



Review of Janina Loh and Mark Coeckelbergh (Eds.) (2019). *Feminist Philosophy of Technology*

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If you always do what you've always done, you'll always get what you've always got.¹

Introduction

There are times when doing 'what we have always done and getting what we have always got' is preferable. One types on a keyboard to create text, drives on a particular side of the road to remain safe, or follows civil engineering principles to build a secure bridge. Alternatively, doing 'what we have always done and getting what we have always got' may be undesirable when what we do ensures social harm. *Feminist Philosophy of Technology* (Loh and Coeckelbergh 2019) is an anthology that illuminates how gender and technology have always been done through patriarchal thought, and how non-male genders will continue to be confronted with obstacles to liberation, without a rupture in the patriarchal, hypostatized, gendered constructions of humanity. Critically reflecting on technology through feminist thinking, the anthology, while keeping ethics and emancipation as a central theme, reveals how humans 'do gender' through technology, and perpetuate hierarchal, patriarchal, gendered social relations. Patriarchy is exposed as a catalyst and contemporary force that is embedded into the design, development, and use of technologies, consequently perpetuating domination, marginalization, oppression, and essentialism of non-male genders.

The anthology assembles an eclectic collection of fourteen chapters into five sections, loosely organized by subject, industry, or perspective. I describe the chapters as 'loosely organized' because the specific technologies or perspectives on technology in each chapter

¹This quote, and its variations, has been credited to numerous authors, including Albert Einstein, Henry Ford, and Tony Robbins.

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are diverse, connected primarily through their emancipatory focus. The diversity within the anthology makes the volume theoretically rich, unique, and insightful; so in this review, I provide brief summaries of each chapter, in an attempt to capture the diversity. However, back-to-back chapter summaries will lack poetic flow and seemingly logical connections because of the diverse perspectives. There may seem to be an abruptness as I move from chapter to chapter. However, this is the flow of the anthology and the central emancipatory theme in each chapter weaves them together. Finally, the chapters are unnumbered, which speaks to the anthology's focus on rupturing ideological boundaries, so this review is organized as the anthology is organized. Following the chapter summaries, I discuss two omissions to the volume, and I conclude with 'the beginning.' First, I provide an overview of the purpose and approach to the anthology.

Purpose and Approach

In the introduction, Janina Loh outlines the approach to feminist philosophical technology that is incorporated throughout the anthology. Feminist philosophical technology does not refer to concrete technologies independently of 'social, political, economic, and legal structures, in which they are embedded' (3). While some feminist scholars have focused on specific concrete technologies, for example, Layne, Vostral, and Boyer (2010) assembled an anthology of feminist technology that focuses primarily on material technologies such as menstrual suppressants, reproductive technologies, and breast pumps, Loh supports a 'holistic approach' to feminist technology that restructures society so that it may benefit women and shift andro-power relations inherent in the social world. Technology is not merely a concrete, material artifact, but it ought to be assessed in terms of its effects upon the equality of women's lives and how they are positioned in patriarchally organized societies. Feminist technologies are, therefore, specific to transforming power relations in societies and 'contribute to the political, ethical, social, economic, religious, etc. equality of all people' (4). They need not be developed by women but are judged by their effects to transform patriarchal power structures.

Loh provides an overview of feminist perspectives on technics and sciences, which supports a feminist philosophy of technology perspective. Because social structures continue to support the sustainability of patriarchal systems, Loh argues, they are embedded with inequalities. For example, throughout history, patriarchal structures were core to how science was conducted, insofar that it has committed 'a kind of ontological and epistemological "murder" of those that are rejected as unobjective and unscientific' (9). The patriarchal social structure enables and supports the patriarchal development of the technological and sciences. As a result of patriarchy, *Feminist Philosophical Technology* engages with critical posthumanism perspectives that extend humanism to critique technics and science. Critical posthumanism refers to moving beyond traditionally understood categories, binaries, and dichotomies of what it means to be human to examine the liberatory potential of technics and science, and relationships between human and non-human, including humans and machines. The aim is to rupture the boundaries of dichotic thinking and extend conceptions of humanity to include the human-non-human relationship into the moral sphere.

Technologies: Robots

This section reveals how robots, concrete technology, have been constructed and interconnected through human usage in social, historical contexts. Through a posthumanism perspective Coeckelbergh, for example, argues that the robots or artificial intelligence that we interact with take on meaning through language and ‘technology games’ (29). Technology is always linked to human activities, giving them meaning through language, and is, therefore, entangled with social and cultural meanings. Human culture, norms, and expectations form the meanings which are assigned to robots. Coeckelbergh explains that ‘there are ways we do things with one another; social robots tap into these meanings and are governed by these patterns’ (29). When we interact with a robot, it is only meaningful because the interaction is embedded in socio-cultural patterns.

Drawing on poststructuralism, postcolonialism, intersectionality, and queer theory, Moran argues that colonial discourses of patriarchal power and knowledge govern the norms and socially sexualized meaning that inform the design, operation, and use of a sex robot. Moran explains that heteronormativity is built into the designs of sex robots with artificial intelligence options that construct women as stereotypically feminine and offer options to customize a virtual avatar that embodies the doll similarly to colonial ways of interacting with women. While there is a choice in the exact functionality of the sex robot, they are preprogrammed with ‘definitively-assigned gender’ (45) consisting of sexualized language, racial representations, centering on male sexuality and female submissiveness, in steadfast ways of using the robot. Resultantly, the robots promote rape culture, societal and gender violence, and reproduce oppressive gendered dynamics by dictating desirability, racialization, and the gendering of the societal value of women with a built-in artificial intelligence app which reinforces, white, cisheteropatriarchal, capitalist, imperial logic.

Through a posthumanist perspective and in the context of sex robots, Kubes argues for a developmental change in the epistemological and ontological status of gendered and sexual scripts that limit the construction of what it means to be a woman. Sexualizing women through ‘scripts’ reinscribes women’s bodies into standard idealizations that maintain male domination, further obscuring the diversity of what it means to be human. Though there are queer discourses that allow for gender fluidity, sex robots are designed and built on old gender dichotomies. Western understanding of women is historical, social, and culturally determined; however, humanity does not need to be ‘divided along chromosomal or hormonal lines, nor does the gender role of the individual have to be fixed once and for all’ (65). The human and the robot emerge into existence in their context-specific form when sex robots are built to reify heterosexual binaries.

Reproduction and Health Care

Changing gears, the human-machine relationship spans beyond sex robots into the medical arena. Masculinization of technology can be embedded into the design of medical technology; and technology that is meant to be emancipative may have the effect of excluding women or the elderly rather than liberating them. Hendl et al. raise concerns about digital mobile health technologies, and their historical exclusion of the intersections of race, gender, and social class in their androcentric development and creation. The historical masculinization of medical research arose through the primary use of male research participants. This

has engendered a primarily male-informed health care knowledge as well as practice and interventions. While mobile health care devices have the potential for inclusion, the tech development teams which influence the design and construction of mobile health devices are male-dominated. Resultantly, digital technology, such as digital tracking of menstruation or fertility trackers that are designed solely for cisgender women, excludes individuals who identify as non-male.

Concerns of female exclusion are further noted through the identification of technology that is meant to be emancipative, but is exclusive. Vallverdu and Boix reveal how ectogenesis technology ‘(foetus growth and pregnancy outside of a human womb)’ (105) or artificial reproduction outside the female body, while meant to be emancipative, could lead to an extinction of the proper valuation of females because the gender-neutral technology of ectogenesis can create a scenario where ‘males would not need women for reproducing new human beings’ (106). Moreover, because men have traditionally controlled the design and development of female technologies, such as biomedicine, to the exclusion of female influence—creating a uterus for men could cause the extinction of ‘biological motherhood’ (118) because feminine processes will all be under the domination of men. In respect to age, Endter similarly uses a feminist perspective to discuss age-assistive technologies that are meant to be emancipative for the elderly or aging but which are embedded in stereotypical assumptions about aging, such as that the elderly are weak and in need of technocare; technology that inscribes, Endter argues, gender scripts which dictate the operation of technology.

Fields: Art and Applied Work

Patriarchy is seen not only in the physical relationship between humans and artificial intelligence dolls, sex machines, or sex robots, but also in the intellectual and emotional arousal engendered by silicone female bodies displayed in art. Gerner extends the boundaries of sexuality between the human and non-human through a discussion of Elena Dorfman’s *Origins of a New World*, an art exhibit where the silicone flesh of bodies, ‘an erotic portrait of female genitalia’ (146) is displayed in a lightbox with a one-way mirror and only visible when the light is on. The display prompts ‘viewers to consider their relationship to the subject, as well as the broader issues that his post-human figure evokes’ (147). Art and the engineered intimacy of sex dolls can blur the boundaries between the ‘dollification’ of sex robots and real women, thereby promoting the objectification and male gaze of the female body. Ending this short section, Ahmadi et al. argue for the use of ‘living labs,’ a research participatory methodology, to promote more diverse and critical perspectives embedded into the technological design.

Fields: Politics, Society, and the Law

Benedikter and Gruber discuss how the humanization of robots has been based on feminizing artificial intelligence, thereby misappropriating the female. Recent examples include the development of Alexa, Cortana, Siri, and Avatars. This feminization has gone unacknowledged and is taken for granted but is pervasive, and raises ethical questions about the emancipation of women by calling into question ‘the notion of “human” itself’ (189).

Schröder observes how the digital sphere of the World Wide Web has emancipatory potential for women's voices in a postprivatism sphere, which was deemed oppressive. The Internet has created a 'transparency society' where privatization has denounced women's oppression. However, Schröder argues, in a technically mediated society, the transparency society can provide visibility of women but not emancipation because patriarchal power structures are still intact. Women's self-determination is required rather than merely being published online.

Córdoba illuminates how gender is biotechnologically, legally, and violently produced in Argentina. Argentinian gender identity law states that gender identity is solely based on the personal desire and private experience of the person, and is not open to interrogation or corroboration by medical professional knowledge, biological determinants, or scientific essentialism. However, medical practices lag behind Argentinian law. Medical practice is based on science which prescribes hormonal treatments and sex surgeries to normalize intersex people 'adjusting them to the feminine or masculine appearance' (233). This practice keeps people 'gendered' and 'normalized' according to the constructions of gender. Medical procedures view one's sex as male or female and conversions are based on such gender constructions of hormones, genitalia, and what constitutes a 'proper penis/vagina, which excludes many more bodily variations' (233).

Perspectives: Ecofeminism, New Materialist Feminism, and Critical Humanism

Swier illuminates the role of technology in ecofeminism, sexism, and environmental concerns, and aims to dismantle the androcentric, controlling dominant conceptualization of 'human-nature relations' (253). Ecofeminist and ecotechnology perspectives critique the domination of women and nature. The capitalist-patriarchy system, in which the environment is embedded, is imbued with a patriarchal ideology where technology serves its interests through epistemological legitimacy of modes of knowledge, and produces 'non-knowers through the creation of the expert/non-expert dichotomy' (258). In doing so, technology can be oppressive to women because of its patriarchal capitalist underpinnings that devalue women's perspectives and contributions to society and thereby further dichotomising the world.

Dissecting dichotomies, Lisy argues that 'difference can be powerful if we use them consciously and through multiple perspectives' (263). Lisy discusses knowledge production and illustrates its complexities and relations amongst multiple phenomena rather than dichotomies. Informed by new materialism, rather than solely focusing on binaries, Lisy uses sexual questionnaires to identify relations along the continuum that occupy a space between binaries of sexuality, which is a complex experience. Acknowledgement and recognition of diverse sexualities requires examining its complexities rather than binaries.

Dolphijn finishes the volume and argues that it is the object that needs to be the starting point, not the subject. Why? The politics of modernity with its white, male, and upper-class assumptions of normality is still at the heart of today's scientific agenda. Anthropocentric narratives are preserved because 'we feed them and keep them intact' (288). We need to begin with the object, the environment, for example, to understand

what we are doing, to examine space, time, objects, and events through recognition. We need to see other human realities as they occur. The world has built *a truth* around us and our technology is built around us. The Anthropocene has taught us to trust in objective data through which we conceptualize the believable world and it is difficult, therefore, to imagine that the world varies from what we think. In reference to knowing the world differently, Dolphijn's ending sentiments 'can we just stop saying "there it is again"?' (297) inherently suggest a need for a change, and to stop doing what we have always done, particularly if social harm is the result.

Omissions

Although the anthology is diverse, there are two critical omissions: disabled women and technology, and the intersections of women, culture, and technology. For example, resonating with the patriarchally developed conception of the human as being male is also a conception of what it means to be 'normal' (Morris 2001). Ideals of the male-model human have engendered the concept of 'normal' and deviations from the 'normal' are labeled pathological (Tremain 2019). The normal and pathological continuum is the root of the medical model of disability which 'explains all disability as biological impairment...[that] are individual problems to be addressed' (Shew 2020: 41) rather than structural exclusions.

Shew (2020) argues that technology is developed from ableist rhetoric that constitutes a disability as deficient and in need of technological fixes. Ableist discourses in technological development show a lack of awareness and attention to the lived experience of disabled people. Pressing questions that emerge are as follows: how are ableist discourses gendered? What impacts do gendered ableist discourses in technological development have upon disabled women? How does 'technoableism' (Shew 2020) reproduce ableist discourses that reduce their humanity to patriarchal abnormality?

Additionally, while touched on minimally, the intersections of cultures of the south, women's lives, and patriarchy could be more expounded. Fung (2000), for example, explains that Asian feminist philosophy differs from Western feminist philosophy because of the presence of traditional Asian religious, legal, or ethnic values that secure male dominance. Women may be encouraged to participate in the economic environment; however, their participation in politics can be 'strictly controlled' (Fung 2000: 159). Exclusions and restrictions from the political environment pose as barriers for women across Asia to have an influence over the stereotypical manner in which they are portrayed in the dominant media: as an 'available, submissive, docile and compliant workforce' (Fung 2000: 158). The exclusion of Asian women from the political sphere renders them powerless in decoding and resisting how they are culturally represented in media.

The Beginning

Technology is a rapidly advancing field. The anthology is, therefore, a timely addition to the philosophy of technology arena. If patriarchy constitutes a Mount Everest, each chapter challenges Westernized patriarchal thinking and seeks ideological

emancipation by chiseling fissures into patriarchy's mountainous structure. Though the technological sphere is broad, the anthology carves out some of the crevices, gullies, and canyons of how 'gender is done' in our present-day andro-technological sphere. Lugones (2007) reminds us of the long history of historically rooted, inequitable gendered ideologies manifesting in social relations. In a postdigital world, the need to critically evaluate what we do with and through technology and the world around us intensifies because, after hundreds of years, concerns of gendered and sexed domination, marginalization, and oppression are still present and rampant; patriarchal structures still define our world through human action.

The anthology is a beginning to emancipating the anthropocentric, sexed, and gendered boundaries of patriarchal ideology in social and non-human relations. It illuminates how gender inequalities are perpetuated and coded into the bits and bytes of technology. The epistemological magnitude does not end with descriptions but calls for an emancipatory expansion of ideological boundaries of being human to include the diversity of genders, sexes, sexuality, and our non-human relations. It calls for a reduction in anthropocentrism, and asks us to re-envision our imagination so that it is seen as a part of our non-human world, rather than the center of it. The representational gendered, sexed tropes that patriarchy has programmed into human imaginations, and consequently technology, are revealed with this broader understanding of humanity.

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