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SUCCESSOR SYSTEMS: THE ROLE OF REFLEXIVE ALGORITHMS IN ENACTING IDEOLOGICAL CRITIQUE

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Intro/Abstract

This paper extends Harding (1987) and Haraway's (1988) call for "successor sciences" - ways of knowing that critically blend objectivity with situatedness -- to the study of algorithms (e.g. Gillespie 2014). "Successor systems" critique dominant modes of knowledge production by computationally supporting alternative modes, reflectively deploying algorithmic routines to build "a better account of the world" (Haraway, 579). This paper analyzes three activist projects as successor systems, discussing political and epistemological implications of such tactics.

[Hollaback](#), a system for reporting and representing street harassment, provides a safe space for victims of street harassment to assemble as a networked public. Turkopticon uses feedback from workers in Amazon Mechanical Turk about their employers to protect workers from exploitation. Snuggle, a tool supporting mentoring in Wikipedia, provides more constructive ways for veterans to identify and interact with newcomers, countering the project's notoriously conflict-driven editorial culture. When faced with issues like the institutional ignorance of street harassment, the exploitation of microtask workers, and the gender gap in Wikipedia, ideological critique can be enacted not only through discourse, but also through the production of infrastructure.

Successor systems do not just merely make alternative forms of knowledge production and representation possible. Like all software programs, they rely on algorithmic routines; however, these algorithms are reflexively designed as critical praxis. Reflexivity in these successor systems is sought through a purposeful de-naturalization of the seemingly-objective nature of their algorithms: Turkopticon's employer ratings, Hollaback's harassment heatmaps, and Snuggle's desirability rankings are presented to invite commentary, reflection, dialogue, and negotiation.

Theory

Haraway (1988) argues a core aspect of feminist theory focuses on situatedness, acknowledging the perspectives that we have in and on the world. Situatedness

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typically critiques totalization, or the elevation of one particular perspective – typically that of rich, white, Western men in power – above all others. In response to feminist critiques of objectivity, Haraway argues that the danger may not be so much from scientists themselves, who often debate how limited or situated a particular study or method is, but from nonscientists who are more fundamentalist in using science for totalizing ends.

As such, Haraway concurs with Harding's concept of "successor science" (1987) and called for feminists to reclaim objectivity and build new ways of representing the world: "Feminists have to insist on a better account of the world; it is not enough to show radical historical contingency and modes of construction for everything ... the goal is better accounts of the world, that is, 'science'" (579-80). Haraway suggests using the language of vision to discuss how feminists can build alternative techniques for seeing the world which are both situated and objective, self-consciously aware of the tensions between those two goals.

Visibility is often discussed in Human-Computer Interaction (HCI) and Computer-Supported Cooperative Work (CSCW): Suchman (1995) discussed how, in designing formal representations of work in organizations, conflicts about professionalization surface. Star and Strauss (1999) and Bowker and Star (1999) showed how classification and formalization is contested and political in their studies of how nursing work was formalized in healthcare. Sometimes a call for visibility is beneficial and liberating, but sometimes visibility is negative, used for surveillance, micro-managing, and over-specification.

Cases

Turkopticon (turkopticon.ucsd.edu, Irani and Silberman 2013) is a browser extension modifying Amazon's Mechanical Turk service. AMT disproportionately benefits employers, who are able to know individual workers in ways that workers are not able to know their employers, leading to exploitation. As a successor system, Turkopticon critiques this assumption built into in AMT, using feedback from workers about employers to produce a new mode of knowledge production that is designed to protect Turk workers. The system is named for Bentham's infamous panopticon prison, discussed by Foucault; Turkopticon seeks to reverse the direction of surveillance built into AMT by putting employers under a kind of collective 'sousveillance' -- surveillance from below.

[Hollaback](http://ihollaback.org) (ihollaback.org, Dimond et al 2013), a system for reporting and representing street harassment, critiques social institutions through a new technologically-enabled mode of knowledge production. Street harassment is a longstanding and ubiquitous problem across the world, but dominant institutions (from the police to news media) generally encourage women to ignore harassment, rather than report it. Hollaback provides a safe space for victims of street harassment to assemble as a networked public and frame this issue in a way that is often marginalized by various social institutions. Hollaback is a critique of the widespread institutional ignorance of street harassment, providing an infrastructure for building better accounts of the world: ones that make often-ignored experiences of street harassment visible at a variety of scales.

Snuggle (snuggle.grouplens.org, Halfaker, Geiger, and Terveen 2014) is a tool supporting mentoring in Wikipedia, explicitly built to counter the often hostile reactions that veteran Wikipedians unleash on new contributors. Most of the highly-automated tools that have been developed to support Wikipedian editors situate their users as police who are on patrol for “vandalism.” Assisted by algorithms that rank by ‘suspiciousness,’ these editors see some of the worst content submitted to Wikipedia, then make fast-paced decisions about what is kept and removed. Snuggle was designed to reverse the assumptions built into this practice, situating Wikipedians as mentors and newcomers as potential collaborators to be supported. The tool lets Wikipedians holistically search for potentially desirable newcomers, affording activities of praise, constructive criticism, and directed intervention.

Approach

This paper discusses examples and cases from the field of HCI and CSCW to more broadly and theoretically discuss the role of ideology and critique in the design and development of computational systems. This paper’s approach and contributions are primarily theoretical, as it resituates existing empirical findings from one discipline within a broader framework for the AoIR community. This paper is intended to align with the conference theme of “boundaries and intersections” by situating concepts and literature from critical theory, media studies, and science and technology studies with work from the fields of HCI and CSCW. The concept of “successor systems” is intended to cut across multiple literatures and areas of interest, facilitating dialogue and discussion between disparate research communities.

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