

Compost and Menstrual Blood: Women Waste Pickers and the Work of Waste Futurity

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Abstract

This article critically analyzes the afterlives of the sloughed uterine lining, the menses, or period blood around which an entire “feminine products” industry and waste management discourse has erupted. I engage ecological and green consumerism in the early twenty-first century as it both replicates and departs from discourses that frame the period and the products used to “manage” it as disgusting and hazardous to human health, and as various actors seek to influence product sales or design as an attempt for menstruation to suit the goals of zero waste. In focusing my attention on Solid Waste Collection and Handling’s (SWaCH) Red Dot Campaign in Pune, India, I suggest that waste picker collectives especially are positioning themselves as important stakeholders, co-designers, and necessary professional consultants on the product design of menstrual disposal technology. I ask what new insights might be gleaned by shifting attention away from consumption and waste management technology to center transnational grappling with what I refer to as *waste futurity*, specifically menstrual waste’s futurity. Drawing upon a growing electronic archive produced by waste picker collectives in India, I concentrate on the expertise of those in the global disposal sector as they represent their heterogeneous positions on their websites, in mission statements, product sales, public service media, and interviews. I focus on how SWaCH negotiates the validity of their gendered labor conditions and professional expertise in municipal zero-waste strategies. I examine how workers harness revaluation in zero-waste strategies and in the

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futurity embedded in what is considered one of the most culturally abject of “wastes”—menstrual blood—to emphasize this notion of future vitality in the presumed dead, over, and impossibly useless.

Introduction

Your period is a natural process—not something to be stigmatized. After all, it’s an essential part of all human life. That’s why we believe “that time of the month” should never be a source of shame, harm or uncertainty. (Also: excessively pink packaging.) And it should never keep a girl from getting her education...It’s time to transform the experience of having a period—and make sure no woman or girl is left behind by her biology. —“Our Story,” Cora tampon subscription service

What is it really that waste pickers contribute to the city? It is estimated that 1% of the population in developing countries works in the recycling sector. They take items that have been discarded and through their labor convert them into tradable commodities.

—Poornima Chikarmane, qtd. in *Poorna Chakra/Full Circle*

Destigmatizing menstruation as “an essential part of human life,” ecofeminist entrepreneurs Molly Hayward and Morgan Newman market their tampon subscription service, Cora, as a “greener,” more transparent hygiene technology that will “modernize your period.” In doing so, they also draw attention to the chemical contaminants in the absorption materials of competitor tampons, specifically underregulated dioxin byproducts (of the bleaching process) that can come in contact with one’s vulva and vaginal walls. Hayward and Newman’s advertising campaign insists on the normalcy of regular menstrual waste emissions in the households of menstruating people; appeals to their clientele’s health consciousness—that is, fears of chemical pollutants as they might contact the genitalia—and stresses the inconvenience of cyclical trips to brick-and-mortar stores (hence the subscription model). In short, their combining of feminist consumerism and ecological principles construes menstruation as a waste management event that ends with single-use disposal in the waste bin.

By contrast, for Poornima Chikarmane, professor, organizer, and member of the autonomous collective of itinerant waste pickers and waste buyers called Solid Waste Collection and Handling (SWaCH) in the Pune and Pimpri Chinchwad regions, about 130 kilometers southwest of Mumbai, the waste basket, whether or not it specifically contains menstrual absorption materials, is the beginning of a

process that converts discarded materials into “tradable commodities”. In other words, SWaCH performs entrepreneurship to revalue or destigmatize waste in general. I open with the above epigraphs to explore the ways in which wasted menses—the disposal technologies along with the discourses and attitudes that surround it—brings into conversation two very different camps of stakeholder entrepreneurs, waste pickers, and biotechnological investors (each reflecting profound inequalities in capital benefit, to be sure). I analyze diverse strategies that transform the meaning of the period and menstrual technologies, as various stakeholders seek to influence product sales and design of menstrual disposal technology to suit zero-waste goals.

This essay examines the afterlives of the sloughed uterine lining, the menses, or period blood around which an entire “feminine products” industry and waste management discourse has erupted. Health scholars and historians of science and technology have examined the evolution of these products especially in the United States (especially Sharra Vostral, 2008, 2010, 2018; Susan Strasser, 1999; and Chris Bobel, 2010, 2019). Indebted to this scholarship, as well as research in waste studies and transnational feminism (such as Max Liboiron, 2013; Liboiron, Tironi, & Calvillo, 2018; Michelle Murphy, 2013, 2017; Murphy et al., 2016), and others centered on waste picker organizing and waste metabolism (Hanson, 2016; Chikarmane, 2016; Harshey & Sharma, 2016; Dias & Ogando, 2015; Buckingham, Reeves, & Batchelor, 2005), I focus on the futurities of menstrual waste, as those futurities involve engaging different senses (sight, smell, touch) in an effort to transform these biological materials, both materially and discursively. By *waste futurity*, I imply the entanglement of the human and nonhuman that is temporally and spatially altering constantly from one disposal site to the next, from one point of exposure and co-construction to another (epidermis, breath, scent, sight, soil, worms, maggots). My framing explicitly extends the largely object focus of the Institute for European Environmental Policy and the European Environmental Agency’s use of the term *sustainable consumption*, which argues for minimizing health risks, toxicity, and emissions “over the lifecycle of a service or product” (Pantzar et al., 2018, p. 1).¹

To frame the concept of menstrual waste futurities, I am inspired by waste pickers themselves, and embed the value of lived laborer experiences as a means of reimagining the lifecycles of wasted matter. Drawing upon a growing electronic archive produced by waste picker collectives in India, I center the expertise of those in the global disposal sector as they represent their heterogeneous positions on their websites, in mission statements, product sales, public service

media, documentary film and interviews. I focus how one particular collective, SWaCH of Pune, negotiates the validity of their labor conditions and professional expertise in municipal zero-waste strategies.

Assemblages of technology, government, policy, and gendered labor are crucial to the ultimate disposal of menstrual waste in a variety of forms—whether wrapped, bagged, encapsulated in plastic, composted, or incinerated into ash. This essay attends to the ways in which chemical contamination, toxic pollutants, and avenues for bioremediation are organized by or become entangled with these various stakeholders in a web of nature-culture. Nature here is figured conventionally as menses, atmosphere, compost heap, whereas culture is plastic bags with labels, incinerators, public health announcements, corporate advertising. The used tampon or soiled pad conjure corporate and public health agent discourses of hygiene and modernization in relation to liberatory stories on behalf of vulnerable women (e.g., those prevented from being in public by their periods or those highly exposed to health hazards as a function of their waste picking work). This capitalist and biotechnological management trend brings into sharp focus what STS scholar Sally Wyatt (2003) critiqued as a paradigm of use in which “the assumption that non-use or lack of access is a deficiency to be remedied” (p. 68) drives new market interests and technological innovation. Instead of framing women waste pickers’ concerns over the potentially biohazardous qualities of menstrual waste as unenlightened or “behind the times,” I propose a framework of crediting the alternative expertise of women laboring within economically and physically precarious contexts as they assert the value of their human labor to recycle and “help the environment.”² Laboring waste pickers bring an alternate awareness to zero-waste strategies, rather than acting in accord with discourse generated in the Global North that proposes the use of technology and advertising to destigmatize menses and menstrual waste management.

In the pages that follow, I first frame and analyze interpretations of gendered waste, including the cultural loathing of menstruation and its “waste matter,” and the politics of labor behind its management and workplace proximity. Then, I examine the ways in which SWaCH’s Red Dot Campaign fits into a much broader historical turn in global interest in menstrual visibility, and increasing biotechnological investment in menstrual products. Through material culture analysis of the campaign and digital archives by waste pickers about their own labor initiatives and workplace goals for better conditions and zero-waste contributions,³ I explore the ways in which the Red Dot Campaign speaks to and

across the intensification of global menstrual hygiene management, rather than subverting it. Finally, I examine the question of waste futurity embedded in conceptualizations of menstrual product (re)design and as proposed in intensified menstrual hygiene management strategies. To accomplish this, I analyze a range of materials, from the Red Dot Campaign's own calls for technological redesign and trends in compostable product design, to the more technocratic waste incineration initiatives of incinerator companies and NGOs. In centering material made by and for waste pickers as global leaders, we gain insight about workers' desires for more inclusive and equitable waste economies. This analytical focus underscores how they seek to amplify or professionalize waste pickers' frequently overlooked and undervalued labor contributions to local economies, zero-waste strategies, and "tradable commodities" (Chikarmane, 2016). Amongst waste pickers globally, women in India, SWaCH specially, are respected for their cooperative model and labor organizing reputation. SWaCh's Red Dot Campaign demonstrates that waste picker collectives are positioning themselves as important stakeholders in zero-waste strategizing writ large, and more specifically as co-designers and necessary professional consultants on the product design of menstrual disposal technology.

Gendered Waste as Work

We are also human beings; then why should we pick up sanitary waste generated by others?

—ST Correspondent, "Waste Pickers Cringe Over Sanitary Waste"

Waste work is frequently gendered and always political. In their case study research in Brazil, Sonia Dias and Ana Carolina Ogando (2015) suggest that women face specific barriers within informal economies:

Women are usually found in the lower echelons of the informal economy, exposing them to the greatest economic risks. Furthermore, precarious and unsafe working conditions negatively affect women's emotional and physical well-being as they may be more susceptible to gynecological diseases, sexual harassment and assault from authorities or other key actors. (p. 53)⁴

Scholars writing about waste picker health experiences globally, especially in Vietnam and India, suggest that the kind of waste, its moisture and content, for instance, along with the open dump and close proximity handling methods frequently utilized, make laborers in these contexts particularly vulnerable to

specific health concerns, including “respiratory, eye, skin, digestive [and] nervous system and gynecological disorders” (Dang Kim Chi, 2003, p. 75). Discussing waste pickers in Vietnam specifically, Dang Kim Chi (2003) specifically outlines gendered exposure issues such as genital itching, leucorrhoea, colic, and irregular menses (p. 64; for other health and economic effects see also Dias & Ogando, 2015; Hashimoto, 2011; Madsen, 2006). Waste pickers in Pune have generated public service media about susceptibilities to exposure, framing their case around the right to a healthy, dignified workspace. They focus on health exposure concerns for workers, create tools to increase hygienic work conditions, and amplify their own right to professional workspaces. They also emphasize what consumers can do to help. Waste work also reflects gendered work and health outcomes. However, there is another avenue of exploration into gendered waste worth pursuing—that of menstrual waste materials as expressly gendered matter.

Waste specifically attributed to some sexed bodies and not others can be imagined as gendered waste. Emily Martin’s (2001) *The Woman in the Body* underscores not only the persistently negative medicalized language of loss, waste, or failure so frequently associated with menstruation, but also the increasing techno-scientific forms of menstrual management by capitalist means. Menstruation has long been negatively framed as abject and impure, or as a (semi)monthly problem to be managed, made “regular,” or even erased through technoscientific means, rather than viewed as a diverse, adaptive, cyclic system responsive to the world around us. In *The Managed Body* Chris Bobel (2019) thoughtfully critiques the increased policing of young girls’ bodies through global menstrual hygiene management initiatives. Bobel (2019) suggests such projects are especially focused on menstruating girls rather than as an opportunity for educational empowerment for all young people, including young boys, through increased “menstrual literacy about the entire, continuous, multiple-body system impacting the menstrual cycle” (p. 73). Menstrual waste is thus a rich site for critical analysis because it is at once considered both abject and increasingly of interest to techno-scientific management and capital interests in biotechnology product development.

What is the purpose, however, of talking trash through consideration of specifically gendered materials? What might be teased out from the fibers or potential pathogens of such specific waste analysis? What is to be learned from meditating on the abject materiality and decomposition of such matter? Let us take the anatomy of overlooked waste products, those frequently designed for single-use disposal—a tampon or menstrual pad. Such an object is always already

presumed gendered material by virtue of being designed to capture—and, as Vostral (2008, 2010) and Bobel (2019) underscore, to manage and erase—menstrual blood flow of human bodies. Of course, not all women experience menstruation in the same ways, or at all, and not all menstruating bodies are female; yet the objects themselves are attributed to sexed bodies and imbued with gendered meaning-making. In fact, this is increasingly so within the realm of waste politics as the focus on menstrual hygiene and menstrual waste intensifies in development initiatives, and in increasing green design and waste reduction efforts in pads, tampons, and other products (Bobel, 2019; Parthasarathy 2019). In their review of menstrual hygiene management literature, Colin Sumpster and Belen Torondel (2004) note the specific gendered burdens of reproductive-tract infection connected to poor hygiene management, including bacterial vaginosis and vulvovaginal candidiasis. Gender studies scholar Kuntala Lahiri-Dutt (2015) critiques the social power exerted by specific development programs geared towards medicalizing menstruation through one-size-fits-all models.⁵ The intensifying focus on menstrual waste management and hygiene reflect a dual shift in socio-cultural awareness about taboos of menstruation and expanding, toxic (or inadequate) waste infrastructures that have otherwise erased such gendered waste (Kuhlmann, Henry, & Wall, 2017; Garikipati & Boudot, 2017).

Designing the products themselves with zero waste in mind is another avenue of gendered analysis. Menstrual hygiene technologies, as Vostral (2010) suggests in her historical analysis of the tampon, become easily construed as “feminine,” though not necessarily as “feminist technology” contributing to women’s empowerment—a fact Vostral attributes to specificities in the actual product design and intent (p. 136). Vostral’s analysis of tampon design history ultimately centers on technological innovation and consumer needs and interests. Considering such an object’s *life as waste*, and the impacts of its effluence, raises another set of important design questions about contact and exposure—a point I will return to momentarily in my analysis of SWaCH’s Red Dot Campaign for healthier ways of handling menstrual absorption product waste. But first, what are the broader global politics of menstrual waste in the contemporary moment? SWaCH’s campaign, while unique, to my knowledge, in its gendered focus of a so-called abject form of waste viewed from the perspectives of laborers grappling with it up close, fits within a much broader global interest and intervention into feminine hygiene products and gendered environmental exposure.

For instance, a 2018 article in the *Journal of Environment and Public Health* suggests the effluent effects of such products must be considered on the bodily

and soil levels:

Deodorized and non-deodorized sanitary products are available in the market made of synthetic fiber rayon. These deodorized products contain chemicals like organochlorines which have antibacterial activity. Due to their chemical composition, these products when buried in the soil they kill the soil's microflora and delay the process of decomposition. (Kaur, Kaur, & Kaur, 2018, p. 2).

Framing the very gendered pressures and abject connotations placed upon menstruating bodies, the term *menstrual waste* refers to the products disposed of, whereas the sanitation tactics for managing this bio-material are known as menstrual hygiene management. Yet, grappling with the material waste of increasingly industrialized menstrual hygiene products has become a major concern in some countries. This problem is due to a range of infrastructural, sanitation, and cultural dynamics that may affect the interest in, use, or management of these materials once disposed. In the United States, the focus is more on documenting consumer use in pounds annually, and reimagining marketable objects such as tampons or pads as organic, free of dyes, fragrances, or dioxins. There is likewise a reimagining of hygiene management and shifting cultural perception through invention and (re)design of objects such as washable undergarments and silicon menstrual cups. Beyond the problematics and politics of labeling bodily emissions as "waste," the politicization, toxicity, and urgency of infrastructural concerns resulting from hygiene product waste has become a growing conundrum in India and elsewhere. Companies and development initiatives are targeting menstruating bodies as potential investments or sites for expanded industrialization. Increased environmental awareness about menstrual waste in the waste stream, worry about exposure to dyes and fragrances in hygiene products, and concern over biodegradability is likewise growing.

Menstrual waste products represent some three hundred pounds of garbage per person over the course of a lifetime in the US where these materials are regularly utilized. According to the Robin Danielson Feminine Hygiene Product Safety Act, "The average woman may use as many as 16,800 tampons in her lifetime" (Congresswoman Maloney, 2019 see also Rastogi, 2010; Stein & Kim, 2009; Weiss-Wolf, 2015). The production of this gendered waste in industrial disposable products, however, is not evenly dispersed globally. Studies on menstruation, class, and cultural taboo point to the fact that inaccessibility to menstrual products still frequently proves a barrier to equitable social, educational, and

economic participation for young people in certain parts of the world, including low-income and homeless people in the US, a fact that American companies have particularly emphasized and capitalized on through their buy-one-give-one models. In an article on four menstrual hygiene businesses that use this model, Helaina Hovitz (2017) discusses Cora, LOLA Veeda, and Conscious Period, which address barriers to product access and rationale for their donations of “sanitary products to women and girls in need in India, Kenya, and the U.S. Lack of sanitary products can keep girls from being able to go to school or even leave the house.” Analysis of this particular form of waste and accompanying capitalist biotechnological preoccupation is thus especially important in a moment of intensified concern over product design, content, and the gendered waste generated from such products. Menstruating bodies and bodily emissions are once again thrust into the political spotlight in nuanced racialized, classed, and gendered ways related to the levels of production, consumption, and expulsion.

“Cleaning Up” the Period

In an article for *InStyle* magazine, Marianne Mychaskiw (2017) features new tampon and feminine products “merging feminism with feminine care,” a list that starts with the burgeoning US company LOLA, which tailors its feminine care products to customer needs and offers home delivery service. LOLA entrepreneurs have made their products relatable to a generation of highly educated, working professional women in the Global North, who unabashedly seek to destigmatize periods but are simultaneously inconvenienced by the potentially toxic ingredients, high prices, and limited product availability. This is a historical moment of tech reinvention of menstrual products, from buy-one-give-one models à la Toms Shoes, organic and BPA-free products, reusable underwear to prototypes that include genomic analysis monitoring for cancers or endometriosis. LOLA, among other companies, has built a name for itself through development of organic cotton products “without toxins, dyes, or synthetic stuff,” deliverable right to your doorstep (Gautraud, 2017). Competitor company Cora similarly addresses the question of ingredient transparency, outlining on their product site their dedication to consumer and worker health, and emphasizing their movement away from use of bleaches, dioxens, formaldehyde, GMO cotton seeds: “In an industry that has never been required to disclose its product’s ingredients or test their safety, we saw a better way: a commitment to health and transparency” (Cora, n.d.b.). The company promotes a shame-free script about periods in which menses should “never be a source of shame, harm or uncertainty ([or] excessively pink packaging.) And it should never keep a girl from getting her education” (Cora, n.d.a.).

In *Feminist Technology*, Linda Layne, Sharra Vostral, and Kate Boyer (2010) examine the possibilities and complexities of feminist technologies in general—that is, “tools plus knowledge” that both empower and enhance women’s abilities “to develop, expand and express their capacities” (p. 3). Vostral (2010) asks what might make tampons, as a technology with a long history of innovation and design, feminist, assuming this possibility exists. She ultimately suggests that such technologies fall short of being feminist because they are intended to hide menstrual experience, and she points to the underlying pressures and cultural shame that continue to accompany menstruation as a site for reconsideration in design and tech innovation. Vostral (2010) argues that while there is no singular definition of a more or less feminist technology, those that most empower women and undermine negative cultural scripts about periods as dirty are especially important. She, in fact, analyzes products that have reimagined the tampon as “healthier” or more “green” as one such limited example, much like the aforementioned companies that have placed their product design emphasis on transparency of ingredients without chemicals and pesticides, individualized sizing preferences, and delivery options, as well as global empowerment campaigns (p. 145). Yet, perhaps because they are envisioned in cultural contexts that reflect very different waste management needs and content, these companies have addressed the question of waste futurities only in limited ways and through their own cultural lenses—expressly focused on claims to healthier, more organic, and chemical-free ingredients, as well as on empowering women by helping them to participate in biotech markets, which is meant to accomplish what Vostral refers to as “passing” as a non-bleeding body (2008, p. 10; 2010, p. 143).

Companies have pinpointed the ways in which periods may prove a barrier to physical, educational, and economic participation without access to menstrual absorption products. In doing so, these companies do not completely challenge cultural anxiety about menstruation and the discard produced through its absorption. They utilize technological innovation in product design to prove that, with access to the proper resources (and preferably these specific products), women need not be hindered by their periods. Companies do not necessarily, however, address questions of menstrual waste exposure, other than to consider a consumer’s physical vulval and vaginal wall contact with products and high-quality ingredients. SWaCH’s Red Dot Campaign, which specifically addresses the discarded afterlife of menstrual products, picks up this particular thread, bringing the question of the waste futurities of menstrual products themselves into sharp focus.

In addition to framing themselves as laborers, union members, and valuable recyclers, SWaCH provides public education on the hazards of waste picker jobs, emphasizing ways in which everyday consumers can help make their workspace more humane, through critical campaigns addressing discarded menstrual materials. Through Red Dot Campaign media, along with sales of sanitary towel disposal bags, SWaCH seeks to educate the broader public about contact hazards related to menstrual products. The formal campaign is the first of its kind in India—the earliest rumblings of which I found documented in English back in 2013—but as an organized campaign, it is an outgrowth of the April 2016 G.S.R. 395 Ministry of Environment, Forest and Climate Change updated rules for handling hazardous wastes, including menstrual wastes, diapers, and condoms (Desai, 2013; Government of India, 2016a & 2016b). The Red Dot public service video opens with a well-dressed professional woman tossing her trash bag out on her way to work. As she arrives at her office and opens her office drawer, she is shocked to find used sanitary napkins crumpled but flapping open to expose the menstrual blood, at which point the video comes to a screeching halt. The next scene zooms in on a SWaCH waste picker, likewise at work in her uniform, looking straight into the camera explaining why no one should have to work with hazardous materials in their workplace. The video then outlines what the public can do to make working conditions for waste pickers more humane and sanitary, including wrapping sanitary napkins and used diaper waste in newspaper and then marking them with a red dot or purchasing pre-marked red-dot bags to dispose of unsanitary materials. Sold in bundles of 30, the bags are marketed as “made by marginalized women” and targeted to female consumers “who want to dispose of sanitary waste responsibly [in order to] make life safe and dignified for those who keep our homes clean” (SWaCH Coop, n.d.b.).

The Red Dot Campaign directly centers women speaking across class boundaries to one another. On the one hand, the campaign attempts to make work conditions healthier for marginalized Dalit women waste pickers, and takes seriously their workspace and health concerns related to blood- and feces-borne pathogens, including staphylococcus or hepatitis. On the other hand, by focusing on cisgendered women, the campaign not only reinforces that women are frequently the targets of the burdens of waste work whether as consumers, laborers, or both, but it also implies that biology determines gender identity. The campaign calls for labeling the effluent of bleeding bodies as a means of managing this form of waste and its possible pathogens, rather than having bodies pass as “non-bleeding”. The red dot on packaging is used as a sign to waste pickers to handle the materials as pathogenic, rather than to experience the

surprise and discomfort of grappling with bodily effluent unannounced. SWaCH drives their point home concerning workplace dignity not solely in their PSA, but in a grant-funded film clip that documents their waste management efforts and leadership trainings, in which the final image leaves viewers with a smiling waste worker holding both a red-dot marked sanitary waste package alongside a sign that simply reads, "Thank You" (SWaCH coop, *n.d.c.*). In a *Huffington Post* article about the campaign, outreach manager Suschismita Pai argued, "Opening sanitary waste is disgusting, and an assault on their dignity and health without any financial gain" (Joshi, 2017). The campaign thus underscores menstrual absorption wastes as hazardous, and reflects the national ministry's labeling of "infectious" materials. Although it does not place the waste pickers as professionals directly in national dialogue with Indian ecological efforts, the campaign identifies waste picker's efforts as instrumental to changes in attitudes and perceptions about waste, ecology, and social hierarchies.

Individual consumers are not the sole targets of Red Dot Campaign efforts, however. According to the cooperative's outreach manager and media coverage, SWaCH, among other organizations, has directly called upon companies, including global giants of personal care products such as Procter & Gamble, Hindustan Unilever, Johnson and Johnson, and Kimberly-Clark Lever, to include disposable packaging with their products and to reconsider product designs that would prioritize biodegradability and compostability (Basu, 2015 *Times News Network*, 2013; Joshi, 2017). In SWaCH's 2013 Send It Back Campaign, waste pickers documented their difficulties convincing major industrial producers of disposable sanitary napkins and diapers to respond to requests for providing packing for humane disposal, and/or to commit to biodegradability of their products. In the face of non-response, the collective gathered and boxed used products and sent them back to their producers on International Women's Day (Desai, 2013). A technological innovation with waste picker empowerment and sustainable development at its core, in this instance, could potentially take into account the interests of customers who have purchasing power, but it could also address the waste futurity of the product post-disposal. This approach frames consideration of the ecological and waste management impacts together with the social entanglements, epitomizing what I have elsewhere dubbed "the social fabrics of trash" by considering the ecological and worker impacts during production and disposal (Vaughn, 2018). For instance, Cora's company mission outlines their support of environmentally safe products and labor conditions at the level of source and production; they argue against child labor and the use of dangerous chemicals, and they align themselves with workers' rights standards

for fair wages (Cora, n.d.b). SWaCH's post-consumer Red Dot Campaign tackles both ecological and labor concerns under the current conditions of disposal, and has an eye towards innovative future designs that are more ecologically and socially efficient. Waste pickers in this context once again resist the erasure of their work and ecological contributions, attempting to write themselves into the fabrics of innovative design technologies.

Globally speaking, so prevalent has the counter-scripting of period shame been recently that Malaka Gharib (2015) for National Public Radio declared 2015 "the Year of the Period." NYU legal scholar Jennifer Weiss-Wolf (2015) documented global trends in what she coins a political "menstrual crisis" over very real menstrual hygiene and health concerns. Even an article in *Newsweek* revealed, "the fight to end period shaming is going mainstream," and outlined the ways in which cultural actors, from designers and entrepreneurs to comedians and artists, have begun to address the problem of period shaming in the US and globally (Jones; 2016). During the same time frame, poet Rupi Kaur completed a photographic series with poetic meditation on the politics of menstruation, which garnered press interest and was censored on social media. Images of Kaur's bleeding body became politically charged as menstrual blood incited, intrigued, or offended the viewing public (Saul, 2015; Kaur, n.d.). In her *Newsweek* article Abigail Jones (2016) reflected on the cultural shifts, stigmas, politics, and innovations surrounding the period in a shocking reminder that menstruation still remains contentious.

In a historical moment of global menstrual contention and counter-scripting, the SWaCH campaign exposes the complexities of imagining zero-waste futures on larger scales and municipal levels, as consumers must contend with their waste, and both consume and discard with more conscious understandings of the revalue and/or recyclability of the materials they toss away. The Red Dot media campaign harnesses the power of the abject in menstrual and biohazardous wastes to encourage socially responsible consumption (through support of the sanitary towel bags) and disposal (by way of the marked newspaper) to lift the lid on what is cast aside as meaningless once disposed of. Emotions such as disgust and shame become tools of public education and outreach by the cooperative members who are seeking to improve their own overall work conditions, while encouraging support for their workforce as necessary and valuable.

The growing trend in menstrual hygiene products tends to focus more on individual consumer exposures or safety and transparency of ingredients (indeed,

ingredient transparency was a central catalyst of the Robin Danielson Act). Instead, the waste pickers focus on generating better work conditions and having to grapple with the waste futurities of menstrual products. In both cases, however, the actors involved are largely targeting consumer interests, trends, and biases, whether it be to encourage more socially responsible consumption or to change discard habits. Neither fully addresses waste composition, or decomposition, which is a conundrum and responsibility embedded within the product technology designs themselves. Moreover, neither approach subverts the tendency to erase or make abject the experience or effluent of menstruation as a cyclical experience, what Vostral (2008) calls “the technological politics of passing,” in which menstruating bodies pass as non-menstruating bodies as a means of “overcoming prejudice of the bleeding body” (p. 10).

Waste Futurity in Menstrual Product (Re)Design

The burdens of empowerment, waste futurity, and zero-waste strategies must be embedded within feminist product design. Why explicitly empowerment, and why feminist design? Menstrual product design changes have the capacity to do exactly what Vostral and other science and technology scholars argue: empower consumers and innovate increased product design centered on zero-waste trends for compostability, while also serving as a tool to reverse negative cultural scripting about menstruating bodies and/or targeted blame for gendered wastes. In this essay, I argue that the work of gender justice and intersectional feminism that many global waste pickers are already doing in their communities and unions must be central to the future of waste management and waste metabolism. SWaCH’s campaign certainly speaks to a much broader international trend in shifting cultural scripts about menstrual visibility and period politics. However, the campaign also singles out menstrual absorption products and expressly targets menstruating people as discarders for increased social responsibility, rather than as one example within a much bigger continuum of domestic biohazardous or non-biodegradable wastes.

Companies that are intentionally billing themselves as sustainable, green, or socially conscious focus on the quality and social impacts of their products at the level of production and consumption, and less explicitly on post-disposal concerns. In their own ways, they may also contribute to waste management concerns in places where westernized management techniques and products are out of context with local interests or beyond infrastructural capacities. Companies that have yet to show interest in products without ingredients like plastics or petrochemicals, dyes or fragrances, likewise focus their attentions on selling

products to interested consumers, rather than on the conundrums of exposure or waste futurities. As waste scholar Max Liboiron (2013) argues, we must see municipal solid waste as “an extension of industrial practices,” (p. 10) and therefore as industrial solid waste by design. The future, Liboiron (2013) argues, must include elimination of toxics, implementation of green chemistry, closed-loop design strategies, and reuse economies to scale. While the focus on menstrual waste may appear narrow to a limited product and waste type, given SWaCH’s long-time alliance with implementing zero-waste strategies, we can use this example to reflect on broader implications. SWaCH’s campaign is politically interesting not simply because it appeals to individual consumers but because it suggests the potential in product (re)design as a means of revaluing waste picker work; it pressures industry and municipalities alike to increase zero-waste strategies; and it draws attention to the burdens and workplace interruptions of grappling with toxic, non-compostable biohazardous waste.

This topic of the composition of municipal solid waste is also important given the shifting impacts of increased industrial menstrual product availability for people who may have previously used reusable cloth, rags, leaves, ash, or mud. As companies target menstruators in developing nations by harnessing the language of empowerment, and as there is greater public health knowledge about menstrual hygiene needs and increased access to new products, we see a growth in debates over ways to deal with the waste produced. For instance, regarding urban versus rural differences in menstrual waste, Kaur, Kaur, and Kaur (2018) suggest that waste composition and management techniques shift according to place and infrastructure factors so that women in rural parts of India may “generate lesser amounts compared to women in urban areas who rely on commercial disposable pads” (p. 4), and disposal can include anything from solid waste/trash bin, incineration, to flushing, or waterway disposal. India’s Ministry of Drinking Water and Sanitation addresses menstrual waste capacity concerns in their 2015 guidelines:

Funds allocated for Solid and Liquid Waste Management may be used to implement safe disposal solutions for menstrual waste (used sanitary cloths and pads) and setting up incinerators in Schools, Women’s Community Sanitary Complexes, Primary Health Centre, or in any other suitable place in village and collection mechanisms etc., can be taken up. Technologies may include appropriate options that are socially acceptable and environmentally safe. (2015, p. 3)

Whereas the national ministry identifies incineration as an acceptable disposal option, waste pickers advocate for both immediate workplace-fix initiatives through the Red Dot Campaign labeling technique, and push for product design initiatives at the level of production rather than disposal. Their documentation of disgust for the abject in their workplaces is utilized as a mechanism for increased packaging in the short term, and calls for an industrial revision of product biodegradability in the long term, rather than incineration tactics.

Saathi—a company co-founded in 2015 by MIT, Harvard, and Nirma University graduates with a production home base in Gujarat—has invented just such a product with waste futurity in mind by utilizing the waste of banana fibers for their biodegradable pads. They suggest that this revalued product base has generated new life for a once simply composted material on banana farms. According to their website, the banana fiber provides “great absorbency [and is an ideal solution because] there are more than 1.2 million acres of banana trees planted in India, and they require less water and fertilizer to grow than cotton. Before there was a use for banana fiber, farmers would compost the banana trees after each harvest” (Saathi, n.d.a.). Not unlike its global counterparts in menstrual product redesign made without chemicals or pesticides, Saathi features young, modern women on their website alongside messages like “natural feels better” and “good for your body, environment and community.” They too offer to subsidize the costs of pads to women who have limited access to industrial products. However, unlike other young menstrual product companies, Saathi draws attention to the waste-life of their products by actively discussing their decomposition within three to six months of disposal and arguing in their company history and mission, “we are innovators in the use of alternative materials and zero-waste production” (Saathi, n.d.b.).⁶ Launching its products in 2017, Saathi is an example of how to imagine product redesign with sustainability and end-of-life product capacities written into the material. Chintan Environmental Research and Action Group, an environmental justice organization that works closely with waste pickers and other workers in informal sectors, warns that the onus must fall on industry producers to address design factors, arguing that “menstrual pollution” from toxic materials in the design, such as polyvinyl chloride or chlorine bleach, or by way of incineration are equally problematic (Chaturvedi, 2017; Chintan Environmental Research & Action Group, n.d.a. & n.d.b.).

Incinerator companies and development NGOs encourage small-scale incinerator usage. Companies such as Glo Life Care and Visaga Tech are marketing what they

claim to be the smallest, wall-mountable incinerators on the market, in tandem with hygiene product vending machines to address concerns over access and fixations with menstrual waste for use in places such as “Girls Schools and Colleges, Women’s Hostels, Hospitals, Shopping Malls & Complexes, Hotels, Corporate Offices & Factories, Airports, Railways & Bus Stations, Public Toilets, Theme Parks, [etc]” (Visaga Tech, n.d.a.). Visaga Tech’s Napiburn incini25 model is billed as the world’s smallest electric incinerator, designed and manufactured “under the guidance of UNICEF” (n.d.b.). Glo Life Care’s Reprocide: Sanitary Napkin Destroyer machine is likewise a small-scale incinerator for similar contexts such as schools or offices. The company’s pamphlet suggests that flushing sanitary napkins causes infrastructural concerns, whereas “used sanitary napkins are a breeding grounds for harmful germs and bacteria. [The] used napkin is a SLEEPING POISON, apart from polluting the environment, it gets into ground water/rivers and streams and through vegetation enters our human food chain, if not properly disposed” (Glo Life Care n.d.a.).

Glo Life Care thus underscores some of the same concerns as environmentalists and advocacy organizations, but does so by framing its products as paramount to human health initiatives, sparing the public from coming into inadvertent contact with the “SLEEPING POISON” menstrual waste through incineration at the very site of disposal. Words and phrases intended to appeal to “modern women” are emphasized in the brochure: “the new woman,” “effective solutions to feminine hygiene issues at work or study,” and “shielded femininity” all emphasize moving towards new ways of addressing waste hygiene management. Their machine is billed as both hygienic and eco-friendly as it converts the products to what they call “sterile ash,” puts an end to landfills and clogging drains, and stops spread of infection “from the practice of manual scavenging of napkins from the bins” (Glo Life Care, n.d.b.). According to the company, the waste ash can be “reused for manure [and is] less polluting” (Glo Life Care, n.d.b.). Here waste pickers are framed as people to protect by means of capitalist technological innovation. Waste pickers are representative of the counter to technological advancement, indicative of a bygone era in waste management, associated with the spread of infection and unhygienic practices. In contrast, the company’s incinerator technology is billed as symbolic of women of the future. Yet, it is also important to distinguish between incinerated waste ash that is rendered “sterile” of the pathogens connected to blood from menstrual waste and non-toxic ash. These are two different things—particularly in menstrual hygiene waste, which could be composed of cotton rags, or plastics and bleached cotton, and therefore could result in different toxicity potentials once they’re incinerated in the remaining ash.

Once burned, the atoms of incinerated plastics, petrochemicals, or chlorinated bleach in hygiene products might be rendered non-infectious, but not non-toxic or non-carcinogenic. Finally, we must also be careful to distinguish between pollution from incinerators that falls below permissible levels and incinerator waste that is “non-toxic.” The public fervor surrounding this form of “waste” cannot be separated from cultural fear and distancing from menstrual waste more generally as pathogenic, poisonous, or hazardous—a fact not at all unique to India.

Green companies and global development agencies alike claim that increased access to industrial menstrual absorption products empowers women to have greater mobility and comfort. However, another outcome of such single-use disposable products includes their effects on municipalities that are less prepared to handle such waste, along with the ways in which gendered eco-blame is building around menstrual waste production more generally. Because this form of effluence is already highly abject and political due to its contact with blood and association with feminized bodies and sloughed uterine linings, global political and corporate responses reveal a troubling isolation of this form of gendered waste production. They likewise make clear an increased pressure on individual consumers to make the “bleeding” vagina a site for politicized waste work. My intent here is not to critique the advancement of technological ingenuity or redesign in hygiene products. Rather, I suggest that particularly, though not exclusively, menstruating people of color in the Global South, and, more precisely, menstrual effluent, absorption products, and exposed vaginal walls have all become central to new turns in ecological waste management methods and fervor. Equal global focus remains less centered, for instance, on other single-use disposable objects such as condoms, diapers, napkins, towels, toilet paper, wipes, dental dams, or any number of other items that come into contact with bodily fluids. Moreover, by emphasizing ecological impacts of menstrual waste, bleeding bodies become politically centered in waste management debates, rather than biotechnological and green chemistry invention geared towards 100% non-toxic biodegradability, compostability, and innovation in a historic moment of intense concern over waste capacities more broadly.

In her important article “Medicalising Menstruation,” Lahiri-Dutt (2015) critically outlines a growing international development sector in the medicalization of menstrual hygiene management. Lahiri-Dutt (2015) provides a feminist critique of the ways in which NGOs and

hygiene product manufacturers appropriate or redefine the meaning and treatment of menstruation in order to exert excessive control over what they see as a vast market waiting to be tapped...The ideal of fit and healthy woman as envisioned by modernity hides important politics behind medicalisation, and the consequent processes of commercialization. (p. 1162)

While I do not here equate the development programs Lahiri-Dutt analyzes with waste picker initiatives, I do pose questions that arise from bringing the two in dialogue: What does it mean that women's bodies become central to menstrual waste sanitation initiatives? How might we reconcile the important work that waste pickers do in refusing to have their labor and health needs erased or compromised, and in organizing whistleblowing efforts to pressure industry culprits, while also participating in a form of ecological blame through singling out one form of a myriad of potentially pathogenic wastes that must all change at industrial levels? These are short-term solutions and protection tactics to longer-term issues, just as workers outline in their Send It Back Campaign. On the one hand, waste picker efforts represent a practical and focused ecological effort for better work conditions. They likewise act as global leaders for sustainable innovation by pressuring for greater biotechnological design of hygiene products, and they do so expressly through self-representation. They provide testimony of the classed, gendered, and racialized experiences of women working in the informal sector who are already considered global leaders and experts by their waste picker and zero-waste constituencies. Finally, Red Dot Campaign places waste pickers as a professionalized workforce at the center of national sustainability initiatives connected to waste. It also expressly speaks within a growing global dialogue intended to demystify and make menstrual blood less secret or shunned in public discourse. On the other hand, this campaign singles out one type of gendered waste and centers critiques largely, though not exclusively, on consumer practices. It does not destigmatize menstrual effluent per se, but rather harnesses the existence of intense socio-cultural loathing of menstruation to protect specific low-tech, unprecedented collective labor initiatives and goals.

Conclusion: The Work of Waste Futurity

Many waste pickers are brutally murdered every day across the world—many as a result of unsafe work conditions, extreme exploitation, and immense prejudice that still exists about our work. —Alex Cardoso, “March 1st: A Day to Fight, Not to Celebrate”

We claim feminism as a means to achieve equality, women's autonomy over their own bodies and sexuality, and the right to a life free from violence. We likewise reaffirm the urgency of a fairer distribution of wealth and income; the fight against racism and ethnocide; the guarantee of the right to land and territory; the right to cities; and the rights to the environment, water, education and culture.

—People's Summit Declaration, quoted in GlobalRec, "'Women Simply Want Equality': Interview with Maria Mônica da Silva and Viviane Mertig of MNCR"

Departing from the voices, testimonies, interviews, and digital archives of waste pickers claiming the value of their own labor as instrumental to ecological efforts in municipal waste and zero-waste models of management, waste futurity as I analyze it accounts for human *and* nonhuman toxicity, exposure, and precarity concerns. Paying attention to how waste pickers talk about their own labor reveals that the work of waste futurity encompasses acknowledging the value of these contributions *as work*, as ecologically valuable work, and as indicative of waste picker's long-held (if overlooked) role the forefront of global zero-waste strategizing that centralizes human and nonhuman toxicity concerns as intertwined. As Liboiron (2013) argues, by design we must reimagine waste as toxic-free, "because [toxics] forestall a local or cyclical economy" (p. 11).

Globally, waste picker initiatives to center zero waste "end-of-life" management strategies such as vermiculture, composting, gardening, and bio-gas reflect this broader goal of cyclical waste economies and increased pressure for toxic-free design. Waste pickers allying themselves with initiatives that harness the energy potential of India's organic waste mass; as well as SWaCH's Red Dot Campaign for healthier work environments free of risky pathogen exposure, likewise reflects such goals. SWaCH's campaign echoes global trends in shifting cultural scripts about menstrual visibility; however, their campaign does so by expressly using menstrual waste as always and already abject. They implement important laborer pushback organized around unhealthy work conditions, but do so also by extending common scripts that shame bleeding bodies in need of regulation and menstrual erasure.

As waste pickers have articulated the world over, understandings of toxic work environments must extend to the inclusion and social enfranchisement of workers as professionals at the forefront of ecological efforts in grappling with waste.

They outline socioeconomic needs in the present tense, as well as future aspirations of health care, job security, education, stopping gender-based violence, addressing generational poverty resulting from class or caste, gender, and racial-ethnic exclusions, and more. Claiming waste picking *as work* pushes back on common stereotypes and labels of this labor as a public nuisance, criminal, or hazardous. As the above epigraphs convey, it speaks back to testimonies in many parts of the world concerning the impunity with which waste pickers document that their very bodies are frequently undervalued, erased, or harmed, and their labor overlooked. Moreover, there is an increasing movement of global waste picker women who are pushing for their rights as workers and as women in very intersectional ways, as the second epigraph in this concluding section suggests. As some scholars have outlined, the complexities of including waste pickers in globally shifting waste management landscapes are numerous. Yet, by departing from the actions, words, and documentation of women in waste picking directly, I suggest these are frequently citizen science efforts to promote zero-waste strategies by the “recyclers and composters, who literally take waste into their own hands to transform it for good” (Global Alliance for Incinerator Alternatives, n.d.). Thus, rethinking precarity in this article encompasses understanding the resistance to the erasure of waste pickers’ work as they define it. Likewise, rethinking precarity here embeds the vitality of the thrown away within a waste futurity that is more intersectionally feminist by design.

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Notes

1 On the broader framing of *environmental futurity*, see O’Brien and Lousley, 2017, p. 2.

2 The notion that these women are helping the environment comes from a waste picker quoted in *Poorna Chakra/Full Circle*: “We believe that we are the ones who are helping the environment.”

3 The collective labor initiatives behind what I am calling *waste futurity*, especially those in Pune, India, have been described by waste picker union networks and popular press alike as unique and instrumental to increased respect for Dalit women waste pickers working within the ongoing structural violence of the caste system, a “quiet revolution” and shift from “untouchable to indispensable...in a country increasingly opting for privatized waste management” (Carr, 2014; WIEGO 2019). SWaCH’s work has even created some economic mobility for waste pickers and/or the educational and economic futures of their families. While this fact may not entirely thwart caste hierarchies, it may push back on their assumed fixedness. Thus, waste picker unions help to “imagine a more viable future” in the midst of harmful work environments as O’Brien and Lousley (2017) frame it in their work on environmental futurity for laborers. By focusing on their digital archives, campaigns, and waste picker perspectives, I intentionally center the voices of Dalit workers. The common thread running through these broader lines of argumentation for more equitable work conditions are the ways in which waste pickers harness *real work* narratives and zero-waste strategies to resist the erasure of their impact and labor.

4 Yukiko Hashimoto’s (2016) comparative study of waste management models in SWaCH and another local NGO also confirms, “As most of the waste pickers are women they are at high risk to acquire gynecological disorders such as uteritis, menstrual disorders etc. Therefore, it is imperative to improve the current waste management practices [using a] gender sensitive approach” (p. 44).

5 Meanwhile, scholars, activists, and development programs show intensified interest in the broader socio-cultural, waste management, and infrastructural outcomes of menstrual hygiene focus. For instance, Sommer, Kjellén, and Pensulo (2013) argue that women’s and girls’ needs are frequently overlooked in sanitation and waste infrastructural planning. Kaur, Kaur, and Kaur (2018) review common cultural constraints, waste management barriers, and techniques as well as eco-friendly absorbents.

6 In *The Managed Body*, Bobel (2019) argues that there is little data to prove this biodegradability timeline as yet (see p. 71).

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