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# On the Grounds of Solutionism: Ontologies of Blackness and HCI

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Why is the solution the end point to a problem? While many in HCI and design have examined the impulse to solve problems—the solutionist or techno-solutionist mindset—we examine the logic that binds the solution and the problem together as a pair. Focusing on the timely and consequential problem of systemic racial injustice, we think through the paradoxical possibility that the pairing of the problem and solution (so often treated as the default in design and HCI) perpetuates the very conditions we seek to improve. With Calvin Warren’s profound Afro-pessimism, we recognize how the tools used to solve structural inequities around Black life are constructed with inequities themselves. The problem-solution, therefore, is a dead end. We use this paradox as an invitation to rethink ongoing efforts to seek equity and justice more broadly, setting out a fragile but hopeful path for HCI and design.

CCS Concepts: • **Human-centered computing** → **HCI theory, concepts and models**;

Additional Key Words and Phrases: Solutionism, solutions, design problems, theory

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## 1 INTRODUCTION

In his introduction to *Ontological Terror* [91], philosopher Calvin Warren recalls a speaking engagement on the topic of Michael Brown, the 18-year-old American Black man who a white police officer brutally murdered in the city of Ferguson, Missouri in the summer of 2014. At the event, Warren recalls listening to one speaker after another assert the value of Black life and the potential for restorative racial justice (amidst a backdrop of applause). When it came time for him to speak, he describes already knowing what he had to say:

“I told the audience there was no solution to the problem of anti-blackness; it will continue without end, as long as the world exists. Furthermore, all the solutions presented rely on antiblack instruments to address anti-blackness, a vicious and tortuous

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cycle that will only produce more pain and disappointment. I also said that humanist affect (the good feeling we get from *hopeful solutions*) will not translate into freedom, justice, recognition, or resolution. It merely *provides temporary reprieve* from the fact that blacks are not safe in an antiblack world, a fact that can become overwhelming. The form of anti-blackness might alter, but antiblackness itself *will remain a constant*—despite the power of our imagination and political yearnings.” (emphasis added) [91, p. 3]

This unruly declaration exposes a treatment of the solution that is both familiar and new to HCI. To date, HCI scholars have explored the dangers of developing technology in response to any (and potentially every) problem [17, 77, 82]. A key strand of this work focuses on the absurdity of solving structural issues like anti-Black racism with individual devices [50, 80]. Scholars like Safiya Noble [63] and Ruha Benjamin [12, 13] characterize a technology design space perpetuating such harms by proposing over-reaching, under-performing, and paradoxically problem-making solutions. With terms like solutionism [6], techno-fix(ation) [51], and technochauvinism [24], they emphasize the importance of paying attention to the wider racializing effects of technology solutions, even in our own community [65]. Ogbonnaya-Ogburu and colleagues [65] identify the “interest convergence,” where HCI racial inclusion efforts risk perpetuating forms of racism through the veneer of altruism and “innovation.” According to O’Leary, et al. [87], “conventional design practices” themselves “may perpetuate forms of institutional racism,” enabling and legitimizing racialized forms of inequity. Looking to the racializing effects of technology development more broadly, critical race and technology scholars have explored a range of issues, including: digital devices that fail to meet the needs of Black and Brown users [41]; Blackness as a key site through which surveillance is practiced, narrated, and resisted [25]; and computing firms’ development of technology that disproportionately disadvantages Black Americans [57]. Complementing this range of work, scholars have brought an intersectional lens to questions of equity [32, 71, 72], citing design as a resource for alternative forms of world-building [21, 73]. Yet despite this rich body of critical analysis, the HCI field continues to struggle with inclusive approaches that effectively address the pervasive and lasting inequitable consequences of racism. Much uncertainty remains around the problem-solution binary [80] and the forms of techno-solutionism rooted in systematic and institutional racism [23]. As Miguel Sicart and Irini Shklovski observe, it remains a challenge to “unsee the world” as a place replete with problems for technology to solve [80, p. 1,860].

What it might mean to “unsee” solutions as end points to problems is where this article begins. In *Ontological Terror*, Warren’s proposition is nihilistic but ultimately fosters hope. He shows how the problem-solving approach does not work. It fails to account for the way words like “being” are denied to certain people, an inquiry was taken up by several HCI and critical race scholars [23, 53, 63]. Beginning to unsee problems then means grappling with denial’s violent legacies. And it means understanding this denial as an inherent assumption of all Western thought, including thinking within HCI. Warren argues that to address this situation we must transcend (white Western) ontology.

Within HCI and design literatures, ontology refers to a range of phenomena, from the formal representation of categories [55] to an understanding of what it means to exist [33, 94]. In line with this latter strand of work, Warren’s ontology engages with questions about the nature of being as it is rooted in Western philosophy. Yet contrasting with much theorizing in design, he troubles this ontology, writing of an ontological terror—the particular horror induced by the “metaphysical nothing” of being Black in an anti-Black world. As we describe in the sections that follow, this reading of ontology shows how HCI’s approach to the problem and solution pair has particular consequences for technological relationships to life and liberation [2, 25]. Drawing on work by Warren, André

Brock, Edna Bonhomme, Simone Browne and connected lines of inquiry [2, 13, 25, 63], this article proposes the expansion of a critical body of design scholarship on solutions and their pitfalls (e.g., [43, 52]). As Warren writes of the double bind, the HCI field is faced with a conundrum where to solve the problem of anti-Black racism, it is left to think with the logics and structures that erase, harm, and enact violence toward Black lives. The problem-solution then becomes a dead end. For HCI and design, we see this as an invitation to rethink ongoing efforts to seek equity and justice more broadly. We ask “could it be that the problem-solution pair is part of and indeed constitutive of an ontological framing that can only ever reproduce the inequities, harms, and violences that design and HCI are working against?” [47] Thinking with Warren and other scholarship in Black studies, we argue that a possible response to the dead end of the problem-solution sets out a fragile but hopeful path for HCI and design. We imagine a design that might resist the problem-solution pairing and contemplate the dizzying possibility of the solution without a problem. This is a possibility that has no end and that might just create the conditions for existence otherwise.

When Warren first announces the impossibility of a solution, his comments resonate with those in HCI that highlight the futility of solutions or their optimization [91]. He describes the ceaseless nature of the problem by questioning the potential for an endpoint. But Warren’s next statement harnesses a long line of critical thought (see the work of Hortense Spillers [81], among others) to unravel the concept of the solution itself. He calls attention to the infrastructures (such as constitutional amendments, policies, and procedures) on which a solution might depend as the very mechanisms by which the problem can be reproduced—thus the “vicious and tortuous cycle.” HCI and technology scholars have similarly noted that designers can not hope to solve a problem with approaches that originate from the same systems that created the problem [12, 50, 80]. For example, AI-assisted hiring procedures and emerging AI credit scoring algorithms designed to reduce racial bias might reproduce racial inequities by relying on “efficient” metrics for predictive decision-making such as zip code and age. The AI solution grants HCI researchers the ability to gloss over the conditions in which the solution already operates under and plays into pre-existing racializing frameworks, where personhood (and associated value) is conferred to some and not others. The solution can ignore the way hiring procedures and wider power structures do not affect everyone equally because not everyone is granted the same ontological status. The solution’s blind spots are therefore not only innately structural but ontological.

Our thinking with Blackness grows out of a solidarity with those experiencing the amplification of racial unrest and its connections to wider societal developments. We currently live in a period of elevated racism and racial violence with growing political and legal legitimacy. We see communities develop solutions to addressing injustice through civic engagement, as displayed by non-profits like the **Creative Reaction Lab (crxlab)**, founded in 2014 by Antionette Carroll in Ferguson, Missouri [27]. Launched during the community uprising after the murder of Michael Brown Jr., the Crxlab’s mission focuses on building a Black and Latinx youth-led, community-centered movement of a new type of civic leader: “Redesigners for Justice.” This cultivating mindset directly underlines the premise that everybody is a designer and challenges the roles of those who are typically dominant in the design process. The Crxlab pioneered “Equity-Centered Community Design,” as a “creative problem-solving framework based on equity, humility-building, integrating history and healing practices, addressing power dynamics, and co-creating with the community” [27]. Ultimately, the work is premised on the belief that systems of oppression, inequality, and inequity are by design; therefore, they can and must be redesigned. These and other initiatives expose how design practices might work as a mode of generative refusal and collective imagination. Just as they threaten to “solve” away the messiness of urban life (e.g., housing expansion amid racial dispossession), design practices might make way for something new, presenting opportunities to influence social, civic, and economic justice.

With this theoretical investigation, we emphasize the importance of Warren and other related works examining Blackness to traditional or all-inclusive HCI problem-solution thinking. For those who do not experience anti-Black racism, this argument might feel uninterpretable, unexpected, and possibly jarring. We also accept that this argument could feel like a peculiar or problematic importing of theory, a tactic for which scholars have appropriately criticized HCI [28, 71, 85]. Rather than import theory, we strive to inform HCI theory and practice based on vital historical and philosophical contributions that HCI scholarship too often overlooks.

## 2 WHAT IS SOLUTIONISM?

To begin our inquiry, we turn to HCI theorizing on solutions and, specifically, what characterizes a technological solution within HCI. To date, HCI scholars have mapped specific forms of problem-solving (e.g., [31, 66, 76]; critiqued the problem-solution binary [11, 15]; and examined the movement of problems across contexts [87]. On the one hand, this work identifies the paradox of solving structural problems such as wealth gaps with apps focused on individual behavior change [39]. On the other hand, scholars note the propensity for developing solutions to problems that do not exist [16]. Examples include the electric kettle that sends you a glowing green (go for it) or red (not right now) signal depending on nation-wide power activity [16, 59]. Or the networked camera that tracks people’s cooking activity to tell them if they deviate from a recipe [16, 59]. Whether one can imagine people wanting a “solution” to their cooking challenges is beside the point. The smart device or augmented camera frames the kitchen as a problem to solve. The framing of cooking as a problem to solve subtly shifts the ontological status of the phenomenon from a sensory care practice to a specific protocol. When an unlikely problem surfaces, a techno-solution like tracking comes into view.

When Meredith Broussard [24] coins the feminist concept of technochauvinism she is hoping to do more than announce technological hyperbole. She is rooting “the belief that tech is always the solution” [24] in masculinized STEM disciplines. For her and other critical technology scholars [7, 50], the propensity of technology design to apply computation widely to problems reflects patriarchal norms. And this approach is not new. During World War II, influential American mathematician Norbert Wiener cast egalitarianism as forged in the application of computational design to societal challenges, Fred Turner explains [90]. Contemporary techno-solutionist trends emerge from and reproduce the techno-optimist roots of computing [3].

Responding to these critiques, a strand of HCI scholarship suggests that designers should propose alternative possibilities [7, 80]. Instead of answering problems with superficial solutions, they should analyze their potentials [11]. Urban planning scholars Horst Rittel and Melvin Webber take this approach in their landmark 1973 article *Dilemmas in a General Theory of Planning* [74], where they ground their critiques in the notion of “wicked problems.” Characterizing urban planning as one of the most optimistic of disciplines, they point to the desire for a “perfect future history” that tends to prefer “tame” (solvable) over “wicked” (unsolvable or lacking an optimal solution) problems. Unlike the mathematical equation or even a chess game, wicked problems like poverty, education, or mobility produce social and political complications without fixed answers, formulations, conclusions, contingencies, or values. Importantly, the authors characterize such problems as “[n]ot “solution.” [...] At best they are only re-solved—over and over again” [74, p. 160]. Writing amidst the 1970s “science wars” wherein social scientists proffered a shift from generalizable, efficiency-based frameworks to value-based alternatives, this insight anticipated a range of initiatives within the fields of design, engineering, and computer science (from critical-technical practice, value-sensitive design, and participatory design toward algorithmic fairness)—each calling for wider forms of accountability. Rittel and Webber make just such a case in planning, concluding:

“Planners are liable for the consequences of the actions they generate” [74, p. 167]. They frame social (or structural) problems as socially and politically contingent.

While largely generative, not least because of the attentions given to values and accountability, what Horst and Rittel deliver remains squarely in the realm of Western thought. They problematize the scope of problems and solutions, and give us a far richer register to examine them. But they ultimately overlook the larger mechanisms (e.g., the legal frameworks that sustain racial violence or the social structures that legitimize the erasures of Black lives) that determine whose lives count within, or exert control over, decision making. They overlook whose personhood a solution depends on. Ultimately the solutions never reach the margins.

A parallel body of work traces the solution to violent colonial legacies of science and technology (see Alondra Nelson [62], Edna Bonhomme [18], Eden Medina [58]). For example, Bonhomme [20] ties famed German scientist Robert Koch—a Nobel Prize winner and the namesake of the German federal agency responsible for disease control and prevention—to anti-Black colonial expansion. At the start of the last century, Koch set up concentration camps for East Africans to research Bugula sleeping sickness in Germany’s African colonies. In the camps, he coerced patients to take a reagent containing arsenic—“even though it was known to cause pain, blindness and even death,” Bonhomme explains. A crafting of a solution to infections like cholera for a largely white European citizenry ultimately contributed to the infection and harm of East Africans. In examples like this, the problem-solution pair, as a mode of technology development, marks more than a tendency to characterize phenomena in terms of the technology and science that can fix it. It also suggests a mode of development mired in anti-Black racism. By helping us see what a solution is, Bonhomme and others leave us with the question: what does a solution do?

### 3 WHAT DOES A SOLUTION DO?

To pursue a solution is to make a decision about who counts and what effects we, HCI researchers, implicate ourselves in. It is to draw a line, somewhere, between whose stakes are “actionable” and whose are more a fact of life. It quickly becomes apparent that the rationalizing forces, the problem-solution relationship, enabling such work can be used to privilege some actors and exclude, deprive, and exploit others. In response to this thinking, we want to ask: how does devising a solution determine what or who matters?

#### 3.1 To Decide the Solution Is to Decide the Stakes

Declaring a solution is not an inert or neutral gesture. It is to make a claim. It is to say that the unique attributes and characteristics of particular persons, and their racist idealizations, hold more substantial significance over others. It is also to use a rationale to justify an effect, even if the effect has negative implications for those consigned to the periphery or ontological oblivion. At a high-level, we have seen this version of the solution (what some have called solutionism [43, 80] operating in HCI’s problem framing. Turning our attention to a more concrete example, consider the very contemporary challenge around contact tracing.

With the rise of the novel coronavirus, many governments and health agencies turned toward a technological solution to track and trace its incidence and contagion. In simple terms, the apps and services being trialed and deployed used a combination of the relative distance between bodies and the duration of that distance to calculate whether someone who has contracted the virus has made “contact” with others, and whether isolation or restrictions on movements need to be imposed. Governments and tech firms alike cast the question of contact as the problem to be solved, and what requires an accompanying logic.

The technical difficulties of implementing these systems are becoming self-evident [83, 84], surfacing a litany of poor decisions and errors that some in HCI, with their expertise in location track-

ing, could well have predicted [8, 26, 30, 88] and in some cases did mitigate [1]. However, despite the variations between specific technical implementations and their shortcomings, the prevailing logic to the solution of contact tracing remains consistent. This solution reveals a view of bodies as neutral, captured, and enumerated in standardized metrics of distance and counts of contact.

We can, however, think about the stakes very differently. As many will have seen, the spread of the coronavirus and the associated morbidities presented in national and worldwide statistics reveal the virus has not impacted people evenly. As activists and artists have so compellingly laid bare [10, 18], Black and Brown people, particularly those in vulnerable socioeconomic circumstances, living in rural communities, and with limited access to healthcare, education, mobility, and housing, are being most severely impacted, suffering disproportionate death rates. Race and socioeconomic factors are woven through coronavirus deaths [40, 56]. Rather than achieving an imagined neutrality, contact tracing apps are extending modes of surveillance rooted in intersecting forms of discrimination. Connected with surveillance, contact tracing requires the collection of user data, which raises concerns about privacy and intent of use. It is therefore dangerous to ignore the history of racist medical experiments and unequal health care experiences inflicted on Black communities, which has resulted in the significant and longstanding distrust of public health authorities [54]. To this extent, one study suggested that Black Americans might be more likely to oppose a digital contact tracing app [96]. Negative experiences are common to many racialized groups, and some social determinants of health have historically limited equitable opportunities for economic prosperity, physical well-being, and emotional health, as recognized by the U.S. CDC [35].

Accounting for such a backdrop would mean considerable changes to what those developing the tools deem to matter. It would mean a government actor or tech firm mapping how, in the ongoing pandemic, those who are structurally placed at a disadvantage in society—usually living with less and invariably having to do much more to achieve any kind of equality—are the most severely impacted. It would be for the overseeing actors and agencies to recognize that bodies and movements are not the same and do not have the same freedoms of movement or to contact. And it would be to acknowledge how categories of labor often marked by race and low wages, such as care-work, cleaning, delivery, and so on., necessitate manual handling, heavy breathing, and a closeness of bodies—all things that complicate contact measured in Cartesian coordinates.

The solution to contact tracing seen in the current crop of apps is a decision about what matters, who matters, and how they should matter—a decision about what is at stake. Jeffrey Kahn and the Johns Hopkins Project on Ethics and Governance of **Digital Contact Tracing Technologies (DCTT)** [54] have considered these questions in the design and use of digital technology and tracing (DCTT), pointing to questions around location data, sharing with public health authorities, and the ethics of mandated or incentivized data collection. Amid such tracking, a person falls outside of the count because, for example, their labor, pay, or race locates someone beyond the neutral category and subjects them to yet further risk. The app works within a framework that rationalizes how bodies should be counted and what bodies are worth counting.

As the next section explores, we HCI scholars often do not even realize that technology designers are making the decision. For those in positions of privilege, the work unfolds within common assumptions that obscure other ways of doing. Recognizing the problem-solution pair we use to determine what matters means paying attention to our decisions and how we position ourselves within them.

### 3.2 To Work on a Solution is to Take a Position

To be in a position to define the problem through its solution, to decide what matters, and what is at stake, is a privilege. When we, in HCI, choose to work on a solution to a problem, we are making not just a claim about the problem but about where we should stand or how we should

be positioned with respect to that problem. When we design new apps to locate shelters or food banks, utilize DIY fabrication tools to fill the gap in critical equipment such as ventilators and masks, or trace the contact between bodies, we are often intervening in more than one way. We may be aiding someone or something but we are also claiming a position of oversight and authority. These claims reveal the problems that design can be responsive to—the “real” design problems—and that we have the necessary skills to judge what counts as a solution.

As with the stakes we decide upon, the trouble is that some of us are inured to our positions of privilege. With a problem-solving mindset, the goal becomes our focus; we may fail to recognize how we are, ourselves, implicated in wider networks of racializing relations, ones that again create and sustain the injustices and harms we are seeking to alleviate. Many of us fail to account for our position in a wider politics and overarching mode of existence, whether congenitally or deliberately. To put this in more concrete terms, let us return to contact tracing. Moving through this example, we come to a point where designers’ limited experiences and positioning (and their corresponding stakes)—a profession where Black designers make up just 3% of the industry [92]—seem to lie at the heart of wider societal problems.

With the repeated spikes in coronavirus infections, contact tracing apps became a highly visible and relatively contested site of data collection. As users, we have little idea of what is actually going on inside the technology—both in terms of how we are being monitored and how the systems are interpreting our movements and actions. We must trust organizations to make their intentions visible and the uneven patchwork of regulatory agencies to protect our rights as citizens and consumers.

A point of contention, for example, has been whether users’ individual contact and tracing data should reside centrally and under the auspices of a state-run healthcare system or decentralized and distributed in ways that make it impossible to identify individuals [60]. Health services in the UK and France have invoked a public health and moral imperative to defend centralized data storage, and multinational technology firms such as Apple and Google have promised to protect people’s data using decentralized technological solutions. The solution is cast as both a technological problem of determining contact and, at the same time, deciding what rationale trumps the means of data storage. These are of course problems we in HCI and tech broadly are well positioned to imagine solutions to (the disagreements notwithstanding).

However, the positions governments and corporations have taken in designing contact tracing solutions align with a historical thread that cannot be simply erased with terms and conditions or the promised goodwill. With the stakes we have all too briefly discussed above, we must accept that in deciding on the solutions, positions are circumscribed that turn a blind eye to the effects on already marginalized racial groups and persist with the idea of an objective or neutral gaze, a view from nowhere but of everything and everyone. Specifically, they put to work what scholars like Simone Browne [25], Ruja Benjamin [12], and Ramon Amaro point to as a “universal computational gaze” [2].

This universal computational gaze presumes, for example, that what remains equal are people’s capacities to move, both in relation to one another and independently, and thus to social distance or stay at home. In this way, bodies are surveilled as if there was a level playing field, and the computationally enabled reduction of bodies and contact to enumerated averages is viewed as ignorant to categories like race.

It is here, in the “routinized surveillance” of bodies and their conditions, where there are loud echoes of a legacy of racialized discrimination and anti-Black violence. As Benjamin writes, the “default settings” to many of the technologies that surveil citizens “routinely build upon and deepen inequality.” [12, p. 2] To construct a position of neutrality in contact tracing means presupposing a gaze before or outside of race, somehow beyond the racial categories of Black and Brown. But at the same time it means ignoring that race, and specifically being Black or Brown, is without a

doubt at stake in the spread of the coronavirus and especially its associated death rates [18, 19]. It entails taking a position that sees the structures that put Black and Brown people at risk outside the solution. This, describes Benjamin, is the “duplicity of technological fixes—purported solutions that nevertheless sediment existing hierarchies” [12, p. 3].

Seen through these traces and sediments, we in HCI research are left with a vivid sense that developing a solution is always working from, and within the limits of, a particular position. We see that these issues, as Browne [25] so sensitively and adeptly shows, run through histories of racialized surveillance in which bodies are treated arbitrarily. The controversies surrounding data and privacy in contact tracing apps and the divergent positions on data storage taken by health agencies, on the one hand, and corporations like Apple and Google, on the other [60], emerge precisely because we see what positions could afford, what logics and values they thread a line through. To take a position on a problem, from the endpoint of a solution, means situating oneself within a framework of meanings, values, and beings. In cases of contract tracing, and those well beyond, it entails formulating solutions from a position implicated in the lives and livelihoods of others, with special attention to those within the margins. Those of us who decide what technological capacities and possibilities to build are also deciding what histories of discrimination, exploitation, and violence we choose to see, and which we elide or erase. But, at the same time, to work on a solution to a problem means taking a position that is too often located outside of the frame of the problem-solution.

Although we in HCI research might try to be accountable for the systems we are designing and building, the appeal of the solution persists. Our fixation on solutions reveals a failure to capture what we are implicated within. We know the solutions we develop are often not enough, and in some cases, we risk doing more harm than good. But we are not sure how else to approach design—or how else to position ourselves. Is this the crisis of solution development? A faulty frame does not imply the impossibility of a solution, but it does open a path for interrogating positions.

André Brock [23] makes a similar point in relation to his development of **critical technocultural discourse analysis (CTDA)** on Black Twitter. “If the next researcher employs a CTDA analysis on the same data, using the same theoretical framework, their findings will differ because of their positionality to the framework and the data” [23, p. 1,027]. Reflecting on his position, Brock notes that he does not seek to solve structural inequalities and harms connected with digital platforms like Twitter; instead, he uses his analysis to “decenter normative discourses” about those inequities and harms. When any of us struggle to see the value in the solutions we design, and question the contributions we are making to wider social issues, could it be less about the specific devices and services we have built (and their immediate outcomes) and more about the positions we hold? Could it be that some of us are in fact struggling to come to terms with these positions and, crucially, the problem-solution relationship that comes with them?

As alluded to in the introduction, the authors of this article reflect this range of positionings and questions. While some of us experience racialization today, we each bring different and distinct histories of racialization. One of us experiences what Black studies scholars describe as “post-traumatic slavery syndrome,” the sustained multigenerational and unresolved trauma arising from the experience of chattel slavery persisting through American society’s policies of inequality, racism, and oppression [29, 49]. For some of us, our families have borne the brunt of racial translation, in one case fleeing Nazi concentration camps to absorb an identity of whiteness on stolen lands. In another case, because of adoption, being subsumed into the tangled web of colonial pasts and presents while at the same time marked by East Asian ancestry. In yet another, grappling with a double French colonial legacy that carries histories of cultural dislocations and of what Frantz Fanon called the “affective anomalies” of racism [34]. With these lived experiences, we grapple unevenly with being and belonging to neatly defined racial categories. Our subject positions expose

long histories of progress narratives—including the worlds of design and development—that have marginalized, exploited, and harmed people with darker skin. The thoughts here are part of the ongoing work of coming to terms with the conditions we are living through and believing it could be otherwise.

## 4 WHAT DOES BEING A PROBLEM DO?

We have so far considered the solution in relation to broad societal problems such as a global pandemic amid ongoing anti-Black racism. Coming back to Warren, we want to consider what those problems become when designers confront questions of ontology.

### 4.1 From Ontological Design to Ontological Problems

At first blush, this idea might seem familiar. A long line of HCI and design scholars including Winograd and Flores, Anne-Marie Willis, Tony Fry, Cameron Tonkinwise, and most recently Arturo Escobar have argued for something akin to ontological design [33, 36, 86, 94]. Ontological design tends to describe the way the designed world also designs the designer [4, 93]. In their widely influential 1972 book *Understanding Computers and Cognition*, Winograd and Flores write, “The most important designing is ontological. It constitutes an intervention in the background of our heritage, growing out of our already-existent ways of being in the world, and deeply affecting the kinds of beings that we are” [94]. Following their argument, it could be argued that through its capacity to shape the inner and outer conditions of existence, design is always ontological.

On closer inspection, ontological design presumes a particular orientation. Any experience of the world presupposes a specific stance. Ontology has historically eluded this stance by superseding experience in favor of an abstracted theory of being. This ties to arguments on how the origins of racial Western social theory are epistemologically bound to their positionality (see Robinson on Marx’s “universalism”) [75]. Some of us might understand our being as shaped by design. But, as Warren might ask, what happens to those of us whose being “functions in an antiblack world without being”? [p. 6] What happens to those of us whose being is not the target of the solution but the site of the problem?

Drawing on W.E.B. Du Bois and Fred Moten, Warren names the “problem of being black” as the central problem of our world, both now and for decades to come. By problem, he refers to the ongoing influence of chattel slavery. For Warren, this thinking sits at the nexus of Afro-pessimist and Afro-optimist scholarship, two contrasting views of Black being. To put the contrast too simply: where Afro-optimist scholarship would call for the reclaiming of humanity (we are all human), Afro-pessimist scholarship would point to the impossibility of that claim (the category of human as unrecoverably anti-Black—carrying with it and reproducing legacies of racialized colonial oppression [Wynter]). Drawing on Afro-pessimist theorizing, Warren equates being Black—or Blackness, in Warren’s terms—to ontological nothingness. The ontological claim describes a paradox: being Black depends on non-being.

Drawing on W.E.B. Du Bois, Warren names the “problem of being black” as the central problem of our world, both now and for decades to come. By problem, he refers to the ongoing influence of chattel slavery [47, 79, 81]. For Warren, this thinking sits at the nexus of Afro-pessimist and Afro-optimist scholarship, two contrasting views of Black being. To put the contrast too simply: where Afro-optimist scholarship would call for the reclaiming of humanity (we are all human), Afro-pessimist scholarship would point to the impossibility of that claim (the category of human as irrecoverably anti-Black—carrying with it and reproducing legacies of racialized colonial oppression [95]). Drawing on Afro-pessimist theorizing, Warren equates being Black—or Blackness, in Warren’s terms—to ontological nothingness. The ontological claim describes a paradox: being Black depends on non-being.

## 4.2 The Problem as a Double Bind

To explain this paradox, Warren turns his attention to the work of American poet and Black studies scholar Fred Moten, who in his work tries to answer the question of “Blackness without ontology”. Ontology, writes Warren (after Moten), is an “exceptionally hostile place for blackness and renders blacks homeless within such a structure” [91] Moten, therefore, seeks to develop a “para-ontology,” one that would free Blackness from ontological expectation. But as Warren points out, how extricable is paraontology from the Western ontological project? He writes: “The difficulty of such an enterprise is that we do not have a grammar outside of ontology to describe the “paraontological,” which means that [Moten’s] idea of paraontology is still tethered to that which it is designed to escape” [91].

This paradox has been understood by Warren and other historians of Blackness as the concept of the double bind. The concept notably emerges from Du Bois’ reference to “double consciousness”—or what Saidiya Hartman [47] later calls a “bifurcated existence”—wherein someone experiences life as “both an object of property and [as] a person.” The brutality of enslavement expressed itself through the denial of humanity, to be sure. But Hartman shows that it also happened through its admittance. For example, she describes two formerly enslaved Black men, Moses and Windham, who assert their humanity using language that would ultimately be used to strip away their rights to freedom. This language fortifies itself in case of law like *Plessy v. Ferguson* where a recognition of humanity makes possible the violent “separate-but-equal” ideology. Hartman argues that claims to humanity—and the very language of humanism—allow the mechanisms (e.g., laws, codes, legal frameworks) that purport to free or liberate Black people from suffering to instead re-entrench that suffering.

There seems, then, to be an insurmountable paradox: to address anti-Blackness we must try to eradicate its root cause, the ontological site from which it has emerged, which is a site of “pulverized being, abusive power, and systemized muteness” [91, p. 9]. Yet, we cannot escape ontology, just hint at the spaces around it, never fully inhabiting them. This insurmountable paradox is not, however, a dead end. For if we must work within the constraints of ontology, we can still (be)hold it with a critical eye. In other words, the “problem” of Blackness and anti-Blackness—like the problem of ontology—does not call for a solution, since a solution would emerge from the same substrate that created the problem in the first place. “Black lives matter” not because they are rehabilitated within a fraught political ontology, but because they cannot be reduced to this framework, to this ontological orientation that “disregards and pulverizes black being” [91, p. 25]. If, for a moment, we relax our grip on the solution and accept the problem’s double bind, we can start to see the blurry contours of another space, one in which we can recognize the violent nature of Western ontology while also living in it.

## 5 SOLUTIONS AND THEIR AFTERLIVES

Now that we have explored the connections between the universalist problem-solving logic and the ontological paradox of Blackness, we want to examine the ontological status of the solution itself. The thinking that follows intentionally destabilizes and opens without presenting a path to follow. We believe that this approach offers a much-needed fragility and uncertainty; rather than the map, it is the conditioning needed for the journey.

### 5.1 Re-Examining Solutions

Returning to our introduction, we find Calvin Warren adds an additional conceptual register to interpretations of the solution. In calling productive responses to anti-Black racism momentary and fleeting—as interventions that, at best, give violence against Black lives a new formulation

[91, p. 122]—he anticipates the emotional response of audience members that followed his talk. Reflecting on the ensuing panic in the room, Warren expands on the idea of the solution itself:

“it is not just that solutions make us feel good because we feel powerful/hopeful, but that pressing the ontological question presents terror—the terror that ontological security is gone, the terror that ethical claims no longer have an anchor, and the terror of inhabiting existence outside the precincts of humanity and its humanism.” [91, p. 4]

Warren’s profound disruption to *the solution* stands as a reminder that solutions are woven into and across wider frameworks of being. Such frameworks, as we have seen above, hinge on specific reductions and limit the attention to specific endpoints. They limit what we can know and what we do with what we know—in other words, they have epistemic implications. For HCI scholars and designers, the stakes and positions that come with these reductions and endpoints shape the possibilities for experiencing and comprehending the myriad relationships within technological development. Put simply, the frameworks of being we in HCI and design inhabit foreclose the possibilities and set limits on what we are able to both imagine and do.

It is the “terror” though, that Warren invites us to face, that forces the more profound line of questions? As with Warren’s audience, the consequences of this terror leave HCI spiraling. Is any action or solution designed to respond to and remedy large-scale structural inequities destined to fail? Will all solutions create or prolong the conditions for harm? What could it possibly mean for HCI and design—and their solutions—when the only option left is to inhabit existences outside security, ethical anchors, humanity, hope, and ontology?

Such a dismantling of solutions and their framing lives at the intersection of statements such as “Yes we can!” (former U.S. President Barack Obama’s 2008 campaign slogan) which saturated racially-ambivalent hope for a better future [64] and “Black Lives Matter,” the rallying cry of movements fighting anti-Black violence and police brutality. Obama’s campaign slogan speaks of possibility, while the latter Warren argues “is really an unanswered (or unanswerable) question”—exposing the contradictions inherent in the movement.

For Warren, the hazy and slippery tension that surfaces between such slogans provokes demanding and penetrating questions of Blackness. What can a statement like “Black Lives Matter” mean in the context of a society that has systematically denied Blackness an ontological status? Can a solution to anti-Black racism and brutality operate outside of ontology altogether? Warren’s question, “what ontological ground provides the occasion for the declaration [Black Lives Matter]?” forces his readers and us, HCI researchers and designers, to consider the possibility that ontologies, and the solutions imagined within them, offer no way out.

## 5.2 Abandoning Problems (and Recognizing the Terror They Pose for Design)

What we in design research should learn from Warren—if we can, like him, engage the unruly connections between solutions and ontologically-denied Blackness—requires revisiting our path so far. We have seen that solutions come with problems. And that, in working on solutions, designers put to work a wider set of stakes and positions that at the same time shape and respond to the governing structures in which they live. What Warren’s proposal invites is the inspection of solutions from both inside and outside of frameworks of being.

Scholars within and outside HCI [5, 23, 89] have begun to show that solutions engage frameworks that presume a lot: that designers have the means at their disposal to change the conditions that prolong racial inequities, that designers might work towards solutions that “translate into freedom, justice, recognition, or resolution.” The hope here is one of resolving the problem. A reimagined solution might mean taking two concrete steps:

- (1) *Splitting the problem from the solution.* This is to break the problem-solution pairing that solutionism has depended upon. (We have seen this implicit in the parody of willful acts of undesign, nondesign, and so on., e.g., [9, 68, 69, 78])
- (2) *Examining the problem without a solution.* This is to see the problem free from the shadow of the solution. (Something Rittel and Webber tried but fell short of achieving).

To follow these steps is to insist on our willingness to hold accounts that chafe or wear down the present moment. Likewise, it means to trust that we in HCI and design are able to take responsibility for the stakes we decide upon and the positions we take in such a present. But, from Warren, we learn that, even if it all goes well, it will likely give us only temporary reprieve. The frameworks we so unevenly operate within, and the instruments we enlist to set the possibility of change in motion, will be the same ones that underlay the injustices—the “vicious and tortuous cycle” Warren decries. To decouple the solution from the problem and then to free oneself from it (from the solution) leaves the framework of being intact. It is to remain within the precincts.

The option left to us—seeking an outside to frameworks of being—is the radical one:

- (3) *Examining the solution without the problem.* This is a refusal to see a solution to a problem or treat a solution as if problems must exist.

With hesitance—acknowledging the relentless questions that Warren uses to push us to keep probing—we want to pose this option as a question: “what if operating outside a framework of being, an ontology, could mean working towards a solution without its problem?” The imaginary this question opens up is one in which solutions are not just *outside* possibility but *without* possibility. Sought after, here, is a fragile opening, one that could offer the conditions for refusing existences that set the conditions for possibility.

This undoing—the solution devoid of problems that might not exist, cannot exist, or must not exist—exposes the limits and assumptions of control over the worlds that HCI and design help cultivate and shape. It seeks to situate research and design in a process that resists ideas such as *anything we do will continue to exist or anything we have made can be altered* [91, p. 24, p. 172]. Without the security of the problem and within the destabilizing (possibly terrifying) precincts of ontology, it presents a basis, not for processes of fixing but of collectively making do, again, and again, and again.

Within HCI, critical frameworks of Afrofuturism, speculative design, and Black feminism have generatively framed design practices beyond the problem-solution pair—outlining forms of creativity, imagination, and expression that collectively envision the world differently from how it is today [21, 22, 42, 46]. Putting these ideas into practice, approaches like **Participatory Action Research (PAR)** and **Community-Based Participatory Research (CBPR)** make room for shifting the locus of power within decision-making and problem-framing from those outside the stakes (designers) to those inside (community) [37, 44, 67]. In this work, scholars have critically engaged concepts such as “giving voice,” “empowering,” “empathy-building” and “placing participants in the driver’s seat,” showing how they still sometimes operate within a problem-solution pairing that separates research from action and allows designers to hold fast to interpretive power [14, 45, 48, 61, 70]. What we take from Warren’s proposal is not a retooling of existing HCI approaches, but a possible philosophical extension to galvanize. It is to see design—and a legacy of inequity that correlates with its practice—as always developing within a hermeneutic world it must also revise (adjust, engage, contend with).

While prevalent among some scholars, we see how threatening it could be for others in HCI and design to leave behind something so fundamental to their beliefs and hopes. That this abandoning of the problem might present a kind of risk, a terror even, connected with ontological instability. To

remove the problem seems to remove the grounding from solutions. As prior HCI scholarship has described [38, 44, 67], many invested in interaction and its design are left with nothing to hang on to. A response might be to query, laugh possibly, at the absurdity of it. How can we work without a problem? Where should we begin? Who am I designing for? Who or what should I center? What does success look like for different stakeholders—how is it defined? How do we know when we have finished? Why am I doing this? These are precisely the questions that we need to be asking to think differently about solutions. This is how we might begin to undo solutions, and think about the just and equitable lives we might, just might, make possible.

## 6 CONCLUSION: TOWARD A LIFE OTHERWISE

“How can the very system that is designed to unmake and inscribe her also be the one to save her?”

— Christina Sharpe, *In the Wake* [79]

Across design research, there seems to be an urgency to make things better. Automated credit-scoring systems are programmed, from the ground up, to prejudice based on race and gender. Vision algorithms perpetuate anti-Black racism with wrongful arrests. And the location and tracking technology produce racialized and ableist exclusions. In this pressing urge to act responsibly and change things for the better, those of us who build technology face a perceived need for solutions. Many of us seek solutions to problems without clear definitional boundaries and make declarations to unanswered or unanswerable questions. Underlying our search for answers and resolutions, a kind of solution-oriented thinking pervades our work—and has long pervaded our literature (with names such as teleology, progressivism, solutionism, techno-determinism, and the technofix). Designers are driven by a need to fix problems using technologies but those technologies so rarely seem to meet the challenge at hand.

The uncomfortable truth is that design solutions, ostensibly proposed in response to individual and social needs, have become something of a lark for many of us working in design research. They have given many of us license to investigate virtually any walk of life and build systems that, as design scholars like to see it, center people but, with distance, show limited and uncertain improvements to the conditions people, world-wide, live in. We make this claim not to lessen HCI’s accomplishments or lay blame, but to acknowledge a collective complicity in something that masks considerably more complex relationships that thread through technology-mediated lives, historically as well as in the present. When solutions are approached as end points, they suggest there is an answer that can shut down the surrounding controversies. Solutions calm the seas of any complexity by limiting what counts as the problem.

In writing this article, our aim was to respond to this sense we and many of our colleagues have that what we are doing is not enough. That despite the significant contributions from HCI and UX, the technologies we help to build cause harm. The persistence of this, we have tried to argue, suggests a structural problem to (HCI) design. Structurally, we find the solutions feed into and further amplify worlds founded on exploitative and colonial logics. Thus, the case we make seeks to explicate a structural reading of problems and solutions.

Through this reading, our aim was not to rehearse arguments against solutionism—it’s precisely such a rehearsal that we want to question. We have seen how design research has done considerable work to open up and complicate problems (see [15, 16, 31]). To some extent, it has come to terms with the inherent complexities that arise with problems and their solutions [59]. Complementing these developments, our hope has been to show how the problem-solution pair persists, and that this persistence demands a wider engagement with ontology and its blind spots. We may have released the problem from a solution with approaches like discursive, critical, and

speculative design, but many still make sense of and organize their work in terms of resolution (acknowledged by [80]). In this resolution—where design research operates in and in some cases cements an ontology—we find a direct link to Warren’s radical proposal. This link invites the possibility of existences outside of ontology—the possibility of life otherwise.

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