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FROM THE TECHNICAL TO THE POLITICAL:
DEMOCRATIZING DESIGN THINKING

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contested cities

FROM THE TECHNICAL TO THE POLITICAL:

democratizing design thinking

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ABSTRACT

Design thinking has recently garnered widespread recognition across a variety of sectors including education, business, and development, in the non-profit, private, and public spheres alike. In contrast to some other areas of design, advocates of design thinking focus on human needs, aka those of the end-user, as a space for increased empathy and potential social impact. Innovation of this type is then implicitly (and oftentimes explicitly) linked to social progress. In this paper, we will explore the ironies around the use of design thinking for social impact in its contemporary market-friendly iterations. Namely, mainstream design thinking methodologies are limited by their myopic focus on technological innovation and failure to address political power dynamics. After identifying a need to reformat design thinking for the social good, we present a curricular framework that integrates design thinking with social justice to transcend these flaws and address complex social problems.

KEYWORDS: design thinking, curriculum methodology, social justice, Right to the City, neoliberal critique

1. FROM THE TECHNICAL TO THE POLICITAL:

1.1 Democratizing Design Thinking

1.1.1 Introduction

"In order to do something different you must do something different." Sean Donohue and Rama Gheerawo, two scholars and practicing designers/design researchers articulate this insight in their 2007 pitch for inclusive design.[1] In context, it is an argument for the expansion of traditional design practices to innovate towards social change. In order to "do" or achieve something different, one must use a different process.

Similar sentiments underlie the current fervor around design thinking (DT) and human-centered design (HCD). Design thinking, according to Stefani Di Russo (2016), may be understood as "a broad term used by professionals outside of the design industry to describe the activity involved in design practice."[2] Importantly, she notes that "in this sense, design thinking may be synonymous with the term "design" but places emphasis on the *mindset* behind design practice."[2] (emphasis added)

The utility naming DT in this context is to imagine broad applications of design as a solution-driven, creative problem-solving process. In practice, these applications include abstract issues in complex social contexts.

The urban context is rife with such challenges. Cities are dynamic and complex, offering a unique hotbed for design opportunities. Technical, legal, political and social systems intersect in countless ways to shape the lives of people and communities in geographic proximity. In urban environments and beyond, "design thinking" has been deployed with a particular human-centered framework. In contrast to some other areas of design, human-centered design (HCD) centers the focus of design work on the needs of the human recipient of the project, often called the "user". The premise holds that people-focused solutions will garner the most relevance and success. Methodologically, HCD deliberately holds space for increased empathy in the design process that is attractive for practitioners seeking innovative social impact. In this way, DT as HCD has been implicitly (and oftentimes explicitly) linked to social progress.

However, there are ironies around the use of design thinking for social impact in its contemporary market-friendly iterations. In this paper, we examine the history of DT to understand the evolution of its current apolitical, ahistorical methodologies. Then, we will use the Right to the City framework to critique these methodologies and related alternatives on the basis of their aspirations to create social change. Finally, we draw on practice-based evidence from politically-conscious methodologies to present a curricular philosophy as an attempt to address these shortcomings and capitalize on the creative possibilities of DT for radical social transformation.

1.2 History of Design Thinking

Herbert Simon first posed design as a particular way of thinking in 1969. While he discussed design as a way of thinking in the sciences, design thinking has since garnered widespread recognition across a variety of other sectors including education, business, and

development in the non-profit, private, and public spheres alike. In his 1969 book *The Sciences of the Artificial,* Simon writes:

> "The intellectual activity that produces material artifacts is no different fundamentally from one that prescribes remedies for a sick patient [...] schools of engineering, as well as architecture, business, education law and medicine, are all centrally concerned with the process of design (p. 111)."[3]

Horst Rittel and Melvin Webber expanded the possibilities of these insights with the seminal 1973 paper *Dilemmas in a General Theory of Planning.* In this paper, they write that social policy problems are "wicked" in that they are ill-defined, complex, and lack a unique solution.[4] Rittel characterizes wicked problems by ten different properties (Rittel & Webber, 1973):

1. "There is no definitive formulation of a wicked problem
2. Wicked problems have no stopping rule
3. Solutions to wicked problems are not true-or-false, but good-or-bad
4. There is no immediate and no ultimate test of a solution to a wicked problem
5. Every solution to a wicked problem is a "one-shot operation"; because there is no opportunity to learn by trial-and-error, every attempt counts significantly
6. Wicked problems do not have an enumerable (or an exhaustively describable) set of potential solutions, nor is there a well-described set of permissible operations that may
   be incorporated into the plan
7. Every wicked problem is essentially unique
8. Every wicked problem can be considered to be a symptom of another problem
9. The existence of a discrepancy representing a wicked problem can be explained in numerous ways. The choice of explanation determines the nature of the problem's resolution
10. The planner has no right to be wrong"[4]

In 1987, Peter Rowe credited Rittel and Webber's conception of "wicked problems" as inspiring the emergent area of DT. His 1987 book "Design Thinking" was the first usage of the term "design thinking" in the formal literature.[5] Rowe's book represented a shift away from the scientific logic behind a science of design, established previously by Simon.[2] Rowe and others, including Nigel Cross, Donald Schoen and Richard Buchanan explore the "human" (ambiguous and cognitive) facets of design thinking.[2]

In 1992, Richard Buchanan popularized the notion of wicked problems in design thinking. He rejected the notion of design as a science, saying that design is a "liberal art of technical culture,"[6] further opening up space to engage with complexity (an opposing Herbert Simon's view). In his discussion, Buchanan notes the contradictions inherent in the history of design:

> "One could … say that the history of design history is a record of the design historians' views regarding what they conceive to be the subject matter of design. We have been slow to recognize the peculiar indeterminacy of subject matter in design and its impact on the nature of design thinking."[6]

Despite some conceptual ambiguity among academics and design theorists, design thinking has been unequivocally linked to "wicked" social problems throughout most of its history. However, DT entered mainstream markets via IDEO, a global design consultancy founded in 1991 by Stanford University Professor David Kelley. Tim Brown, CEO of IDEO, wrote

a 2008 paper "Design Thinking" in the Harvard Business Review illustrating their methodological brand which remains prominent amongst professionals engaging in DT practice. This paper explicitly tied together the tenets of design thinking with innovative and marketable design outcomes.[7] Brown relates design thinking to human-centered design through the following definition:

> "Design thinking is a human-centered approach to innovation that draws from the designer's toolkit to integrate the needs of people, the possibilities of technology, and the requirements for business success."[8]

1.3 Critiques of Design Thinking Methodology

The tail end of the above definition—"requirements for business success"—alludes to the conflicts of interest that complicate the use of DT for social progress. Yet, a cursory Google search reveals the widespread popularity of DT and HCD across multiple sectors for professionals with just such aims—from private business interests to academia, nongovernmental organizations, and public institutions. The ever-expanding scale of DT adoption can be attributed in part to a robust body of case studies that preliminarily indicate success by selected metrics.[9] However, despite this wave of hype, and, arguably, genuine potential, critical theoretical analysis indicates that DT has yet to realize a set of practice norms that would allow it to meaningfully impact the wicked problems it purports to address.

We can begin to make sense of these shortcomings by examining Lefebvre's Right to the City framework. Marcuse (2009) identifies Lefebvre's definition of the right to the city as "a cry and a demand. [...] the right to information, the rights to use multiple services, the right of users to make known their ideas on the space and time of their activities in urban areas."[10] David Harvey notes that this right is tied to urban sociologist Robert Park's observation that as much as mankind may shape its environment, the environment in turn shapes those who live in it. Therefore, the right to mold the city after one's "heart's desire" is another way of articulating a right to self-determination.[11]

The framework around "rights" links us to explicitly political territory. From the legal to academic circles, scholars have used the terms "rights" to examine questions of power, especially as it intersects with the distribution of high-value material resources such as water, housing, and education, as well as immaterial resources such as "opportunity", safety, and input into decision-making processes.[12,13,14] Defined by the Merriam Webster dictionary as "the power or privilege to which one is justly entitled,"[15] "rights" are understood across these arenas as (contextually contested) entitlements accorded on the basis of classifications of belongingness on various scales, such as citizenship or membership in the human race. Institutions and organizations, in turn, use these contested baselines to inform policy, programming, and design for both the allocation of resources and the nature of the decision-making processes behind these allocations. The keyword here is *contested*: understandings of rights, while imagined as immutable, are the rhetorical constructions of ongoing tangible power struggles between various groups. The resources and opportunities accorded by "rights" are controlled in reality by individuals and networks of influence that are pressured by other groups for access to these items.

Returning to Lefebvre and Harvey, the aforementioned Right to the City (and its corollary, the Right to Self-Determination), like all rights, are discursive indicators of power dynamics at play. From this perspective, we can see that the "wicked problems" of urban spaces are political contests at the core: competitions between powerful and disempowered classes

over access to resources, location, and decision-making power over the forces that impact their lives. Timothy Mitchell (2002) and Tania Murray Li (2007) teach us that exclusively technocratic interventions within such contexts are inherently limited.[16,17] Their analysis of flawed development projects reveals a critical insight that goes unrecognized by presently available design thinking methodologies: Design, conceived as a politically agnostic technical discipline concerned with the (in)efficiencies of systems, cannot solve problems generated by the larger political contexts in which it operates. In fact, such design interventions risk perpetuating rather than challenging the power dynamics at the root of the social issue it is deployed to address.

Especially in today's global context in which privatized, market-dependent interventions are increasingly prevalent in social impact work, exposing issues endemic to political contexts is of prime concern. This increase of private power and corresponding decrease in public influence is discussed at length in the literature around neoliberalism. Neoliberalism itself is a controversial term that many argue has been invoked so often that its definition(s) are unclear.[18,19] Still, contemporary brands of "social entrepreneurship" that promote DT's supposed potential to catalyze "innovative"[20] approaches to community and international development recall several core aspects of neoliberal frameworks as described by James Ferguson (2010):

> "The key elements of the doctrine are variously described, but always include a valorization of private enterprise and suspicion of the state, along with what is sometimes called "free-market fetishism" among other features.[18]

Modern mainstream DT methodologies demonstrate just such a reliance on private enterprise as they emphasize market-friendliness (often coded as "sustainability") as a prerequisite for successful solutions. This widespread practice norm, consistent with the neoliberal paradigm described by Mirowski (2013) as a framework "whereby the market stands as the ultimate arbiter of truth, and where freedom is recoded to mean anything the market allows"[21] can discourage the examination of underlying market mechanisms by which these design projects are supported. Thus, the fundamentally political dimensions of "wicked problems" are rendered invisible before the design process even begins. The creative potential of DT/HCD methodologies for transformative change may be foreclosed upon by this oversight. Worse yet, such failure to assess the role of power dynamics in a given social issue exacerbates the risk of perpetuating the violent forces at the root of the problem.

We are not alone in this critique. Janzer and Weinstein (2015) draw on insights from scholars such as Paolo Freire and Edward Said in order to link uncritical applications of DT/HCD to neocolonialism.[22] They warn that "without first considering processes, methodologies, frameworks, ethics, and foundations for the field, the freedom and dynamism currently present within social design weaken the legitimacy and potential efficacy of the field" and "can and [do] contribute to causing harm and negatively impacting populations in an attempt to make social change."[22] David Booth (2015) contends that development work, including iterative design, "works best, and is least liable to do harm, when the people designing it are thinking and working politically."[23]

Such observations parallel insights from the environmental justice movement. This movement draws on a theoretical framework of procedural justice: the right to fairness in the terms on which decision-making takes place. Kaswan (2003) explains that a just scenario of resource distribution is impossible to achieve without just procedures that confer agency to underprivileged groups—that is, by including affected communities at the

decision-making table.[24] If extrapolated to design practice, this notion underscores the connection between design process and design outcomes in matters of power. These insights have been verified and replicated in the field of participatory action research (PAR), also known as community based participatory research (CBPR), discussed in more detail in the Practice-Based Evidence Section below.[25,26]

Furthermore, DT suffers losses in quality by using politically problematic conceptions of knowledge and expertise. These critiques, also leveled toward other research activities, contend that democratized partnerships lead to more accurate, richer, and relevant data than is otherwise possible.[27] While DT as HCD superficially attempts to procure insider knowledge by researching perspectives of the "user" and/or beneficiary of the design solution, scholars Lucy Kimbell (2011) and Marc Steen (2011) point out the difficulties in accurately assimilating such perspectives through the current top-down paradigm in which designers are "privileged as the main agent in design."[28,29] Put simply, the biases and interests of HCD practitioners inevitably filter their perception of user needs. Participants with insider knowledge must be privileged with decision-making power in the design process to avoid losing that knowledge in translation.

1.4 Alternative Approaches to Design Thinking: Gaps

Alternatives approaches to design thinking aimed at increasing its utility for social impact exist. However, a review of these methodologies indicates that they fail to fully include the democratizing principles necessary to address power dynamics and wicked problems.

Participatory Design (PD) is one such example. A design tradition started by the socialist democratic values of Scandinavian union workers, PD has developed a tradition which focuses on engaging the user and/or intended beneficiary of the design intervention in the design process. In PD, "genuine" participation is achieved when designers facilitate an expansion of the users' role from being "merely informants to being legitimate and acknowledged participants in the design process."[30] Prioritizing local accountability, researchers and practitioners of PD ideally consider local members to access local needs and build participation in social innovation.

However, despite the emphasis on user involvement, PD has exhibited limitations in practice. Published critiques touch on the difficulty in executing PD for all but small scale projects.[31] Methodologically, PD hinges on an outside designer initiating and likely leading the design process. Even in the best case where designers and users establish deep partnership, the process was still initiated by the designer.[32] The users are not afforded the agency to choose when to be involved in such a design process; they are free to opt out, but they are not free to opt in. Most insidiously, PD suffers from institutional pressures on researchers to "'publish or perish"--threatening the scope and representativeness of the work.

Value Sensitive Design (VSD), proposed by Friedman, Kahn, and Borning (2013) goes farther than PD to include *all* values (particularly those with "moral import"), including democracy and participation, as a core pillar in the design process.[33] VSD does aim to consider a range of social and technical factors in its design methodology, and it frames the design work on human values. However, it still falls prey to similar critiques as those of PD, in that it is still initiated by an outside designer and hinges on this designer's efforts rather than the efforts of those affected by the design.

Another field called Public Interest Design (PID) tackles social interest from another angle by offering pro bono or otherwise affordable work by professional design firms. While useful in some instances, the very nature of the work is focused on design for individuals and not for pervasive structures. It's dependence on traditional methodologies and the designer's altruism, which is in turn usually supported by an accumulation of resources via unchallenged market dynamics, limits its transformative potential—as well as privileging those who are visible to the designers and ignoring those who are not.

Practioners "D-Lab" at the Massachusetts Institute of Technology may come the closest to political empowerment through design with their Creative Capacity Building (CCB) methodology. CCB, described as "a methodology that encourages and trains people to make technologies that generate income, improve health and safety, or save labor and time," addresses the need to feature users as agents through the design process. While research shows that technologies can be employed in the service of political empowerment,[34] the narrow focus on technological solutions in CCB does not cover the full spectrum of possibilities for addressing the political dimensions of wicked problems. There is room to build upon this work with methodologies designed to go beyond technology and inspire new tactics, programs, strategies and actions in the service of social movements.

Practice-Based Evidence

The push for such a design methodology is informed by other proven techniques of transformative co-creation. As Lee (2015) observes, the political approach to social intervention advocated in this in this paper has its roots in the participatory, bottom up, community-led traditions that have evolved within development and research.[35] Participatory Rural Appraisal (PRA), a style of development intervention that subversively addresses problematic power dynamics in theory and practice, is one such methodology. PRA is described as "an approach and methods for learning about rural life and conditions **from, with and by** rural people."[36] PRA builds partnerships between outside experts and disempowered communities to "share, enhance, and analyze their knowledge of life and conditions, to plan and to act."[37]

Similarly, Participatory Action Research (PAR) and CBPR methodologies exemplify an attempt to build procedural justice into research for the explicit purpose of social change. Notably, evidence demonstrates the potential of these methodologies not only to garner higher-quality research, but also to build the capacity of oppressed groups to advocate effectively for their interests even beyond the original research project.[38] The success of these methodologies has caught the attention of other designers engaged in wicked problems: Katoppo and Sudradjat (2015) developed an alternative research method that combines PAR and DT. They propose that the combination of PAR and DT offers a uniquely social and participatory framework through which to conduct architectural design.[39] While they focus specifically on architecture, the mentality underlying the proposed design approach can be applied across design domains.

These methodologies are imperfect. In practice, participatory development approaches such as PRA are critiqued for the prevalence of officializing and muting practices which silence and exclude non-dominant communities that could otherwise contribute to more nuanced understandings and design solutions of PRA initiatives. Also, the logistical difficulty of coordinated, wide-scale involvement of development actors necessitated by the

methods and requirements of participatory inclusion can consume capacity necessary for other development tasks and priorities, including administrative and agricultural activities.[27]

Similarly, PAR/CBPR suffer from similar concerns as well as challenges related to feasibility and expediency. Participatory processes generally require additional time and resources in order to develop collaborative capacity and genuine partnership between communities and "expert" outsiders. Partnership investment must be balanced with practical budget concerns and sensitive political timelines.[25] Still, a substantial body of evidence indicates that these methodologies can facilitate empowerment.

A Social Justice & Design Thinking Curriculum

Given this potential, we have developed a design thinking methodology that is explicitly political in its aims and process called Design Thinking for Social Justice (DT for SJ).

Social justice is described by respected philosopher John Rawls as a set of "principles [that] provide a way of assigning rights and duties in the basic institutions of society."[40] This idea of justice is more specific than the larger umbrella of well-intentioned design work for "social impact." For Rawls,

> "[T]he primary subject of [social] justice is the basic structure of society, or more exactly, the way in which the major social institutions distribute fundamental rights and duties and determine the division of advantages from social cooperation. [These basic institutions include] the political constitution and the principal economic and social arrangements."[40]

In other words, the pursuit of social justice is the pursuit of fairness in these contests of power, influence, and resource distribution. While the specifics of what constitutes fairness can be debated, social justice describes our guiding principle in reimagining DT as a tool in the greater struggle for rights, self-determination, and the democratization of space.

Our Design Thinking for Social Justice methodology consists of a curriculum of exercises that engage design practitioners with considerations of identity and power. These exercises are intended to enhance, rather than replace, mainstream apolitical DT techniques. Full description of this methodology is beyond the scope of this paper. However, it is summarized here in contrast to mainstream DT methods in order to illustrate the possibilities for concrete shifts in practice.

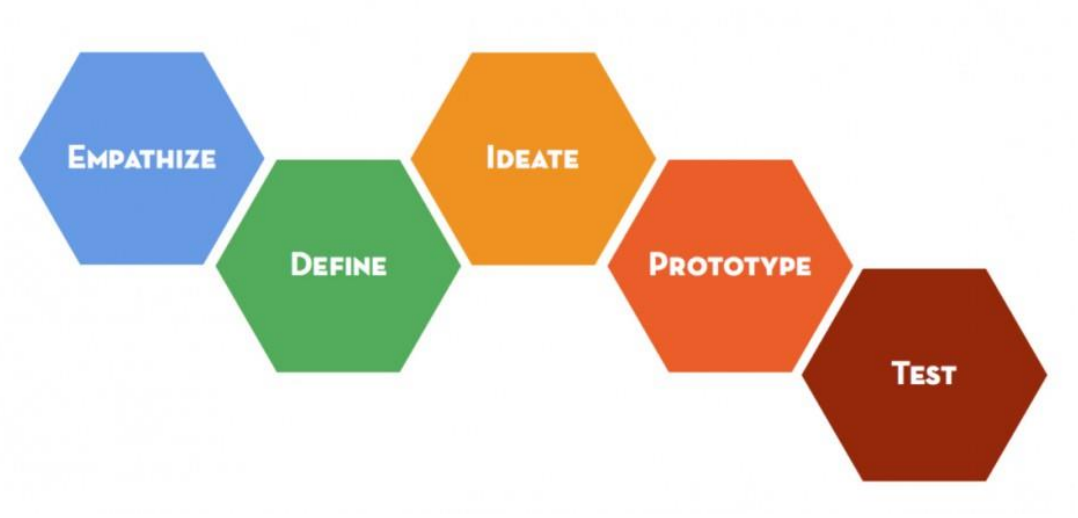
DT for SJ, like all DT, can be understood as a non-linear progression through different phases of structured-creative problem solving. Industry leader IDEO names three core spaces in the design thinking process: inspiration, ideation, and implementation.[20] These core phases are further broken down into the five sub-areas as described below by the Stanford University d.school, an IDEO affiliate:

- "Empathize: Work to fully understand the experience of the user for whom you are designing. Do this through observation, interaction, and immersing yourself in their experiences.
- Define: Process and synthesize the findings from your empathy work in order to form a user point of view that you will address with your design.
- Ideate: Explore a wide variety of possible solutions through generating a large quantity of diverse possible solutions, allowing you to step beyond the obvious and explore a range of ideas.

- Prototype: Transform your ideas into a physical form so that you can experience and interact with them and, in the process, learn and develop more empathy.
- Test: Try out high-resolution products and use observations and feedback to refine prototypes, learn more about the user, and refine your original point of view."[41]

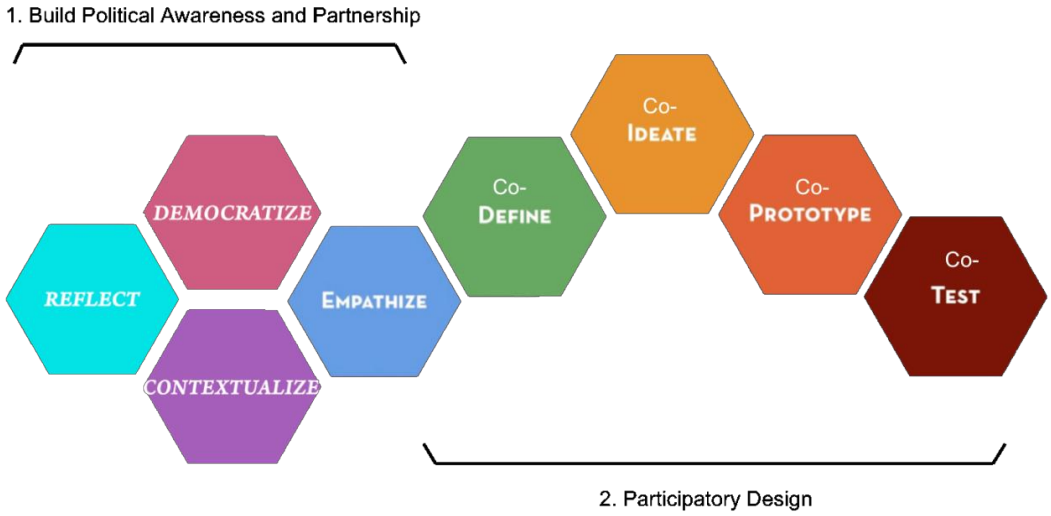
As mentioned above, these spaces of DT are meant to be *human-centered*—they aim to unlock the creative potential for social good (and other goals) by considering the needs of the people the design is meant to serve. DT for SJ improves on this baseline with additional design spaces meant to transform social ills via the political empowerment of marginalized groups (compare figures A and B). These additional spaces, their function, and example design exercises for each are described below.

Figure A: IDEO Design Thinking Process Spaces



Source: IDEO.com

Figure B: Design Thinking for Social Justice additions to IDEO Process



Sources: Staton et. al, adapted from IDEO.com

1. "*Reflect"—a space for designers to cultivate critical awareness of their social positionality.*

Paulo Freire describes the work of liberation of the oppressed as *praxis*, a two part undertaking that consists of the "action and reflection of men and women upon the world to transform it."[42] The *reflect* space in DT for SJ is an opportunity for design practitioners to locate themselves within the flows of power in which they seek to intervene. One's *positionality*, the extent to which one is privileged or oppressed along different axes of identity, influences the presence and perspective that one brings to a design process. Reflexive awareness of this positionality is critical: privilege creates blind spots and opportunities to harm and/or exclude design partners with less structural power across a given dimension, undermining the empowering potential of collaboration. Furthermore, depending on one's group membership, the same action (say, taking the lead in defining a design challenge) can either perpetuate a problematic power dynamic (e.g. colonialism) or subvert a pattern of domination between groups by according influence to the less-powerful party. Examining one's positionality is tantamount to revealing opportunities for transformative change within design partnerships.

In the "*reflect"* space, *DT* for SJ leverages exercises that cultivate this political self-awareness of identity. Such practices have been used in social-justice education for decades.[43]

2. "*Contextualize"—a space for designers to contextualize the design challenge/social issue within a larger history of identity, culture, place, and power struggle between groups.*

As IDEO CEO Tim Brown discusses, mainstream design-thinkers are encouraged to "go out into the world"[20] to understand the nuances of their design challenge. However, this approach of diving deeply in a single slice of time can be compared to cross-sectional research: it may yield rich data, yet it cannot show the temporal changes that longitudinal studies offer. Historical context is often critical for understanding the political dynamics relevant to the design research. For example: a designer might go into a poor Black neighborhood in a U.S. city and conclude that the community's lack of connection to mainstream financial institutions can be attributed to a simple lack of knowledge, expertise, or technology. Yet the history of institutional segregation and racist exclusion from financial services (e.g. mortgages) in those neighborhoods paints a very different picture of deep economic disenfranchisement that will not be undone by any one-dimensional "hack" (intervention).

Design Thinking for Social Justice requires exploration of this critical contextual information. Furthermore, designers must be sensitive to biases in knowledge sources that favor dominant groups while misstating or erasing histories of the marginalized. DT for SJ incorporates alternative sources of knowledge, such as oral histories, storytelling, and art forms to reveal perspectives that are missed by mainstream sources.

3. "*Democratize"—a space for the very meaning of "designer" to be challenged, where the right to self-determination is actualized via concrete capital investments in creative-problem solving lead by marginalized peoples.*

Communities at the margins have been innovating as a matter of survival and in the work of liberation since time immemorial. The very work of navigating life between forces of exploitation, violence, and neglect requires ingenuity in devising solutions around dominant social structures. These practices of "making a way out of no way" are recognized here as subversive, innovative work. DT for SJ adds value to this struggle in two ways: First, by connecting participants from marginalized communities to the resources, credibility, and influence available in the design world, and second by offering a structured set of tools through which community members may focus their creative potential if they so choose.

While the "*democratize"* space consists of specific exercises designed to facilitate politically subversive, equitable partnerships, democratization continues throughout the DT for SJ process. All participants are considered co-designers at every stage with a focus on promoting the agency of the most marginalized of the group. The DT for SJ framework shifts towards a perspective called for by Kimbell (2010) and others to recognize design as a "distributed social accomplishment" in which multiple contributors together "constitute [its] meaning and effects."[28] In this way, the line between designers and designees is blurred, interrupting the "design as transaction" and creating opportunities to define new forms of social and economic value.

Limitations

The participatory-focused research and development approaches from which we draw, detailed earlier, suffer from several limitations that may apply to DT for SJ. These limitations can be summarized as the exclusion of non-dominant groups, and temporal and financial resource constraints. Design thinking through a social justice framework would inevitably run into similar logistical challenges as relationships are built and maintained.

However, these concerns can be addressed by forming networks of practice that transcend any one organization, institution, or community's capacity. Coalition-based models of fundraising and activism can be activated in order to secure resources for democratized design practice in the pursuit of justice. Furthermore, the investment in community relationships themselves can be seen as a worthy goal separate from a fully-realized design intervention: CBPR with high levels of partnership has been found to build civic empowerment amongst participating communities.[38] Whether or not an intervention materializes (in the face of time and budget constraints exacerbated by investment in collaboration), participants in a democratized design process gain tools and relationships that can enable increased influence going forward.

Conclusion

Theoretical analysis and practice-based evidence indicate a need to rethink current approaches to design for social impact. The Right to the City framework offers insight into the fundamentally political nature of design aimed at addressing the "wicked" problems of the urban space and beyond—indicating that the pursuit of "social impact" must in part be understood also as the pursuit of social *justice*.

Our curriculum poses not only a skillset, but a transformative space for participants to engage in a more just design process framework. We add reflexivity as a cornerstone of our design curriculum and work in a dual paradigm of design thinking and thinking about design. We also emphasize various methods of contextualization, inclusion, and democratizing decision-making across lines of power and privilege.

Our curriculum is limited in several ways that may pose issues in further implementation. These limitations pose areas for our future work and must be reflected upon further. In particular, we must address the following questions in our future work:

- How are design challenges chosen or identified?
- How is our curriculum tied to the way in which design is monetized? Does this stand in opposition to our core tenets?
- How can concerns around feasibility, sustainability, etc. undermine the work, even if framed this way?

Still, we see procedurally just design as an important area of exploration in the face of increasing reliance on market-based interventions to address disempowerment and suffering. Moving beyond user consideration or superficial participation, design is imagined here as restitution for stolen agency in an unjust world. Hopefully, our curriculum at the very least renews considerations of the political dimensions of a technical field and opens possibilities for transformative potential.

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