertone. Innovators came to be viewed as those who are different, creative, and ingenious. As Godin says, innovators "are experimenters, entrepreneurs, leaders; they are the agents of change."[5] In the 1970s, use of the term "innovation" expanded and served as a kind of replacement for "progress." According to science and technology studies (STS) scholars Lee Vinsel and Andrew Russell, "progress" was associated with Progressivism and suggested the use of "government and policy to improve citizens' situations," while the nascent movement for innovation rested on the notion that "technological change—and the new industries that went along with it—would (at least indirectly) produce the necessary social goods on its own."[6]

In contrast to reproduction's association with tradition and affective ties, innovations are associated with novelty and profitability. While innovation is a slippery term, I follow Vinsel and Russell in understanding "actual innovations" as "the profitable combination of new or existing knowledge, resources, and/or technologies."[7] This definition underscores the centrality of profit to innovations; it implicitly questions the notion that innovations are necessarily beneficial and asks us to consider who profits from innovations and who they may harm. Vinsel and Russell also make a distinction between actual innovations and "innovation-speak," which is "an ideology with a set of values." This ideology is based on the idea "that social progress comes from the introduction of new things" and that clear mechanisms can be used to facilitate breakthroughs.[8] Christopher Newfield makes a link between innovation and neoliberalism in particular, arguing that "neoliberalism's legitimacy rests on its reputation for innovation, which is as hard for society to oppose ideologically as, say, the divine right of kings was for an earlier period."[9]

This book builds on these ideas to argue that, more than just a buzzword, innovation is a central component of the prevailing capitalist logic that works systematically to erode structural analyses of reproductive labor as a feminized and racialized category of work, thereby contributing to its further devaluation. The idea that innovations, especially technological and scientific ones, hold the solutions to social and political problems has become common sense. Innovation has been turned into a panacea. The reorientation of economics, law, and policy around the promotion of innovation is a central but relatively understudied component of neoliberalism that merits further scrutiny. As Nancy Fraser and Linda Gordon note, an

essential "element of politics . . . is the struggle to define social reality and to interpret people's inchoate aspirations and needs."[10] Certain phrases or keywords become crucial sites of contestation over collective understandings of the social and political world. Innovation is one such keyword. In order to understand and move beyond the contemporary obsession with innovation, it is necessary to examine "the tacit assumptions and evaluative connotations that underlie" it.[11] To that end, this book investigates innovation's relationship to neoliberalism and to reproductive labor in the United States. While there are global components and reverberations of the ideology of innovation as I outline it, my analysis of the innovation/reproduction binary describes how neoliberalism and its ideology of innovation have manifested in the United States.

Neoliberalism is at once a set of policy goals—which have redistributed wealth upwards, increased corporate power, and eroded social safety nets—and a political rationality. Neoliberalism suffuses the state with economic thinking and the expansion of market logic to govern "the sayable, the intelligible, and the truth criteria" of an increasing array of domains.[12] On Wendy Brown's reading of Foucault, neoliberal rationality gives rise to and functions through discourses, though it is not identical to a discourse.[13] When discourses in the Foucauldian sense "become dominant, [they] always circulate a truth and become a kind of common sense."[14] Innovation discourse has become dominant in many areas, although it is still challenged by counterarguments and dissent. Neoliberal rationality operates in part through a discourse of innovation, the symbolic and material components of which have aided its rise.

It is thus important to unpack the meaning of innovation, which is a vexing task given the ubiquity and flexibility of the term. In this introduction, I map some of the important nodes of innovation discourse, primarily as it pertains to the state's relationship to science and technology in the United States. In subsequent chapters, I attend both to the ways in which innovation discourse has spilled over into other domains and to the global repercussions and entanglements of US policy and discourse.[15] Much of the literature on innovation examines innovation in one specific area of policy.[16] Existing literature also tends to treat innovation as disconnected from neoliberalism or only fleetingly attend to its ideological function.[17] In contrast, I bring together an array of literature to illuminate the pervasiveness of innovation discourse, to connect it to neoliberalism and financialized capitalism, and to reveal its ideological function in a systematic and theoretical way. I also uncover the material and symbolic links between innovation and reproduction.

## Reproductive Labor, Disability, and Justice

A key argument of this book is that the overvaluation of innovations contributes to the obfuscation of the importance of reproductive labor and legitimizes the funneling of resources toward corporate innovations and away from reproductive labor.[18] In this way, I am in conversation with the rich Marxist and socialist feminist literature that reveals the devaluation of social reproduction, despite its centrality to the economy and the state.[19] Following that tradition, I use the term "reproductive labor" expansively to cover, as Laura Briggs puts it, "the work necessary to the reproduction of human life—not only having and raising children but also feeding people; caring for the sick, the elderly, and those who cannot work; creating safety and shelter; building community and kin relationships; and attending to people's psychic and spiritual well-being."[20] The use of the term "reproductive labor" underscores the labor or work of reproduction and its centrality to capital accumulation and political economy.

Reproductive labor is the basis of social reproduction. Nancy Hartsock, drawing on Isabella Bakker's work, describes social reproduction as comprising three elements: "biological reproduction, reproduction of the labour force, and reproduction of provisioning and caring needs."[21] Reproductive labor, then, encompasses many different kinds of care work, though this book is particularly concerned with the care of children and disabled people.[22] In discussing this aspect of reproductive labor, I sometimes use the term "care work." In doing so, I am not using the term to include all types of emotional or affective labor.[23] Rather, my use of "care work" draws on how the term is used in some disability justice scholarship and activism to discuss the essential need for care labor. Queer and disabled people of color developed the disability justice framework, which in the words of Patty Berne, one of the movement's founders, "understands that all bodies are unique and essential, that all bodies have strengths and needs that must be met."[24] Disability justice advocate Leah Lakshmi Piepzna-Samarasinha uses the term "care work" and roots it in an understanding of our essential interdependence.[25] I follow them in calling for an understanding of reproductive labor, or what they call care work, as a collective responsibility, not "an individual chore" or "an unfortunate cost of having an unfortunate body."[26]

The understanding of reproductive labor that I am employing is in keeping with and indebted to reproductive justice scholarship and activism. Originating with the organizing of Black women, the framework of reproductive justice offers a more expansive and social justice–oriented

understanding of reproductive politics than that which is provided by mainstream reproductive rights organizations, which often focus exclusively on the narrow right to abortion. The movement for reproductive justice came from feminists of color who organized against reproductive abuses such as coerced sterilization and racist welfare policies.[27] Reproductive justice, as Loretta Ross and Rickie Solinger describe it, has three main components: "(1) the right *not* to have a child; (2) the right to *have* a child; and (3) the right to *parent* children in safe and healthy environments."[28] The ability to raise children "in safe and healthy environments" necessitates access to resources that support the reproductive labor that is central to raising all children. As Ross and Solinger put it, "individuals must have the ability to raise their children with the social supports they need to provide safety, health, and dignity."[29] Neoliberal policies, as I describe below, took resources away from reproductive labor and were pushed using racialized images of the "welfare queen" who was undeserving of support for herself or her children.[30] These policies are a form of reproductive injustice.

Jina B. Kim has argued that the rhetoric of the welfare queen, with its pathologization of dependency on the state, employs "ableist reasoning" in the way it "cast[s] entire categories of people as undeserving of public support."[31] She uses this insight to uncover "how the language of disability undergirds the ongoing erosion of public resources alongside other forms of state-sanctioned violence," calling for attention to the affinity between critical disability politics and feminist of color theorizing.[32] Ross and Solinger articulate this affinity through an examination of the link between reproductive justice and the support that is needed to raise children with disabilities, saying that "the need for comprehensive support services for disabled children and their caregivers is absolutely a reproductive justice claim."[33]

I expound on the relationship between disability justice and reproductive justice in chapter 3, but I want to touch briefly here on the interlocking interests of these movements. They both take a social justice approach to issues that are often publicly presented as individual problems—inability to access an abortion, say, or the inability of a disabled person to find employment. Rather than locating the problem in the individual, each movement locates the problem within broader social structures and injustices. On the intersection of disability and reproductive justice, Ross and Solinger explain that "the reproductive justice perspective argues that the disabled person is not the burden, but the lack of social supports absolutely burdens parents who have children with special needs and burdens the children themselves."[34] This book builds on that understanding, viewing the care

of disabled people as an important component of reproductive labor for which we have a collective responsibility and countering ableist and racist rhetoric that demonizes dependency.

Centering reproductive labor as an issue of reproductive justice also means accounting for the feminization and racialization of that work. The increasing privatization and commodification of reproductive labor in the United States has continued the preexisting unequal and hierarchical distribution of care burdens that scholars refer to as stratified reproduction.[35] For example, immigrant women and women of color perform much of the poorly remunerated and insecure work of reproduction. As examined in chapter 2, those who are assigned to the lowest status care work are feminized and racialized through their labor, which itself is stigmatized because of its association with marked others.[36]

One of my key interventions in this book is to reveal how innovation is an ideological term that forecloses the possibility of addressing the exploitation of reproductive laborers and undervalues their labor. This analysis speaks to the necessity of justice for workers and to how the overvaluation of innovation masks the urgency and necessity of structural responses to systemic racism and the climate catastrophe. If our goal is a livable world, we need to attend to the ways in which the fetishization of innovation is endangering that project. This involves unpacking the historical policy shifts that have fueled the overvaluation of innovation.

### The Rise of Innovation Policy: Private Innovation for the Public Good

The history of federal policy in the United States reveals that the goal of spurring innovation has been key to arguments for deregulation since at least the 1960s, though Benoît Godin argues that policymakers did not embrace "innovation policy" as an overarching strategy until the 1980s.[37] The advent of innovation policy reworked the state's relationship to science and was also part of broader neoliberal efforts aimed at deregulation, tax reform, and enhanced intellectual property rights. The neoliberal era has brought about an unprecedented degree of privatized science in which the corporate sector has significant influence on scientific research and profits heavily from it.[38] While the fetishization of scientific progress did not originate with neoliberalism, the rise of innovation discourse was connected to changes in prevailing beliefs about how to spur innovation and the importance of that endeavor.[39] Many of the policies that were implemented do

not neatly align with neoliberal thinkers' diverse and complex views on science policy.[40] Even so, innovation policy constitutes a component of what Michel Feher calls "actually existing neoliberalism."[41]

To put this in historical context, after World War II, public funding of basic research increased dramatically, and "industrialists appropriated the idea that basic research is a resource for the development of enterprises."[42] Accordingly, in the mid-twentieth century, researchers, government agencies, and private consultants began theorizing innovation, and publications on innovation expanded rapidly in the 1960s.[43] Two important developments occurred alongside this shift: spurring innovation was increasingly treated as something that should guide national policy in order for nations to have a competitive edge, and innovation became shorthand for *technological* innovation. As part of a broader effort to present their work as socially responsible, engineers and policymakers used innovation rather than invention or technological change in many policy documents "to stress application—*versus* mere discovery and scientific research."[44] At this point, then, innovation became tethered to instrumental rationality. Godin finds that in its policy documents from the 1960s and 1970s, the Organization for Economic Cooperation and Development (OECD) viewed technological innovation as "a means to economic growth, productivity and market share."[45]

As a later example of this shift, in 1980, Congress issued a "Special Study on Economic Change" that both offered tepid support for "broad scale development of childcare facilities" in order to enhance women's job's prospects and contained one of the first articulations of a comprehensive policy framework geared toward incentivizing innovation.[46] The congressional report framed innovation in unequivocally positive terms: "Industrial innovation is at the core of the economic well-being of the US and is a major contributor to economic growth."[47] The study's policy recommendations included regulatory reform to ease burdens on businesses, patent reform, and strong federal support for research, particularly at universities. It also called for tax reform to encourage venture capital investment.[48] In 1981, as part of President Ronald Reagan's tax cuts, Congress passed the federal research and experimentation tax credit, which gives companies a tax break for technological "research and development" activities. In the following years, innovation policy became further entrenched and was heralded as the solution to, in President Jimmy Carter's words, "some of the Nation's most pressing problems."[49]

A paradigmatic example of the policy shift toward both prizing innovation and the conflation of innovation with commercializing technology

is the 1980 Bayh–Dole Act. The drive to incentivize innovation led to the passage of the act, which allows institutions like universities to patent innovations that result from government-funded research and then encourages such publicly funded patents to be used for private wealth accumulation. The Bayh–Dole Act thus enables and encourages greater sharing of technology and research between the academy and business.[50] As such, the act implies "that the purpose and rationale for academic research is to generate knowledge that can be commercialized."[51] As STS scholar Shobita Parthasarathy puts it, in passing the act, "Congress reinforced its vision of patents as pivotal innovation and market drivers."[52]

In keeping with the notion that patent law should be conducive to innovation, intellectual property jurisprudence is broadly framed as a regime that should be centrally focused on incentivizing innovation. Parthasarathy shows that in the United States, "legislators, judges, patent lawyers, and bureaucrats" understand that the only relevant concern in patent adjudication is "whether patents stifle or stimulate innovation."[53] This singular focus on driving innovation, and thus rendering any other social or moral effects of the patent system irrelevant to decision-making, predated the era of neoliberalism. But with the transformation of intellectual property (IP) in the 1980s, this thinking became more widespread as more and more things became patentable. In the 1980 case of *Diamond v. Chakrabarty*, the US Supreme Court reiterated the central concern of the US patent system on driving innovation and also allowed patents on life-forms, declaring that "anything under the sun made by man" could be patented.[54] This expansion of IP rights was especially important for the emerging biotechnology industry. (This concept is elaborated on in further detail in chapter 3.)

As many scholars have argued, neoliberal policies that have broadly deregulated finance have helped fuel the expansion of the power of financialized capitalism.[55] While various neoliberal innovation policy recommendations specifically called for this deregulation of the financial sector as a means to encourage private investment in research, the rise of financialized capitalism itself has also helped to propel innovation discourse. Financialized capitalism refers not just to the magnitude of the financial sector but also to the enormous power of that sector in determining what the overall economy looks like. With the rise of financialized capitalism, governments sought to attract investors through some of the innovation policies just described, including corporate-friendly taxes and strong IP, as well as a flexible labor market.[56]

With the rise of financialized capitalism and the attendant increase in the importance of credit, investors gain more power to decide which people and which projects receive resources and the conditions under which resources will be distributed.[57] The logic according to which investors grant businesses and projects credit is often bound up with innovation, as explained more in chapter 3. As Étienne Balibar puts it, "certain sectors, particularly innovative sectors, in the sense of new commodifications, draw a major part of the credit to maximize financial returns."[58] This has been particularly true when it comes to private investment in science and technology.[59] Hyping scientific endeavors as innovative, which also suggests patentability, has become central to attracting investment and helped to fuel the proliferation of innovation discourse. In other words, financialization has contributed to the uptake of innovation as a catchall term for speculative, potentially highly profitable business ventures, particularly those involving scientific or technological novelty. Investors are also especially attracted to investments that are couched in terms of social good, which perpetuates the association of profitable innovations with problem-solving and overall prosperity.[60]

Innovation is useful in justifying IP rights, deregulation, and a corporate-friendly tax regime because it is both an ambiguous and positive term. The large-scale shifts to the funding, oversight, and profitability of science discussed above were justified with the help of the discourse of innovation. The prevailing belief has become that corporations require strong property rights and a friendly regulatory environment to provide the innovations that we all want and need. Otherwise, progress and prosperity will be stalled, and the United States will lose its competitive edge in the globalized world. The discourse of innovation, then, fuels a neoliberal regulatory regime that concentrates power and wealth in the hands of the few while characterizing the regime as a way of unleashing American ingenuity to provide solutions to common problems. Moreover, the idea that the United States is the global hub of innovation propels the idea of American superiority and deflects attention from its severe problems and endemic injustices, including the deepening reproductive labor crisis.

Invoking innovation, with its connotation of benevolence, allows someone who is making a claim to exclusive use (as is often the case in IP law) or arguing for deregulation to suggest that they are not solely motivated by profit or their own good. Innovation is unassailable in part because it is presented as undergirding national well-being and prosperity. Thus, to be in favor of regulations that would stifle innovation is to be opposed to progress and the public good. Conflating innovation with the public good

obscures the fact that many "innovations," from the Uberification of work to Roundup-resistant crops, tend to further enrich the wealthy and increase the precarity of everyone else. This perspective perversely defines the undermining of the common good as beneficial for all.

This phenomenon can be seen in the initial policy responses to the pandemic, many of which trafficked heavily in the idea that corporate scientific and technological innovations would benefit everyone. Thomas Cueni, director of the primary organization that represents the pharmaceutical industry at the World Trade Organization (WTO), said of the COVID-19 crisis, "our hopes are pinned on scientific innovation and, in particular, potential treatments and vaccines."[61] He lauded intellectual property rights as "the main reason there is such a strong innovation base to work from to find solutions."[62] His view reflects that of the industry and many state actors throughout the pandemic: innovations will provide the solution, and IP rights are central to promoting life-saving innovations. As such, IP rights are "not a hindrance, but a help to contain and end COVID-19."[63] Cueni and others intensified this line of argument in the wake of calls from South Africa and India for the WTO to waive IP rights for coronavirus vaccines in order to increase vaccine access in the Global South.[64] As exemplified in the way that IP rights have hindered global access to vaccines and coronavirus treatments, exacerbating global health inequalities, innovation as a supposed cure-all obfuscates the structural sources of injustice and detracts attention from weak public health infrastructures.[65] As Ruha Benjamin explains in a different context, a "narrow investment in technical innovation necessarily displaces a broader set of social interests."[66]

The array of policies promulgated in the name of innovation—more of which are discussed in chapter 1—tend to harness the apparatus of the state in order to funnel economic rewards to private actors, thus deepening structural problems and systemic inequality. For example, the neoliberal reforms that have diminished public coffers through tax breaks for corporations and the wealthy help to justify the erosion of funding for collective safety nets and social welfare that support reproductive labor.[67] The need to create a system that adequately spurs innovations is seen as a collective and political problem that can be addressed through policy reforms that incentivize and subsidize private actors. Yet every act of creation is an appropriation of the social and cannot happen without the collective or without reproductive labor. Although innovations are collective phenomena that can result only from social participation and the use of collective resources and knowledge, according to the dominant ideology of innovation, innovations are

both obviously good and result primarily from private, entrepreneurial actions. To encourage them, we must adequately reward private actors. This contrasts sharply with the reigning political view of reproductive labor in the United States.

**Personal Responsibility for Reproductive Labor**

The rise of innovation policy in the United States roughly coincided with the defeat of federal childcare support. In 1971, Congress passed the Comprehensive Child Development Act, which would have created a universal childcare system.[68] President Richard Nixon, following the advice of Pat Buchanan, vetoed it. In his address regarding the veto, Nixon declared that universal childcare would weaken the family's "rightful position as the keystone of our civilization."[69] Furthermore, he contended that "all other factors being equal, good public policy requires that we enhance rather than diminish both parental authority and parental involvement with children." Nixon proclaimed that putting federal monies toward the establishment of childcare would "commit the vast moral authority of the National Government to the side of communal approaches to child rearing over against the family-centered approach."[70] Although activists, politicians, and policymakers made subsequent attempts to provide widespread federal support for childcare and preschool, none ever came as close as the 1971 legislation.

Apart from the lack of increased public support for childcare, the neoliberal era has seen broad state and employer disinvestment from support for reproductive labor, which, though severely limited, had been important to the state-managed capitalism that preceded neoliberalism. The state-managed capitalism of the mid-twentieth century, in political theorist Nancy Fraser's words, "internalized social reproduction through state and corporate provision of social welfare" and rested on the ideals of the family wage and separate spheres.[71] The male breadwinner ideal was central to the mid-century organization of labor and its intersections with race, gender, and class. For instance, Black men were excluded from the family wage, and Black women were excluded from the housewife ideal, often performing domestic work in white homes.[72]

Beginning in the 1960s, civil rights activism led to the expansion of welfare to provide modest support for single mothers. As Evelyn Nakano Glenn describes, "for the first time, sizable numbers of poor African American mothers were able to gain access to welfare."[73] Although reproductive labor has never been robustly and properly valued in the United States, the advent

of the neoliberal era marked a change in how it is allocated and arguably intensified its devaluation. In subsequent decades, the state withdrew much of the support for social reproduction. The Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) enacted under President Bill Clinton to realize his pledge to "end welfare as we know it" provides a stark example of this change. As Melinda Cooper describes, PRWORA "sought as far as possible to replace public responsibility for the welfare of poor women with a state-enforced system of private family responsibility."[74]

The legislation arose out of anti-Black racism and gutted support for poor mothers. As Dorothy Roberts has argued, the idea that Black women's reproduction was the source of social ills such as poverty fueled the slashing of welfare as a means of curbing Black fertility. Welfare became "a tool of social control, a means of improving the behavior of poor families," pushed through a rhetoric of personal responsibility.[75] In framing paid work as a marker of personal responsibility and employing racist logics, the PRWORA diminished the sense of any collective responsibility for caring with each other in a democratic polity.[76] Ross and Solinger explain that the legislation "aimed to reduce aid to the stereotypically Black, hyperfertile, lazy, and irresponsible recipient, even though the majority of recipients [of welfare] have always been white."[77] The racialized and gendered image of the welfare queen has underpinned broad state divestment that has exacerbated material inequalities. The welfare queen's attendant "narrative of dependency" has, as Kim puts it, "vitally shaped the ongoing regime of state divestment, whose intensification of material and social inequality we see fully in our contemporary moment."[78]

More broadly, and in contrast to corporate innovation policy, state actors and policy tend to present racialized and gendered reproductive labor as both a private good and private responsibility.[79] Oftentimes, child-rearing in particular is viewed as something that should fall to the individual because having a child is framed as an individual choice, with racist logics often underpinning the belief that there is no public responsibility for supporting children in poverty.[80] In this view, state or even employer subsidies for that care are unjustified handouts and an affront to the liberty and hard work of those without dependents.[81] This enhanced privatization of reproductive labor has dovetailed with the social conservative belief that the family should shoulder the bulk of the responsibility for care work to diminish collective support for much reproductive labor. As Cooper illuminates, neoliberals and social conservatives have jointly been very much committed to reinstituting "the private family as the primary source of economic

security and a comprehensive alternative to the welfare state."[82] Moreover, some neoliberals, following Friedrich Hayek, were just as invested in economic and market freedom as they were in protecting traditional gendered and sexual hierarchies.[83] The consequences of this view of reproductive labor have been severe. For example, 40 percent of workers in the United States do not qualify for even a paltry three-month unpaid leave following the birth or adoption of a child. In addition, 25 percent "of employed moms return to work within two weeks of giving birth—only 13 percent have access to paid leave."[84] The absence of paid parental leave places the burden of infant care squarely on the individual, most often mothers.

Other aspects of what Tronto calls the "care gap"—that is, unmet care needs—include inadequate health insurance coverage, the lack of social support for people with disabilities, and the financialization of care. Recent decades have seen the growth of what Gary L. Albrecht calls the "rehabilitation industry," in which care services are increasingly driven by profit, and quality of care depends on wealth and form of insurance coverage.[85] Furthermore, access to care is becoming financialized, with private equity firms, for example, buying long-term care facilities. As Emma Dowling describes, the current political-economic system simultaneously pushes a logic of personal responsibility and enlarges "opportunities for marketisation and financialisation that are premised on precariousness and the perpetuation of unequal burdens of care work and unequal access to care."[86] In this way, financialized capitalism more generally contributes to the debilitation of care workers and the degradation of reproductive labor.

As the belief that the burden of reproductive labor should fall on the individual has become more deeply entrenched and has increasingly guided policymaking, the structure of work over the last four decades has also undergone important changes. More women have entered the labor market, eroding the male breadwinner ideal and giving rise to the ideal of having two wage earners in a household. Other changes to work include the rise of the "gig economy," increased work hours, globalization, and the growth of the service industry. The expansion of the service industry is tied to the entrance of more women into the paid labor force, leading to, in Silvia Federici's words, "large quotas of housework" being "taken out of the home and reorganized on a market basis."[87] As neoliberalism took hold, government and business largely stopped even paying lip service to the idea that they might have a role in providing support for care work. As Briggs puts it, "care labor has been intensely privatized—there's not even a pretense anymore that businesses should pay a 'family wage' or protect workers' reproductive

health or that government ought to be concerned about the well-being of communities, families, children or elders."[88] At the very moment when policy became increasingly oriented toward spurring innovations, the material supports for the social reproduction that serves as the basis for innovation and the economy and society as a whole were further eroded.

These trends have collectively contributed to the intensification and increased stratification of reproductive labor, as many workers across income levels have to work more hours for less pay, reducing their ability to raise their own children and care for other kin.[89] As anthropologist Shellee Colen first defined it, the concept of stratified reproduction refers to how "social, economic, and political forces" structure reproductive labor, ensuring that it is "accomplished differentially according to the inequalities that are based on hierarchies of class, race, ethnicity, gender, place in a global economy, and migration status."[90] In other words, stratified reproduction highlights the role of power in affecting who performs reproductive labor and under what conditions.

Today's stratified reproductive labor grows out of a long history of racial capitalism. For example, Patricia Hill Collins explains that slavery led to the "controlling image" of Black women as "the mammy—the faithful, obedient domestic servant," an image that was "created to justify . . . economic exploitation."[91] With the end of slavery, Black women had few employment opportunities other than domestic work, which, as Premilla Nadasen explains, "was characterized by economic and sexual exploitation, as well as the denial of black women's humanity and motherhood."[92] In the Southwest, domestic laborers were more likely to be Mexican immigrants or Mexican Americans, and they tended to be clustered in the lowest-paid positions. After World War II, the percentage of people employed as domestic workers shrank, even as the racialized stratification of that work continued.[93]

In the late twentieth century, as affluent, predominantly white women entered the professional workplace in greater numbers, they tended to hire women of color, often immigrants, to take care of their children. This work is still poorly paid, poorly regulated, and precarious. Childcare workers are overwhelmingly women; 40 percent of these workers are people of color, and 22 percent are immigrants.[94] This has resulted in "a dualized organization of social reproduction, commodified for those who can pay for it, privatized for those who cannot."[95] The growth of commodified care labor and the caring service industry—which includes workers such as home health aides, nursing home attendants, and nannies—are a central part of what Briggs refers

to as the "extractive economy of caring labor." The "unidirectional flows of care work—from South to North, from poor to wealthy"—illustrates this extractive economy.[96] Moreover, as Tronto argues, the deepened inequality that neoliberalism brings "diminishes the sense of 'caring with,'" further eroding a sense of collective obligation for reproductive labor and further imperiling democracy.[97]

The coronavirus pandemic deepened this reproductive labor crisis. The initial shuttering of childcare facilities and schools, followed by costly public health measures such as reduced capacities, have been disastrous for the childcare industry, which was already in a precarious position. Childcare workers have been especially hard hit.[98] Although not immune to innovation discourse, as I will show in later chapters, the childcare crisis is less amenable to the rhetoric of innovation than the public health crisis. This is in part because, as Federici describes, "the production of human beings is to a great extent irreducible to mechanization, requiring a high degree of human interaction and the satisfaction of complex needs in which physical and affective elements are inextricably combined."[99] More government support of childcare could have alleviated some of the harshest effects of this crisis early on. And while the childcare industry has received some limited federal relief, the industry and its workers are still in deep peril.

### The Aggrandizement of Innovation and the Degradation of Reproductive Labor

The continued destruction of democratic values and the devaluing of the social reinforce the aggrandizement of innovation and degradation of reproductive labor. The idea that corporate innovations provide solutions to wide-ranging problems and undergird our well-being has more appeal after decades of neoliberal devaluation of public and democratic values. The changing relationship of the state to reproductive labor under neoliberalism has been the subject of a growing body of academic research.[100] Yet, no one has considered in depth the connection to innovation discourse. This project, which I undertake here, is important because examining the changes to reproductive labor through the simultaneous aggrandizement of innovation and the degradation of reproductive labor illuminates how each is a component of neoliberalism as it manifests in the United States. Important symbolic and material connections exist between the two movements, and these trends should not be understood as simply happening simultaneously and in parallel; they also have significant overlap and surprising connections.

In many ways, reproduction is the symbolic other to innovation, and we can understand the neoliberal fetishization of innovation as otherizing reproduction. The innovation/reproduction binary connects to a whole set of long-standing hierarchical binaries, including masculine/feminine, work/care, white/Black, public/private, independent/dependent, economic/familial, citizen/foreigner, and culture/nature. Whereas innovation connotes progress, independence, freedom, market orientation, and creativity, reproduction connotes tradition, dependence, subjection, a domestic or private orientation, and dullness. These associations help to explain the depressed wages of those who perform reproductive labor, including childcare workers, home health aides, and nurses. By telling us that society moves forward, and indeed solves its most trenchant problems through flashes of insight and technological development, the state's preoccupation with innovation obscures the centrality of reproductive labor to the maintenance of society and legitimizes the continued devaluation of that labor. The preoccupation with innovation has resulted in the neglect, deferral, and degradation of the everyday work of social reproduction. As Vinsel and Russell put it, "our obsession with the new undermines and devalues the mundane labor people do all around us, on which our lives depend each and every day."[101]

Turning toward Marxist feminist theory can provide a way to conceptualize the contrast between innovation and reproduction as a neoliberal modification of capitalism's separation of production from reproduction. As Marx argued, capitalism depends on and creates capital from "the social means of subsistence."[102] Federici and others have extended this idea to show how housework—and reproductive labor more broadly—is, "at all points, subject to the conditions imposed on it by the capitalist organization of work and relations of production."[103] Marxist feminist theory attends to the social value of reproductive labor without romanticizing it. Tithi Bhattacharya explains that Marxist feminist theory focused on social reproduction "interrogates the complex network of social processes and human relations that produces the conditions of existence for [the worker]."[104] Reproductive labor is understood as work that has social value and that cannot be theorized outside of, or separate from, the public realm of production. As such, and as the wages for housework movement argued, reproductive labor should be compensated and collectively supported.[105]

Attention to reproductive labor reveals the structural issues involved in the feminization, racialization, and degradation of that work. That reproductive work should be largely unremunerated and performed primarily

by women of color is often taken for granted, which allows for the neoliberal expropriation of that labor. More than that, masculinist power rests on the devaluation of feminized labor, and, as Sarah Sharma puts it, labor is feminized "by virtue of its very diminishment."[106] While the state needs to ensure that masculinized innovators are adequately compensated for their brilliance, else they will cease innovating, the state as well as employers have no need to adequately compensate the feminized work of reproductive labor. Innovation discourse thus receives some of its symbolic force from its effacement of the already degraded work of reproduction.

As the state and capital have come to prize innovation, they have eschewed the value of reproductive labor in new ways; they rely less on the institution of marriage and the male breadwinner ideal and more on the myriad changes to work and neoliberal policies that have cut support for reproductive labor. Like so many other domains, reproductive labor has increasingly been economized, understood through market logics, and often commodified.[107] The forces that neoliberalism unleashed have fueled the enhanced economization of reproductive labor, with "perhaps one-sixth of the paid economy . . . now spent on care."[108] The point here is not that the commodification of reproductive labor is wholly new but that it has expanded in recent decades.[109]

These changes have altered and strained the public/private binary that depends on a gendered division of labor and is constitutive of liberalism.[110] This division between public and private has both conceptual and spatial elements. Political theorist Carole Pateman describes this division in the following way: "The private, womanly sphere (nature) and the public, masculine sphere (civil) are opposed but gain their meaning from each other."[111] Pateman shows how this division operates in liberal political theory to make the private sphere appear apolitical, as though it has "no relevance to the public world."[112] Yet she and other feminist scholars have uncovered how power relations structure the private realm and the many ways in which the public and private are deeply intertwined. One crucial feminist insight is that the allegedly autonomous masculine subject of the public sphere depends on feminized reproductive labor in the private sphere. As Wendy Brown explains, "the power of the dominant term" in various "constitutive dualisms" of liberalism—such as public/private, autonomy/dependence, and liberty/necessity—"is achieved through its constitution by, dependence upon, and disavowal of the subordinate term."[113] Extending Brown's idea of constituent dualisms, I posit that reproduction and innovation are constituent dualisms under neoliberalism and financialized capitalism.

With the advance of market rationality and the increased economization of reproductive labor, the boundaries between public/private and productive/reproductive are increasingly and more visibly blurred. Even the home itself, as Tronto argues, has become primarily an investment and "a resource to exploit" for pecuniary gain rather than centrally a place of nourishment and comfort.[114] As Catherine Rottenberg puts it, the proliferation of market rationality "increasingly erodes the conceptual framework of the private-public divide."[115] It is difficult to maintain that reproduction takes place primarily in the domestic, private realm when reproductive labor is being steadily more commodified and increasingly takes place in the public, economic realm. Furthermore, as the pandemic highlighted and accelerated, plenty of waged "productive" work takes place within the home.

To build on Rottenberg's idea, I propose that the conceptual divide between reproduction and innovation provides an altered conceptualization of the intertwined public/private and productive/reproductive divides. Like the masculine public sphere, the dominance of the masculinized realm of innovation both obscures power relations and depends upon feminized reproductive labor. As such, innovation has become dominant through its dependence on and disavowal of reproduction. While there are thus parallels between the operation of the public/private binary and the innovation/reproduction binary, the antinomies are not equivalent, and the analogy is not all-encompassing. Instead, I argue through the book that the innovation/reproduction binary is a neoliberal modification of the public/private binary that is more useful in an era in which the conceptual and spatial differentiation between public and private is breaking down. While the differentiation between public and private is eroding, the conceptual divide between innovation and reproduction has gained traction. Reproduction continues to be obscured and depoliticized, but now, I argue, this happens in part through the overvaluation of innovation.

As such, the reproduction/innovation binary both builds on and updates the spatialized and gendered division between public and private. The public, political sphere is where innovations are either stifled or incentivized. Thus, spurring innovations requires state maneuvers for the benefit of capital, which is viewed as leading to overall prosperity. Innovation discourse deflects attention from the need for public support for reproductive labor—which social conservatives view as eroding family values and gendered hierarchies—by positioning innovations as the central driver of the economy. Although reproductive labor is economized, its foundational role for the economy and the state is obscured in part because innovations

are fetishized as the source of progress and prosperity. Framing reproductive labor as an individual concern undertaken for private good contributes to this obfuscation. Thus, the hyper-valuation of innovation contributes to the continued degradation of reproduction even as its disassociation with the private, nonmarket realm accelerates. The expanded commodification of reproductive labor has not led to an improvement in the material conditions of those who perform that labor, although the state and capital continue to rely on reproductive labor to produce workers and citizens.

This binary construction of reproductive labor and innovation hides the centrality of reproductive labor to any creative discovery and indeed to the very existence of society, economy, and politics. Innovations and even mundane applications of existing technologies (such as the digital care work platforms that I examine in chapter 2) are endlessly hyped and overvalued. Yet, by degrading the reproductive work that enables all creative or technological breakthroughs, the neoliberal regime, as it manifests in the United States, undermines its own basis. This deep contradiction results from "capitalism's orientation to unlimited accumulation [that] tends to destabilize the very processes of social reproduction on which it relies."[116] This contradiction, Fraser argues, "lies at the root of the so-called crisis of care."[117] If so, it is crucial to grasp the contours of the contradiction. Looking at the crisis through the prism of the discourse of innovation reveals some of those contours. Accounting for the state's simultaneous turn toward incentivizing innovation and away from supporting reproductive labor illuminates the processes and discourses that have contributed to the stratification and intensification of reproductive labor.

The foundational and insightful feminist critiques of the public/private and productive/reproductive divides that I outline above cannot fully account for recent political and economic shifts. This book therefore builds on that foundational work to describe the specificity of how recent developments, such as the rise of finance capital and the entrenchment and spread of technological fetishization, are reshaping reproductive labor and the logic used to obscure and devalue it. I show that the overvaluation of technology has come to eclipse the value of reproductive labor in a way that parallels, yet is distinct from, the public sphere's eclipse of the value of the domestic sphere, as described by feminist critiques of liberalism's public/private split. I also build on Marxist feminist critiques of the obfuscation and devaluation of reproductive labor to show how technological fetishism as well as financialized capitalism have shifted the ways in which reproductive labor is structured, obscured, and devalued.

**Innovations to Solve Reproductive Problems**

Linking innovation and reproductive labor in this manner reveals why innovation discourse is so useful for neoliberalism. Neoliberalism, like all economic orders, relies on social reproduction since reproductive labor is essential for the creation and maintenance of human capital. However, as Rottenberg argues, "as a political rationality, neoliberalism has no lexicon that can recognize let alone value reproduction and care work."[118] While I complicate this claim in later chapters, arguing that neoliberalism leaves room for valuing reproductive labor as an investment in a child's human capital, neoliberalism does not allow for proper remuneration or collective support for reproduction. Innovation discourse at once deflects attention from the tension of both relying on and not supporting reproduction and proffers a solution to it. If innovations can solve all problems, then we do not need to account for or invest in reproductive labor: we can innovate our way out of the thorniest problems, including reproductive ones. Thus, even in moments like the COVID-19 pandemic, in which the importance of reproductive labor comes to the fore, the discourse of innovation, as I nuance it in later chapters, offers a purported solution to social ills concerning reproduction.

This can be seen clearly when we place the crisis of healthcare alongside the hefty investments in health innovations. The state and private investors have put massive resources toward developing various health innovations, such as speculative regenerative medicine therapies.[119] The federal government also both routinely under-regulates hugely profitable pharmaceutical companies and heavily subsidizes their operations, often in the name of innovation.[120] At the same time, access to healthcare depends on the ability to pay exorbitant bills and is deeply unequal: systemic social hierarchies substantially influence health outcomes. Particularly striking are the statistics regarding infant mortality; the United States has one of the worst infant mortality rates of wealthy countries, with exceptionally high rates of Black infant mortality. As Dána-Ain Davis argues regarding the particular problem of premature birth for African Americans, technological health innovations to save newborns cannot alone address the crisis. For that, we need to address structural racism and injustice.[121] Indeed, critical STS scholars have shown how new technologies are routinely presented as solutions to structural injustices such as racism in a way that tends to exacerbate systemic inequalities.[122]

Yet public figures often present public investment in corporate innovations as the key to addressing health problems. While scientific innovations certainly have a role to play in addressing myriad social issues, this framing both obscures and justifies the underfunding of public health infrastructures, the low wages of many healthcare workers, and the structural contributors to health problems and inequities. Innovation discourse helps to legitimize the material redistribution of resources away from reproduction, which strengthens the power of the private sector. Its reduced tax contributions further fuel the austerity measures that have diminished state support for reproductive labor.

This book takes up various innovations that target the reproductive sphere, showing how the innovation/reproduction binary persists even when innovations are directed at reproduction. However, each reproductive innovation that I explore adds complexity to the relationship between innovation and reproduction described above. In chapter 2 and the epilogue, I examine digital care working platforms that companies market as solutions to the care deficit. While acknowledging the care deficit, such solutions nevertheless deflect attention from the necessity of collective support for reproductive labor and further entrench the overvaluation of innovation and the degradation of reproductive labor. The ideology of innovation, then, justifies pouring resources into even reproductive innovations, as though the devaluation of reproductive labor can be solved with a tech fix.

In the biotechnology era, even the demands of biological reproduction are amenable to the logic of innovation. If it is difficult for aspirational women to juggle the early career demands of high-status professions and the raising of children, for example, then they can freeze their eggs.[123] This individual "solution" obviates the need for structural changes and the redistribution of resources toward support for reproduction. Chapters 3 and 4 examine in detail other new and emerging reproductive biotechnologies that are poised to reshape the processes of biological reproduction. While the startups and investors behind these biotechnologies present them as ways to address various reproductive and social problems, my analysis shows how the innovation/reproduction binary nevertheless endures. In fact, some reproductive biotechnologies further undermine our already diminished sense of collective responsibility for reproductive labor. These examinations of reproductive innovations reveal how even inequities in reproduction and its devaluation have become amenable to the logics of innovation, which only threatens to exacerbate reproductive injustices.

This element of innovation's relationship to reproduction—that is, the way innovations are presented as solutions to reproductive problems—does not have a strict equivalent in the public/private antinomy. The reproductive innovations examined later in the book thus reveal the limitations of the analogy between the public/private binary and the innovation/reproduction binary elucidated above. With the public/private binary, the dominance of the public realm depends on the obfuscation and disavowal of the private. When I analyze various reproductive innovations—such as emerging reproductive biotechnologies—I show how the dominance of innovation contributes to the devaluation of reproduction by bringing innovation *to* reproduction rather than simply ignoring or covering over reproduction per se. Nonetheless, because the solution offered covers over structural injustices and systemic causes of reproductive inequities, the result of bringing these innovations to reproduction is to depoliticize and obscure power relations in the realm of reproduction. It speaks to the dominance of the ideology of innovation that even problems in the undervalued realm of reproduction are assumed to be solvable with the right kind of innovative technological fix.

Similar to the way in which the economization of reproduction is contributing to the breakdown of the boundary between public and private, the proliferation of reproductive technologies and the increased use of technology to mediate access to reproductive services contributes to the breakdown of the idea that reproduction is a "natural" realm. Historically the private sphere has been constituted as a "natural" as opposed to "civil" realm.[124] However, biological reproduction is increasingly subject to cutting-edge technological intervention, thereby straining the notion that it is "natural." Yet, with the innovation/reproduction binary, reproduction is still contrasted unfavorably with innovation to disavow the power dynamics and inequality that constitute reproduction. While the idea of reproduction as natural may be eroding—due to the proliferation of in vitro fertilization as well as developments like embryo freezing and testing—innovation discourse lauds masculinized innovators for reshaping reproduction while doing nothing to address structural injustices.

**Chapter Overviews**

Chapter 1 moves from this introductory discussion of policy and elucidation of the innovation/reproduction binary to historicize the binary, situating it in a longer trajectory of colonialism, racial capitalism, gendered oppression, and ableism. The chapter reads the Bezos Center for Innovation at Seattle's

Museum of History and Industry as an encapsulation of the ideology of innovation, using it to unpack how the ideology operates. The exhibit draws a straight line from "innovative" Indigenous inhabitants of the Seattle area to Jeff Bezos, subtly justifying the expulsion of Indigenous peoples in the name of the innovative arc of history. The exhibit suggests that there may be collateral damage in the name of innovation but that such harm is never intentional and thus can be sidelined: it happens passively as a product of the universal desire for progress and a global acknowledgment of the utility of innovation.

The chapter situates neoliberalism's innovation discourse in the critiques of liberalism's colonialism, gendered oppression, and ableism offered by political theorists—in particular, Charles Mills, Carole Pateman, and Stacy Clifford Simplican. These theorists have exposed the exclusions, expropriation, and subordination endemic to liberalism through what they call, respectively, the racial, sexual, and capacity contracts. This chapter uses this critical work in political theory to analyze the contemporary ideology of innovation as displayed in the Bezos Center, showing how the ideology of innovation builds on and updates the historical dynamics that these theorists uncover. In doing so, the chapter expounds on how innovation discourse obscures the importance of feminized and racialized reproductive labor.

Chapter 2 turns from excavating the historic roots of the binary to a consideration of how it intertwines with another central component of neoliberalism: entrepreneurship and the construction of the subject as an entrepreneur of the self. I show how the language of entrepreneurship both masks subordination and alters the exploitation of reproductive labor. Beginning with the example of my kindergarten-age child's innovation curriculum—which exhorted her to develop a "can-do attitude" and an entrepreneurial drive—I ask why students, from kindergarten to graduate school, are increasingly called on to develop "innovator habits." I discuss how innovativeness has become a marketing label of the self, signaling the heightened value of one's (child's) human capital.

The chapter also traces the implications of neoliberalism's human capital theory—that individuals are best conceived of as individual enterprises—for contemporary views of children, child-rearing, and the advent of innovation education. The chapter interrogates both the intensification of mothering and paid domestic work, using the example of allegedly innovative online care work platforms like Care.com to show how domestic workers are increasingly called on to brand themselves and are treated as individual entrepreneurs. I attend to the extent to which the image of a society of

entrepreneurs has expanded beyond an elite minority and how reproductive laborers are being incorporated into homo entrepreneur. The chapter uses this dynamic to further unpack the innovation/reproduction binary, revealing how digital care work platforms obfuscate and perhaps even worsen the stratification of reproductive labor, all while claiming to solve problems in care work through a novel digital platform.

Chapter 3 continues the discussion of human capital and reproduction, looking at how human capital is appraised in the era of the genome and the attendant rise of genomics in prenatal care. The chapter also examines the political and material consequences of the actual innovation of noninvasive prenatal testing (NIPT) for how people navigate pregnancies. Using the example of the startup Cradle Genomics, which hopes to offer full information about the fetal genome as early as five weeks into pregnancy, I analyze the role of financialized capitalism in bringing consumer genomics to the prenatal clinic. The analysis of the actual innovation of NIPT shows how the idea of NIPT as an innovative "tech fix" only makes sense in the context of the devaluation of reproductive labor and support for people with disabilities. Moreover, the proliferation of NIPT is likely to worsen the degradation of reproductive labor that supports disabled children. The chapter also picks up on chapter 1's examination of the colonial and ableist aspects of the innovation/reproduction binary, arguing that although the interests of global capitalism function through the facade of progressive aims, they carry with them a set of racist, ableist notions of human life.

Chapter 4 continues this examination of biotechnology, looking at how emerging and speculative reproductive biotechnology innovations promise to reshape the process of biological reproduction. The chapter maps some of the material and ideological connections between actors involved in developing cutting-edge reproductive innovations—such as the use of skin cells to make gametes—and the relatively new philosophical field of existential risk, or X-risk. This field is closely related to the study of transhumanism, which advocates for the development and use of technology to "enhance" human capacities. I unpack the work of Nick Bostrom, a leading scholar in these fields, showing how he sees genetic engineering as a way to promote the innovations that will solve humanity's most trenchant problems, including the potential destruction of humanity itself. Chapter 4 thus offers an opportunity to analyze the logic of innovation taken to its extreme. This analysis shows how the idea that innovations are a panacea continues in extreme form in this context, covering over and worsening structural injustices that undermine reproductive and disability justice. Looking at what may be on

the horizon for the innovation/reproduction binary serves as a fitting culmination of the book's analysis.

The chapter also critiques X-risk advocacy of genetic engineering as a form of what I call neoliberal eugenics. Returning to chapter 1's argument about the colonial roots of the aggrandizement of innovation, I discuss how neoliberal eugenics relies on colonial logics of progress to argue that "responsible" individuals will use genetic engineering to "improve" their offspring's capacities, particularly intellectual ones. In chapter 4, I delve further into the previous chapters' discussions of children as human capital, arguing that this view may promote—as Bostrom hopes—the wide-scale adoption of genetic engineering technologies. I unravel the neoliberal eugenic logics behind many emerging and speculative technologies and examine what they portend for aspiring parents.

The short epilogue considers what the political, corporate, and activist responses to the coronavirus pandemic reveal about the innovation/reproduction binary. I show that corporations are looking to capitalize on this moment. For example, the company CareRev is positioning its digital platform—which uses an Uber-style platform to offer on-demand nurses to hospitals—as the solution to problems such as nurse burnout. Rather than fundamentally altering the structure of labor, such fixes threaten to exacerbate the stratification of reproductive labor and worsen the working conditions of care workers. The epilogue also argues that some political responses to the crisis, alongside long-standing activism, point the way toward a future in which reproductive labor is properly valued. The pandemic has brought renewed attention to the crisis of care and the role of the state in supporting reproductive labor, creating an opening to think of care otherwise.

# NOTES

## Introduction

1 Cal Poly, "ETS Studios."

2 Nationally, the average cost of childcare for one child per year is more than 35 percent of the median income for single parents and 10 percent of household income for married parents. Child Care Aware, "Demanding Change."

3 Briggs, *How All Politics Became Reproductive Politics*; Colen, "'Like a Mother to Them.'" In 2010, workers at childcare centers in the United States earned an average of $25,460 per year. Child Care Aware, "Demanding Change."

4 Godin, *Innovation Contested*.

5 Godin, *Innovation Contested*, 223.

6 Vinsel and Russell, *The Innovation Delusion*, 27.

7 Vinsel and Russell, *The Innovation Delusion*, 10.

8 Vinsel and Russell, *The Innovation Delusion*, 20.

9 Newfield, "'Innovation' Discourse and the Neoliberal University," 245–46; see also Leary, *Keywords*.

10 Fraser and Gordon, "A Genealogy of 'Dependency,'" 84–85.

11 Fraser and Gordon, "A Genealogy of 'Dependency,'" 86.

12 W. Brown, "American Nightmare," 693.

13 W. Brown, *Undoing the Demos*, 116–17.

14 W. Brown, *Undoing the Demos*, 117.

15 On the spillover effect, see Carrigan and Bardini, "Majorism."

16 Sunder Rajan, *Biocapital*; Harnett, "Words Matter"; Parthasarathy, *Patent Politics*.

17 For work that does not connect innovation to neoliberalism, see Godin, *Innovation Contested*; Godin, *The Idea of Technological Innovation*; Vinsel and Russell, *The Innovation Delusion*. For works that briefly acknowledge the ideology, see Harvey, *Brief History of Neoliberalism*; Newfield, "'Innovation' Discourse and the Neoliberal University"; Leary, *Keywords*.

18 On a similar argument regarding innovation versus maintenance, see Vinsel and Russell, *The Innovation Delusion*. In focusing on gender and reproductive labor, I both build on and depart from their analysis. For more on gender, labor, and maintenance, see Mattern, "Maintenance and Care."

19 For example, Dalla Costa and James, *The Power of Women and the Subversion of the Community*; Federici, *Revolution at Point Zero*.

20 Briggs, *How All Politics Became Reproductive Politics*, 2.

21 Hartsock, "Globalization and Primitive Accumulation," 183. See also Bakker, "Neo-Liberal Governance and the Reprivatization of Social Reproduction."

22 The exact distinction between reproductive labor and care is not always clear. For example, Tronto favors the term "care" over reproductive labor, although she defines care in a way that is very similar to Briggs's definition of reproductive labor, describing care as "a species activity that includes everything we do to maintain, continue, and repair our world so that we may live in it as well as possible. That world includes our bodies, our selves, and our environment, all of which we seek to interweave in a complex, life-sustaining web" (Tronto, *Moral Boundaries*, 103).

23 On the concept of emotional labor, see Hochschild, *The Managed Heart*. Eileen Boris and Rhacel Salazar Parreñas use the term "intimate labor" to capture a related type of work, describing the term as homing in on "the personal or the daily praxis of intimacy" and as labor "that involves embodied and affective interactions in the service of social reproduction" (Boris and Parreñas, *Intimate Labors*, 7–8).

24 Berne, "Disability Justice."

25 See Piepzna-Samarasinha, *Care Work*; Mingus, "Access Intimacy, Interdependence and Disability Justice."

26 Piepzna-Samarasinha, *Care Work*, 33.

27 Ross and Solinger, *Reproductive Justice*, 14. See also Luna, "From Rights to Justice"; Price, "What Is Reproductive Justice?"

28 Ross and Solinger, *Reproductive Justice*, 9 (emphasis in original). See also Asian Communities for Reproductive Justice, "A New Vision for Advancing Our Movement."

29 Ross and Solinger, *Reproductive Justice*, 171.

30 D. Roberts, *Killing the Black Body*; Solinger, *Beggars and Choosers*.

31 Kim, "Cripping the Welfare Queen," 80.

32 Kim, "Cripping the Welfare Queen," 82.

33 Ross and Solinger, *Reproductive Justice*, 204–5.

34 Ross and Solinger, *Reproductive Justice*, 204.

35 Colen, "'Like a Mother to Them'"; Ginsburg and Rapp, *Conceiving the New World Order*.

36 Hartman, "The Belly of the World"; Lowe, *The Intimacies of Four Continents*.

37 Godin, *The Idea of Technological Innovation*, 116.

38 Mirowski, *Science-Mart*.

39 Mirowski, *Science-Mart*.

40 For that history, see Mirowski, *The Effortless Economy of Science?*

41 Feher, "Disposing of the Discredited."

42 Godin, *Innovation Contested*, 249–50.

43 Godin, *Innovation Contested*, 224.

44 Godin, *Innovation Contested*, 256.

45 Godin, *Innovation Contested*, 271.

46 Godin, *The Idea of Technological Innovation*, 116; US Joint Committee, *Special Study on Economic Change*, 12.

47 US Joint Committee, *Special Study*, 102.

48 US Joint Committee, *Special Study*.

49 Carter, "Industrial Innovation Initiatives."

50 Godin, *The Idea of Technological Innovation*, 118–19.

51 Sunder Rajan, *Biocapital*, 216.

52 Parthasarathy, *Patent Politics*, 61.

53 Parthasarathy, *Patent Politics*, 8–9.

54 Diamond v. Chakrabarty, 447 US 303 (1980).

55 Cooper, *Life as Surplus*; Feher, *Rated Agency*.

56 Feher, "Disposing of the Discredited."

57 Balibar, "Absolute Capitalism"; Feher, *Rated Agency*.

58 Balibar, "Absolute Capitalism," 280.

59 Sunder Rajan, *Biocapital*, 111.

60 Hogarth, "Valley of the Unicorns."

61 Cueni, "Patents Are Not a Hindrance."

62 Cueni, "Patents Are Not a Hindrance."

63 Cueni, "Patents Are Not a Hindrance."

64 While the administration of President Joseph Biden publicly offered tepid support for the waiver, the administration did not actually advocate for the waiver at the WTO. Lazare, "Documents Reveal."

65 Adler-Bolton and Vierkant, "Pfizer Walk with Me."

66 Benjamin, *Race after Technology*, 79.

67 Fraser, "Legitimation Crisis?"

68 Schulte, *Overwhelmed*, 99.

69 Nixon, "Veto of the Economic Opportunity Amendments."

70 Nixon, "Veto of the Economic Opportunity Amendments."

71 Fraser, "Contradictions of Capital and Care," 104.

72 Davis, *Women, Race, and Class*; Collins, *Black Feminist Thought*.

73 Glenn, *Forced to Care*, 161.

74 Cooper, *Family Values*, 67.

75 D. Roberts, *Killing the Black Body*, 209. See also Solinger, *Beggars and Choosers*.

76 See Tronto, *Caring Democracy*.

77 Ross and Solinger, *Reproductive Justice*. See also D. Roberts, *Killing the Black Body*.

78 Kim, "Cripping the Welfare Queen."

79 Understanding care as a matter of personal responsibility contributes to inequality. Tronto, *Caring Democracy*.

80 Denbow, *Governed through Choice*.

81 Solinger, *Beggars and Choosers*.

82 Cooper, *Family Values*, 9.

83 W. Brown, *In the Ruins of Neoliberalism*.

84 J. Brown, *Birth Strike*, 29.

85 Albrecht, *The Disability Business*.

86 Dowling, *The Care Crisis*, 192.

87 Federici, *Revolution at Point Zero*, 107.

88 Briggs, *How All Politics Became Reproductive Politics*, 8.

89 Ehrenreich and Hochschild, *Global Woman*.

90 Colen, "'Like a Mother to Them.'"

91 Collins, *Black Feminist Thought*, 71.

92 Nadasen, *Household Workers Unite*.

93 Romero, *Maid in the USA*.

94 Child Care Aware, "The US and the High Price of Child Care," 21.

95 Fraser, "Contradictions of Capital and Care," 104.

96 Briggs, *How All Politics Became Reproductive Politics*, 95. See also Parreñas, *Servants of Globalization*.

97 Tronto, *Who Cares?*, 21.

98 Gupta, "Child Care in Crisis."

99 Federici, *Revolution at Point Zero*, 107.

100 Briggs, *How All Politics Became Reproductive Politics*; Dowling, *The Care Crisis*.

101 Vinsel and Russell, *Innovation Delusion*, 17.

102 Marx, *Capital: Volume 1*, 874.

103 Federici, *Revolution at Point Zero*, 99.

104 Bhattacharya, "Introduction," 2. See also Vogel, *Marxism and the Oppression of Women*.

105 Dalla Costa and James, *The Power of Women and the Subversion of the Community*; Prescod-Roberts, *Black Women*.

106 Sharma, "Going to Work in Mommy's Basement"; see also Glenn, *Forced to Care*.

107 See M. Murphy, *The Economization of Life*.

108 Tronto, *Who Cares?*, 25.

109 Boris and Parreñas, *Intimate Labors*.

110 Pateman, *The Sexual Contract*.

111 Pateman, *The Sexual Contract*, 11.

112 Pateman, *The Sexual Contract*, 3.

113 W. Brown, *States of Injury*, 152.

114 Tronto, *Caring Democracy*, 3.

115 Rottenberg, *The Rise of Neoliberal Feminism*, 103.

116 Fraser, "Contradictions of Capital and Care," 100.

117 Fraser, "Contradictions of Capital and Care," 100.

118 Rottenberg, *The Rise of Neoliberal Feminism*, 16.

119 Benjamin, *People's Science*.

120 Lazonick, "Profits without Prosperity."

121 Davis, *Reproductive Injustice*.

122 Benjamin, *Race after Technology*; A. Nelson, *The Social Life of DNA*; Parthasarathy, "More Testing Alone Will Not Get Us Out of This Pandemic."

123 Rottenberg, *The Rise of Neoliberal Feminism*.

124 Pateman, *The Sexual Contract*.

**1. Contextualizing the Aggrandizement of Innovation**

1 Here, I follow Rachel Brown in looking to the social contract tradition to help demystify current logics of violence, expropriation, and exploitation. Brown, "Thinking with the Intimacy Contract."

2 Pateman and Mills, "Introduction," 1.

3 I do not, however, claim that the current contours of neoliberalism constitute something like an "innovation contract"; it is not clear that the legitimacy of neoliberalism rests on or requires such an explicit legitimizing device. As Wendy Brown argued in the 1990s, "liberalism becomes so naturalized that it no longer depends upon the mythologies and legal fictions generated by origin stories attendant upon a regime at odds with its predecessor" (Brown, *States of Injury*, 138).

4 Pateman and Mills, "Introduction," 2.

5 MOHAI, "Bezos Center for Innovation."

6 MOHAI, "Innovative Seattle Audio Guide."

7 MOHAI, "Innovative Seattle Audio Guide."

8 MOHAI, "Innovative Seattle Audio Guide."

9 Harvey, *The New Imperialism*.

10 Grande and Naadli, "Neoliberal Globalization as Settler Colonialism."

11 Coulthard, *Red Skin, White Masks*, 152.

12 Grande and Naadli, "Neoliberal Globalization as Settler Colonialism," 258.

13 C. W. Mills, *The Racial Contract*, 20–21.

14 C. W. Mills, *The Racial Contract*, 9.

15 C. W. Mills, *The Racial Contract*, 5 (emphasis in original).

16 C. W. Mills, *The Racial Contract*, 5–6.

17 For an analysis of the racialization of Native Americans and issues of tribal sovereignty, see TallBear, *Native American DNA*.

18 C. W. Mills, *The Racial Contract*, 6.