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WOMEN IN BLOCKCHAIN: DISCOURSE & PRACTICE IN THE CO-CONSTRUCTION OF GENDER & EMERGING TECHNOLOGIES

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Blockchain dreams of peer-to-peer decentralization echo the cybernetic tradition of signal processing or the spiritualist tradition of telepathy in the age-old pursuit of the "dream of direct communication" without the hassles of imperfect, complex human mediation (Swartz, 2017, p. 90). But as scholars of communication, and science and technology studies (STS) have argued, technological innovations consist of more than algorithms and artefacts. They reflect continuities and disjunctures in social and organizational arrangements (MacKenzie & Wajcman, 1999; Boczkowski & Lievrouw, 2008).

As an emerging technology, blockchain's definition, development, and diffusion are still in flux. And like many other technology spaces, blockchain has a gender problem. According to a recent study of 100 blockchain startups, only 14% of employees were women, and among those just 7% were in leadership roles (Custer, 2018). In its short history as the decentralized technology beneath cryptocurrencies such as Bitcoin (Nakamoto, 2009), blockchain's male-dominated sphere has fueled stereotypes such as the 'Bitcoin Bros' (Bowles, 2018). Blockchain is rooted in the sociotechnical infrastructures of the finance and technology industries it purports to disrupt. In one extreme example of crypto culture at its worst, at a recent North American Bitcoin Conference in Miami, three of the 88 speakers were women and the event concluded with a party at a strip club (Primack, 2018).

In response to blockchain's stark gendered and racial inequities, advocacy groups and social networks such as Crypto Chicks, She256, Black Women Blockchain Council, and Diversity in Blockchain have emerged. At the local level, burgeoning meetups for women in blockchain present accessible opportunities for women at various levels of expertise to network and advance in the space (Griffith, 2018). In May 2018, the "Women on the Block" conference showcased the expertise of 50 women blockchain experts who spoke on raising capital, creating startups, and legal issues, with proceeds

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going toward a charitable fund to support education for women and girls in technology. Here we see evidence of blockchain working as a "convening technology" (Baym, Swartz & Alarcon, 2019), galvanizing diverse stakeholders to converge and envision alterative approaches.

I conducted a technofeminist (Wajcman, 2004) discourse analysis based on 30 semi-structured interviews with women who work in blockchain, located in Vancouver, Seattle, Toronto, Ottawa, New York, Berlin, and Dubai, as well as participant observation at 17 blockchain meetups and conferences. The gendered discourses and practices surrounding blockchain provide a productive site for examining the social construction of technologies (Pinch & Bijker, 1987), and more specifically the gendered social shaping of technologies. For example, at the outset of this study, a simple web-based search for local meetups yielded a list of gendered gatherings, including "Bitcoin Gentlemen's Club" and "Crypto Witch Futurist Brunch." In overt and subtle ways, individuals are hailed toward or repelled away from participating in certain tech spaces.

The theoretical lens of technofeminism strikes a balance between technophilia and technophobia, "to explore the complex ways in which women's everyday lives and technological change interrelate in the age of digitization" (Wajcman, 2004, p. 6). This approach challenges the prevailing discourses of technologies like blockchain as neutral and value-free. I examine gender not as a rigid analytic category, but a fluid one whose meaning emerges in social contexts as it is created and recreated. Viewed through this lens, the things interviewees do (practices), and the ways they talk about those things (discourses) expose the material/symbolic relationships between gender and blockchain in the earliest stages of this emerging technology. Scholars have urged that "more attention should be directed at cases where women are active users and designers [of ICTs]; even if these are not the 'majority cases,' they are important within a strategy for developing new perspectives on gender and ICT" (Lie, 2006, p. 170). The goal of my study is not to answer questions such as, "why aren't there more women in blockchain?" or "how can we attract more women into blockchain?" Rather, I examine the sociotechnical relations surrounding blockchain, through several discursive frames as exemplified through meetups and conferences. These frames include: the dominant "Gender-blind Meritocracy" frame evident in most male-dominated events, the gender-conscious "Lean into Blockchain" frame seen at 'by women, for women' events, and finally the "Intentional Inclusion" frame seen at 'by women, for all genders' events.

I analyzed gender equity initiatives at blockchain events through the discursive frames above. My findings indicate that women's participation in blockchain spaces can simultaneously enable and constrain their identities and experiences. For example, "women in blockchain" panels at male-dominated blockchain conferences are often experienced by women in the space as hollow, performative gestures of diversity, since they highlight panelists primarily based on gender as opposed to tech expertise. In contrast, events and networks designed 'by women, for women' serve as important spaces of resistance and support, for many women curious about entering the field as well as experienced practitioners. In addition, 'by women, for all genders' events showcase women's expertise and rally the support of male allies in order to bring greater equity to the space at large. They highlight gender equity based on a broader sense of sustainability and social justice, as opposed to the technological and economic

imperatives that fuel blockchain development, market share and adoption, within the other discursive frames. My study explores gender and blockchain meetups as an example of broader sociotechnical shifts occurring with the rise of diversity and inclusion consciousness in tech at present.

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