ual: creative computing institute

Assignment Cover Sheet

Student ID Number & Name:	21036265 Yifan Feng
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Introduction

While Costanza-Chock's (2018) approach is to investigate design as a collective course that can reinforce inequalities at multiple levels through different actors and actions, Mankoff et al. (2010) focus on revising "true participatory" methods to minimize design bias and discriminations and enhance individual experiences of disadvantaged life. However, both articles share one core theme that is to employ a pragmatic approach: co-design to "design in" diversity and inclusiveness within research processes and outcomes.

a. Co-author: Accommodate disability research in assistive technology

Mankoff et al. (2010) suggest a collaborative, interdisciplinary approach that welcomes disability studies to reevaluate the assistive design process and reconsider its impact on individual experiences of disability. One common ground is that disability studies and assistive technology are seen as related fields due to their shared goals of perceiving and facilitating the experience of disabilities. Besides, from a methodological perspective, both fields carry out participatory actions (i.e., via research or design cycle) that engage with the community. To help disabled populations receive more societal good via computation, the authors critique a common misunderstanding of attempting "doing good" with computational tools. They advise implementing a combination of social models and post-modern models of disability analysis to expand knowledge of disability rights. These two models are focused on caring and privileging an individual's unique experience with disability. They also urge designers and researchers to develop a cultural understanding of disability to avoid the misassumption of achieving "normality" via assistive equipment. The authors recommend updating design ideas with active involvement in neurodiversity and disability rights movements to minimize unintended technological changes and their negative influence on the community. Lastly, Mankoff et al. (2010) present a more inclusive method that can enhance the so-called "true participatory" research via scholarly activities such as co-authoring and co-editing and welcoming disabled individuals as research advisors.

b. Co-work: Performing equitable design with an intersectional feminist mind

Costanza-Chock (2018) conceptualizes design justice as a field of theory and practice that reflect on how design action does good or harm to the various communities, how design process shapes or is shaped by the matrix of domination (i.e., white supremacy, heteropatriarchy, capitalism, and settler colonialism), and how justice can be weaponized to elevate equitability across the whole design cycles. This paper suggests reviewing and practicing justice from three perspectives: designers, users, and values within design activities to achieve ultimate fairness. Fundamentally, as a universal human activity, design practitioners should no longer be restricted to experts or professionals but everyone. This acknowledgment helps to rethink the current employment (in)equity and understand how to improve racial and gender diversity through pragmatic approaches (e.g., encourage marginalized group's participation) in the tech sector. Furthermore, understanding the intended design beneficiaries is also important to justice work. It helps to break the norm of designing for the dominant potential customers who are usually privileged in terms of race, class, and gender gaps. Most importantly, it helps to enrich the perception of user identities and diversity design incentives. Lastly, design justice thinks highly of values in design (VID) and calls for a systematic examination of VID built in our artifacts. This aims to raise an alarm of structural forces and intentional bias transformed into affordances and aesthetics of designed objects and systems. The recognition also shows that design justice is an all-around concept and action: it cares about conventional design activities and the (re)production and distribution of their pre-determined and embedded values to society.

Discussion

Despite a global interest, both theories are predominantly framed within the United States and have grown in a cross-disciplinary mind. For example, Mankoff et al. (2010) mark the role of assistive technology as a critical study object for disability studies, which helps to understand the interactions and tensions between technical assistance and autistic students in the American special education sphere. Similarly, Costanza-Chock (2018) builds her idea of Design Justice upon two sociological paradigms: Intersectionality and the Matrix of Domination, which provides a multidimensional analysis of inequalities

in the U.S. society. She further develops the concept as a “procedural and distributive” process that roots in “normative and pragmatic” justifications of a “long-run operation” of “broader ideals of democratic inclusion and social justice” (2018, p.533). One advantage of making design go beyond its academic discipline border is that this multidisciplinary collaboration is profitable to optimize design solutions and deliver a better service for our society.

Based on a deep investigation of the structural forces within the American society, both studies take their step to challenge that institutional power. For example, Costanza-Chock (2018) addresses that favored race, class, and gender are interlocking oppressive factors that can reconstruct and add biases to one’s design ideology and artifacts. Multifaced, intersected inequalities are presented in and by utilization, distribution, and governance of technical and aesthetic features of products, with the aid of designers and target users under constitutional oppression. In the case of Mankoff et al. (2010), the governmentality of education lacks an acknowledgment of diverse identity and takes an ableist view when conducting diagnostic exams on neurodiverse kids. Consequentially, the request for help and cure are often articulated by the parents. The medical model is widely applied in the assistive design community when creating commutative tools for autistic children. These interventions are seen as a pragmatic solution to attain “normality,” that is, autistic people must act like neurotypical people and deliver socially appropriate care communication. Quoted by Yalcinkaya (2019), designer Nelly Ben Hayoun once says that “design has to be about modifying power structure.” Such awareness helps confront the authorities about design partiality and form a plurality of thinking within the design industry.

Additionally, both studies argue for broader engagement with either individual experiences or supporting groups to improve the fairness and accountability of designed objects. For instance, Mankoff et al. (2010) suggest that all interlocutors in the augmentative communication process have the rights to join and expand its design space. As for special education, not only teachers but students are expected to familiarize participatory work on the specified topics (e.g., designing for specified disability barriers), which can deepen their knowledge of assistive technologies usage. Similarly, Costanza-

Chock's (2018) approach is to underpin Design Justice as a theoretical framework to enroll a large group of supportive organizations to reassess our current design outputs and refined action in each actualization procedure. She underlines the contribution of justice activists and communities in the tech sector to promote design justice movements and commit to such principles in their daily practices. To conclude, delivering design outputs through diverse conditions can center people or perspectives that design might have ruled out. It gives not only an opportunity to reflect on exploitations but polish up our design ethics.

Apart from the main difference in research objectives, some other distinct standpoints in each text may complement one another. Costanza-Chock (2018) underscores the capability of an intersectional lens when capturing how designers play various privileges. These multiple, interconnected socio-economic identifiers position us differently in one social system, leading to a result where we might enjoy benefits and create barriers simultaneously. Some intersectional characters such as race and class are not given enough attention when reviewing the cultural construction of disability and socio-techno production of educational technology in special education. For instance, do assistive technologies equally empower all students across different learning environments? Do other forms of discrimination (not limited to ableism) affect the influence of technological solutions for disabled students? As to acquire social and political equality of the use of assistive educational technology, it is crucial to bear an intersectional mindset to think about what inclusiveness and equalities mean in different cultural and social conditions.

Moving from equitable design activism to real life design protocols, technology accessibility seems to be a less discussed topic in Costanza-Chock's work. On the contrast, Mankoff et al. (2010) posit that accessible design is a matter of justice and fairness as its main purpose is to meet the people with disabilities (in Costanza-Chock's view, the disadvantaged group is not living in one single axis of the matrix of domination). They propose to employ inclusive design and stress universal usability. Inclusive design focuses on including minority groups and universal usability considers a success

access of technology and its usage by all users (Mankoff et al., 2010). Together both techniques aim to make feasible assistive technologies for broader audience and help to purse a functioning and equitable society.

In a nutshell, from both studies one can conclude three major points that help to rethink the following case study: first, design actions should encourage designing for flexible and diverse choices and assign power to each decision; second, participatory activities such as co-edit and co-design are the core ideology of cultivating inclusiveness; third, in order to dismantle or "design out" inequity, justice-oriented design practices should be done with a collective effort. Even though both research offer a rich plan to democratize design actions and outcomes, it seems impossible to find a perfectly designed object that respects all characteristics of anti-oppression and equality. Playing the role of designer, one should develop this consciousness of inclusion mechanism, constantly examine the dynamic relationships with justice-driving design decisions and listen to underrepresented users' needs.

A Case Study: Redesign Bumble

Biven and Hoque (2018) identify several design failures programmed into the feminist dating app Bumble's UX design. One biggest pitfall is that their "ladies ask first" logic and match timer function objectify "white femininity" and "white female bodies as reluctant" (p. 450). Bumble promotes a "Queen Bee" type of woman online, who is strong, empowered, and in charge of her life. Such technical infrastructure is designed to challenge conventional power dynamics but fails to interpret true "feminism" from different gender, sexuality, and racial roles. To solve this issue, I suggest that Bumble team should rethink their pre-determined values and assumptions when designing an object. For example, Bumble's design process heavily relies on conceptualizing gender as the primary identity category to fight against sexism and other discriminations but only considers straight cisgender female users. Other intersecting identities such as race, social class are deemed to be insignificant in its design research. Designers need to make a conscious choice: whether their affordance primes a cisnormative and heteronormative

relationship? Whether their design values reinforce racial and gender stereotypes? To what extent can their software functions benefit marginalized users? As Costanza-Chock (2018) states, diversifying a design team is not an elixir. Bumble team can enhance their product's fairness and accountability by researching and working with intended users. Design Justice claims that "the most valuable ingredient is the full inclusion of people with directed lived experience." (p.536). Mankoff et al. (2010) also underpin the true collaboration and engagement with design subjects throughout all design procedures. In this case, Bumble should focus on popularizing their customer research across all axes on the matrix of domination and oppression, reexamining how their current algorithms fail to render lesbianism, racism, and sexism, and formulating a diverse, inclusive user persona.

Apart from discrimination against gender and sexuality differences, less attention is given to the disabled populations on Bumble. By far, the company claims its commitment to this group of users by introducing a design team with particular training in digital accessibility. Less is known how much involvement or participation (e.g., usability test with disabled individuals) is performed in the prototyping process. To improve user experience, I suggest that Bumble team should firstly study the role of disability in online dating settings. It is essential to consult the users with a disability before carrying out speculative design. To conclude their hypothesis on building disability-friendly functions, the team can adopt the advice from Mankoff et al. (2010) about testing a corpus of data representing a specific group of people.