



Fermenting Feminism as Methodology and Metaphor

Approaching Transnational Feminist Practices through Microbial Transformation

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Abstract This article proposes the possibilities of fermentation, or microbial transformation, as a material practice and speculative metaphor through which to approach today's transnational feminisms. The author approaches this from the perspective of their multiyear curatorial experiment *Fermenting Feminism*, looking to multidisciplinary practices across the arts that bring together fermentation and feminism in dynamic ways. The article outlines ten ways in which fermentation is a ripe framework for approaching transinclusive, antiracist, countercolonial feminisms. As the author takes up these points, drawing from scholarly and artistic references alongside lived experience, they theorize the ways fermentation taps into the fizzy currents within critical and creative feminist practices. With its explosive, multisensory, and multispecies resonances fermentation becomes a provocation for contemporary transnational feminisms. Is feminism, with its etymological roots in the feminine, something worth preserving? In what ways might it be preserved, and in what ways might it be transformed? The author proposes that fermentation is a generative metaphor, a material practice, and a microbiological process through which feminisms might be reenergized—through symbiotic cultures of feminisms, fermentation prompts fizzy change with the simultaneity of preservation and transformation, futurity and decay.

Keywords fermentation, food, feminism, microbes, art, curation, harm reduction

Is feminism, with its etymological roots in the feminine, something worth preserving? In what ways might it be preserved? In what ways might it be transformed? Is feminism a relic of the past, something that has soured? Or does it still bear the vital materiality that Jane Bennett describes in *Vibrant Matter: A Political Ecology of Things*? Through the methodology and metaphor of *Fermenting Feminism*, a curatorial framework I began to experiment with in 2016, working collaboratively with artists and researchers internationally, I ask what it would mean to ferment feminism? How would exposing feminism

to fermentation, or the transformative action of microbes,¹ change the conversation around present-day transnational feminisms—and its politics, aesthetics, and ethics?

In this article, I theorize the possibilities of fermentation, or the process of microbial transformation, as a material practice and metaphor through which to approach feminist theory and practice today to reimagine feminism's relevance to human and more-than human lives. In particular, I propose ten ways in which fermentation is a ripe conceptual framework for articulating transinclusive, anti-racist feminisms. These include the following: fermentation is political; fermentation is vitalism; fermentation is accessibility; fermentation is preservation and transformation; fermentation is interspecies symbiosis and coevolution; fermentation is survival and futurity; fermentation is care of the self and care of others; fermentation is harm reduction; fermentation is queer time; and fermentation is collaboration. Fermentation is a way to tap into the fizzy currents within transnational feminist practices.

While intersectionality continues to be a meaningful way of approaching feminism,² the method and metaphor of fermentation makes space for the possibility of fermenting the very term *intersectionality*—both to preserve it and its history (important as it is to the development of a modern-day feminist politics attuned to the converging concerns of race, gender, sexual orientation, age, class, ability, education level, and other demarcations of respective privilege and marginalization) and to transform it for more-than-human feminisms. While I take my point of focus to be my ongoing curatorial experiment *Fermenting Feminism*, and the many projects therein, this article is situated in a much larger and dynamic field of interdisciplinary feminist scholarship on ecologies, multispecies life and death, art and food, and microbes and digestion that invigorates how we think about living and being together in intersectional feminist ways.³

1. Katz, *Wild Fermentation*, 276.

2. Crenshaw, *On Intersectionality*, 1.

3. To be sure, this article is part of a dynamic network of interdisciplinary conversations taking place in feminist research on ecologies, materialisms, microbiology, and food and beverage engaged in pressing political, philosophical, aesthetic, social, cultural, and ethical questions for present-day living. Natalie Jovanovski's *Femininities* takes up the feminist politics of contemporary food cultures in relation to intersectional issues of embodiment, domesticity, and femininity, though she does not consider fermentation in her research. In similar fashion, Lindsay Kelley's *Bioart Kitchen* engages the politics and aesthetics of food, biotechnology, and 1970s feminist art, but her analysis does not extend to fermentation. Artists included in *Fermenting Feminism*, such as Afghani-American artist Leila Nadir and her collaborator Cary Peppermint, extend ideas in Kelley's book—including the reference to Martha Rosler's *Semiotics of the Kitchen*—to metaphors and practices of fermentation. There are many other feminist biotechnology researchers and artists immersed in similar questions that *Fermenting Feminism* is interested in, including Kathy High, *Tactical Biopolitics: Art, Activism and Technoscience*, and Hunter, *Pissed (blom+blod)*, whose work with Indigenous Nordic practices of urine-fermented lichen was featured in *Fermenting Feminism*. There are other researchers who have engaged fermentation explicitly, including Heather Paxson (*The Life of Cheese*), whose groundbreaking work on what she calls post-pasteurization cultures and her introduction of the notion of microbiopolitics through the example of raw milk cheese informs my research and practice. Alongside contemporary feminist research on multispecies life, food,

During the past four years (2016–present) I have curated *Fermenting Feminism*, a transdisciplinary and transmedial project that has taken shape as a series of art exhibitions, screenings, performances and listening sessions, colloquia and artists’ talks, outreach programming, and digital and print publications. Using the form of an open call disseminated online, I invited artists, writers, witches, scientists, brewers, chefs, activists, ecologists, translators, poets, and other researchers to respond to what it might mean to bring fermentation and feminism into the same critical space. When I began to develop the framework for *Fermenting Feminism*, I drew heavily from the work of American fermentation revivalist Sandor Katz. Katz mobilizes fermentation as a practice of queer activism and care, and it is this lived ethic that I extend to a consideration of fermentation’s possibilities for feminisms.

The response I received to this call in the summer of 2016 led to my revelation of the many diverse practices attuned to the conceit of *Fermenting Feminism*. Submissions came in from across Central and South America, Africa, Dubai, Europe and the UK as well as the United States and Canada; those submitting projects ranged from self-identified feminist artists using fermentation directly in their work, to feminist activists for whom rituals of fermentation are an integral part of their life and work. Notably, it was Katz sharing the call through his social media that really extended the reach of the call, something I learned when Zayaan Khan, a South African educator and fermenter, mentioned this to me over e-mail.

The works assembled in *Fermenting Feminism* ranged in media from film and video, performance and installation, and photography to textiles, drawings, lithographs, and sculptures that literally integrate fermenting matter into their constitutions. For example, Sarah Nasby’s bubbly intervention into histories of graphic art and design, where SCOBYS (symbiotic culture of bacteria and yeast) are held in vessels designed by women throughout history, taking the shape of the different vessels over the course of an exhibition, or S. E. Nash’s sculptures in *They/Them/Their*, which incorporate fermenting foods and beverages into the body of an artwork, with tasty edibles such as kimchi and jun resulting at the end of the art show that can be consumed, communally, in the gallery space. Working multi-disciplinarily and in a way that is attuned (however speculatively) to multispecies experiences, *Fermenting Feminism* makes space for rigorous reflection and play within and across disciplines, including Indigenous studies; theory

and aesthetics is a growing body of feminist research on guts and microbes, from Elizabeth A. Wilson, *Gut Feminism*, where Wilson focuses on the relationship between depression and gut bacteria as a way of encouraging a renewed place for the biological within what she argues to be largely antibiological feminist theory, to Stefanie Fishel, *The Microbial State*, which mobilizes microbial entanglements as a way to reconsider the centrality of the metaphor of the body politic as a political concept in the late Anthropocene. Feminist research in fermentation is also in conversation with feminist research in decomposition and decay as seen, for example, in Joanna Radin’s work “Rot,” where she activates microbial and micro-ecological thought to reframe rot and putrefaction as something with a life-giving and thereby positive valence in the context of new materialisms and environmental studies.

and new materialisms; science and technology studies; microbiology; ecology; environmental studies; food studies; gender and sexual diversity studies; critical disability and mad studies; critical and creative studies; contemporary art history; and women's and feminist history.

One of the factors that is pivotal to the fermentation process is the physical location of a ferment or fermenting body (such as a kombucha SCOBY or a sourdough starter). The material constitution of a sourdough starter will literally change if you move across the country, or across the state, or even down the street: the fermenting body takes in bacteria and yeast from its environment and integrates it into its constitution, becoming something different than it was before. With this in mind, and based on the logistical parameters of the project (which was done largely in the absence of institutional funding, and so required working on a limited budget and using the resources available), I made the decision to have the project evolve site-specifically. This decision emerged in conversation with my collaborator S. E. Nash, with whom I cocurated the Kansas City iteration of the project at an artist-run center called Front/Space. By conceptualizing *Fermenting Feminism* as site-responsive—in contrast to a more conventional touring exhibition model⁴—the project takes on a unique form responsive to each site it travels to. In each location, I work in collaboration with different artists, curators, and educators to organize exhibitions that engage local communities. So far, *Fermenting Feminism* has taken shape in Montreal, Kansas City, Berlin, Copenhagen, Toronto, and Vancouver, with future projects in development for Wisconsin, Mexico, France, and Spain.

I have repeatedly been asked how I came up with the idea for *Fermenting Feminism*. The best answer I can offer is that it brought together two of my key areas of interest in a way that felt generative and necessary, both from my personal practices of fermenting and from my scholarly interest in cross-disciplinary feminist research—an interest that spans philosophy, literature and the humanities, environmentalism, art, and science. I am credited for the idea of *Fermenting Feminism*, but I am not the first person to juxtapose feminism and fermentation, or to work in a way that shuttles between the two, as I discuss shortly. As a curator, I developed a framework called *Fermenting Feminism* and set the conditions for folks to come together across media and disciplines, instigating one another, cross-pollinating, and catalyzing new conversations and collaborations around transnational feminisms and fermentation. My curatorial role is to create a container—both literal and discursive—within which these many projects can flourish and be held; the curatorial role also involves me tracing an open-ended and multifaceted narrative that changes shape as new ideas and projects bubble up.

The germ of *Fermenting Feminism* began in 2012, when I was in between graduate studies, working in frontline social work, making art, and brewing kombucha and water kefir in my apartment. As an artist, I began experimenting with the use of my

4. In a touring exhibition the same artworks would typically travel from site to site. This is an often costly endeavour requiring institutional support in the forms of climate-controlled shipping and insurance.

kombucha mother in my work. I staged the mother, or SCOBY, as a strange, placental-looking character in my videos, which were informed, however clumsily, by ideas from feminist theory. Looking back, there is something palpably lonely and limited about these early experiments: me sitting in front of the kombucha mother, trying to give her a tarot reading. I was working in para-rational ways with my kombucha mother as a kind of actor in the video; it was a way of gesturing to interconnectedness across beings as well as a way of considering the affects and limitations of speculative white feminist modes of mysticism and understanding in art. It was after I wrote and disseminated the open call for proposals under the working title *Fermenting Feminism* when things began to shift. I began to feel acutely connected to an international network of feminist fermenters from whom I could learn and with whom I could share knowledge across disciplines, media, and geographic borders.

Throughout this article, I turn to exemplary projects from *Fermenting Feminism* as I reflect on collaboration as an effervescent and indeterminately feminist way of working. In a context of neoliberal academic and art-world institutions, shaped as they often are by ideologies of advanced capitalism and neocolonialism that so often feed on competitiveness, extraction, and self-interest, collaboration has the potential to resist these dominant views. The enormous response I received to the call, and the way *Fermenting Feminism* continues to grow, testifies to the plurality of thriving practices related to fermentation and feminism taking place around the world. It is this kind of bubbling, cross-cultural fervor at the crux of *Fermenting Feminism* that drew me to the open model of this project, in the hopes that knowledges and understandings of fermentation and feminism would be decentralized and destabilized from transnational feminist perspectives attuned to the dynamic participation of the more-than-human.

Fermentation Is Political

I was out with friends for drinks on the night of the American presidential election in 2012. The bar was full of people watching the televisions as they drank, eagerly awaiting the election results. My friend's self-identified libertarian boyfriend sat across from me and, with a sense of resolve, clunked down his beer and gruffly proclaimed, "Fermentation is the only political act left!" Then, I understood him to be saying that willfully fermenting something on your own is one of the few acts of productive agency outside the purview of "big government." After all, at-home fermentation was, at the time, outside of governmental regulation. Yet to this day, I wonder if my friend's boyfriend meant something broader and more philosophical than that. I wonder what it would mean for fermentation to be, in fact, the only political act left.

Many people who are passionate about progressive social change have mobilized fermentation in politicized ways. When, as mentioned, Katz described fermentation as a form of activism, he made space for fermentation to be a central part of everyday life for himself as a gay man living with AIDS and for the larger community of Radical Faeries and queer homesteaders with whom he lives in rural Tennessee. Katz sees fermentation

as resisting the grips of both capitalism and globalization by providing an alternative to the standardization and cultural homogenization of what we consume. What's more, by fermenting foods, we might become active co-creators in contrast to passive consumers.⁵

As I considered fermentation as a political act, many of the examples I encountered were in intentional communities that existed on the margins of the dominant culture: whether it is the queer homesteaders of rural Tennessee, or the microbiologist-turned-Benedictine nun Mother Noella Marcellino of the Abbey of Regina Laudis, in Bethlehem, Connecticut—better known as the “Cheese Nun,” who was made famous for her illicit production of raw milk cheese.⁶ Katz locates the political viability of fermentation in the margins, or the nonnormative spaces where “the people who manage to avoid succumbing to mainstream cultural currents come together. In the margins, we create and support diverse alternative cultures that express our various needs and desires.”⁷ As I consider the feminist politics of fermentation, I draw from Canadian media scholar Sarah Sharma’s work on the problematics of exit and ask, who has access to such countercultural ways of living and being in the world?⁸ How do the convergences of privilege and marginalization come to bear on how we understand fermentation as a politicized practice? And how do the present-day politics of decolonization challenge conceptions of countercultural practices predicated on the use of particular areas of land? These are questions that myself and other researchers in *Fermenting Feminism* interrogate as we think through the politics of how one can mobilize progressive practices of living—positioned as they are, in the case of researchers working on Turtle Island or so-called North America, on colonized lands.

Fermentation Is Vitalism

In *Vibrant Matter*, Bennett problematizes “the idea of matter as passive stuff, as raw, brute, or inert” and, correspondingly, “This habit of parsing the world into dull matter (it, things) and vibrant life (us, beings).”⁹ “The quarantines of matter and life,” Bennett explains, “encourage us to ignore the vitality of matter and the lively powers of material formulations, such as the way omega-3 fatty acids can alter human moods or the way

5. Katz, *Wild Fermentation*, 26.

6. Mother Noella Marcellino is a Benedictine nun with a doctorate in microbiology who lives at the Abbey of Regina Laudis in Bethlehem, Connecticut, an intentional “community of contemplative Benedictine women dedicated to the praise of God . . . through manual labor and scholarship” (Abbey of Regina de Laudis, “About”). Marcellino received widespread attention about her ongoing production of raw milk cheese, a substance that is illegal to produce in the United States. In the fourth episode of Michael Pollan’s Netflix series *Cooked*, viewers follow the captivating story of Marcellino’s particular practice of cheese production at the abbey and watch as Marcellino succeeds as a highly skilled and intuitive underdog who ultimately wins over the American health inspection agency through a combination of gustatory pleasure and empirical evidence.

7. Katz, *Wild Fermentation*, 33.

8. Sharma, “Exit and the Extensions of Man.”

9. Bennett, *Vibrant Matter*, vii.

our trash is not ‘away’ in landfills but generating lively streams of chemicals and volatile winds of methane as we speak.”¹⁰ While Bennett does not take up fermentation practices explicitly, the fermenting body is a prime example of what Bennett calls *vibrant matter*. The kombucha mother, for example, is a fleshy mass of nonhuman matter that is very much alive, transforming sugar and caffeinated tea into an effervescent tonic teeming with vitamins and acids. Similarly, ferments that can be created from a recipe—such as a ginger bug, which is made from adding cane sugar to grated organic ginger root—are vital in that they catalyze microbiological changes and biochemical reactions through fermentation: the ginger bug will, eventually, produce ginger beer.

To be sure, fermentation is a process that both begins with, and continually engenders, vital matter: matter that actively alters the world around it. In contrast to wild fermentation,¹¹ which uses these kinds of explicitly vital materials, Katz argues, is the process of pasteurization, which kills microorganisms and in effect renders the food dead.¹² Consistent with Bennett’s theory and Katz’s writings, the works in *Fermenting Feminism* trouble the tension between matter that is living and matter that is dead. In Jessica Bebenek’s autopoietic text “Something That’s Dead,” they observe, “By respecting non-human life and by allowing beings to grow and die unrestricted, we can nourish our planetary ecosystem as well as our bodies.”¹³

Fermentation is steeped in vital materialities. And yet, for a feminist understanding of fermentation, it becomes crucial to consider the biopolitics as well as the necropolitics¹⁴ of theories of vital matter from BIPOC (Black, Indigenous, People of Color) feminist perspectives. Kyla Wazana Tompkins, a former food writer and restaurant critic turned Gender Studies scholar, whose research on “racial indigestion” takes Bennett’s theses and extends them with a consideration of black histories, asks, “Does vital materialism really offer us a means, even partial, to rethink the relations between those peoples whose history once designated them as commodities, as things, and those whose bodies allowed them to claim status as human?”¹⁵ Tompkins reads Louisa May Alcott’s short story “The Candy Country” through contemporary frameworks of black feminism, queer affect, and performativity, troubling any easy recourse to “narrative(s) about the fundamental biochemical (and therefore, in the case of yeasty aliveness, affective)

10. Bennett, *Vibrant Matter*, vii.

11. Katz defines fermentation as the process of microbial transformation or “the transformative action of microorganisms.” He notes that his definition of fermentation differs from that of microbiologists, who define fermentation more specifically as anaerobic metabolism or “the production of energy without oxygen”; because there are a handful of what Katz calls *oxymoronic ferments* that require oxygen, such as vinegar, kombucha, tempeh, and certain kinds of cheeses, he opts for a different definition. Katz, “Blog.”

12. See Katz, *Wild Fermentation*, 5, 8, 54.

13. Bebenek, “Something That’s Dead,” 5–9.

14. In *On the Postcolony*, Achille Mbembe moves away from a discourse of biopolitics to one of necropolitics, extending Foucault’s focus on the social and political power used to control people’s lives to the social and political power used to control people’s deaths.

15. Tompkins, “‘Hearty and Happy and with a Lively, Yeasty Soul,’” 162.

similarities that link beings across difference.”¹⁶ Critiquing theories of vitalism such as Bennett’s, Tompkins draws attention to the distinction between those whose lives are valued *as lives*—as a consumer, “the one to live”—and those whose lives are devalued—as “the other destined to be consumed . . . to labor and die.”¹⁷ Tompkins’s and Mbembe’s work, resonant with the “Black Lives Matter” movement, reminds us that we ought not overlook the ways ongoing colonial violence and white supremacy uphold the value of some lives over others. A feminist practice of fermentation might fizz with the vitality of transnational materialities while remaining attuned to the charged valence of the very notion of life, both historically and in the present.

Fermentation Is Accessibility

One of the many concerns of intersectional feminism today is accessibility, a term that continues to be expanded and refined by the work of feminist disability scholars and crip activists such as Alison Kafer, whose work on genderqueer accessibility and gender-specific signage on washrooms eases use of public washrooms for trans and gender nonconforming people.¹⁸ For feminist scholars working in universities, accessibility could mean being cognizant of the physical needs of students in a classroom, where *accessibility* means making an environment literally able-to-be-accessed by students with physical disabilities (such as those who use a wheelchair or other mobility aid) or making pedagogical accommodations for neuro-divergent students. A feminist ethos of accessibility might also mean translating one’s more obscure, philosophical writings or conceptual artist statements into different formats and tones so that one’s work is accessible to various communities and publics, or choosing to position oneself as a public intellectual whose work is in conversation with the communities it purports to serve instead of speaking solely within the vacuum of academic institutions.

Fermentation embodies accessibility on at least two levels. Fermentation predigests matter, rendering nutrients more accessible or bioavailable to our bodies to absorb and integrate. This means that foods that might be difficult to digest for some are rendered more accessible to the body through the process of fermentation, which is in effect a form of predigestion. The philosophy of fermentation revivalism emphasizes making fermentation more approachable to more people. Katz’s method of wild fermentation, for example, underscores the simplicity of fermenting at home with limited resources: to make sauerkraut, all one needs is a vessel (like a crock or a jar), some cabbage and salt, and a place to keep the jar as it ferments, like a closet or a cupboard. Another example of wild fermentation is to leave a substance, like a jar of apple cider, out and exposed to air: the natural process of fermentation will be catalyzed by wild yeasts in the air, and apple cider vinegar will result. In contrast to canning, fermentation does

16. Tompkins, “‘Hearty and Happy and with a Lively, Yeasty Soul,’” 162.

17. Tompkins, “‘Hearty and Happy and with a Lively, Yeasty Soul,’” 162.

18. Kafer, *Feminist, Queer, Crip*, 155.

not require maintenance of strictly sterile environments and exact temperatures, and it can be done with basic knowledge and tools.¹⁹ It would be a stretch to claim that fermentation is accessible in the most thorough sense of the term,²⁰ particularly when it comes to the important nuances of disability justice and the global politics of food insecurity. However, fermentation does connote several important aspects of accessibility, including its role in the predigestion of food and its relative ease of preparation. Together these attributes are crucial to my proposition of fermentation as a generative framework for feminism.

Fermentation Is Preservation and Transformation

One of the characteristics of fermentation that first prompted me to approach it from the perspective of feminism is that it embodies both preservation and transformation—a paradox I found compelling. Fermentation’s function in preserving perishable foods explains in part why it was a pivotal process for so many of our cultural ancestors.²¹ As a microbiological process, fermentation gives rise to “alcohol, lactic acid, and acetic acid, all ‘bio-preservatives’ that retain nutrients and prevent spoilage.”²² So, while fermentation is different from preservation methods such as canning, it still has the effect of preserving beverages and foods. At the same time, alongside fermentation’s capacity to preserve is its capacity to transform: with each fermentation process, the materials change. Fermentation embodies the paradoxical cooperation between these processes of preservation and transformation that, at first, might seem antithetical.

In my experience, young feminists working in academia and related fields will at some point have to confront the tension between preserving the contributions of their feminist ancestors and transforming—in light of the current contextual needs—the histories they inherit. Such a moment of confrontation might take place in graduate school, for example, when reading the work of feminists from different eras; can I still respect and read the work of an earlier feminist theorist if I learn that she had conflicted views on transinclusion, or the inclusion of trans women and nonbinary people in self-identified feminist spaces? Do I take what she says on other issues as valid and leave aside all of the parts that are trans exclusionary? Do I throw it all away? This is a hypothetical example that I use to illustrate a point.

As a metaphor through which to reflect on feminism, fermentation embodies adaptability and change while at the same time enacting preservative functions to

19. Katz, *Wild Fermentation*, 2.

20. The more I become acquainted with the work of scholars and activists working in the field of critical disability studies, the more I am humbled by how much there is to learn about the myriad issues that are tied up in this tenuous term *accessibility*. The use of the term in the context of *Fermenting Feminism* is meant as a provocation for researchers and artists to cultivate accessibility in their work. Fournier, *Fermenting Feminism*.

21. Katz notes how archaeologists believe ancient practices of fermentation by humans, such as the fermentation of honey and water into mead, predate the cultivation of soil. Katz, *Wild Fermentation*, 13.

22. Katz, *Wild Fermentation*, 6.

prevent undesired spoilage. Some matter is preserved and other matter degrades—giving way to materials (some delicious and intoxicating, some nourishing, others dangerous) that are different from what one began with. From the perspective of *Fermenting Feminism*, feminists and allies might preserve the varied, transnational histories of feminisms past while acknowledging the need for aspects of historical feminisms to be overhauled. In this view, an ethic of *Fermenting Feminism* is one that is flexible and mutable, open and bubbling and ready to trigger transformation with the passage of time and the introduction of new materials; it is also one open to the complicated lessons of history and the potentially conflicted contributions of feminist forebears to the mix. The ethos of *Fermenting Feminism* also resists teleological views of history often assumed in certain streams of feminist discourse: the assumption, for example, that modern-day, postinternet feminisms of the 2010s are necessarily more intersectional than 1970s or 1980s feminisms, for example, or that we are necessarily moving in a more progressive direction with the passing of time.

Fermentation Is Interspecies Symbiosis and Coevolution

“Individuality by incorporation,” artist Regina de Miguel croons in her collaborative sound composition with musician Lucrecia Dalt, curated as part of the *Fermenting Feminism* book launch and listening session at the Büro BDP project space in Berlin in the summer of 2017. “You super organism, you are so vulnerable, and only recently you have discovered it,”²³ the artists continue, speaking to their human listeners who might (listening as they are late in the age of the Anthropocene) finally be attuning to their vulnerability and interdependency on other beings. As mentioned previously, fermenting bodies are often constituted by symbiotic cultures of microorganisms. The words of Dalt and de Miguel, excerpted from their collaborative electronic opera *We Are a Plot Device*, implore humans to remember that they are only an individual insofar as they incorporate others into the self. This is because, most literally, each person contains multitudes of bacteria within them and on the surface of their skin. The working methodology of *Fermenting Feminism* might prompt a fermentation of the very categories of intersectionality to include the nonhuman or more-than-human (such as bacteria, fungi, and yeast)—engendering a “symbiotic culture of feminisms” that, like a SCOBY, could transform the substances and contexts it finds itself immersed in.²⁴

Fermentation foregrounds our own otherness from ourselves in ways that might open us up to empathy and nonselfish ways of being in the world that have transformative ideological and material consequences. As demonstrated through their sound and performance, Dalt and de Miguel are attuned to the ways humans are physically, affectively, and vibrationally entwined with other beings. An understanding of fermentation

23. Dalt and de Miguel, “We Are a Plot Device.”

24. Thank you to the anonymous reviewer during this article’s peer-review process for this beautifully apt suggested phrasing.

and the microbial world makes way for an understanding of the human body as biocultural²⁵ and an awareness of the constant, cross-species permeability between inside and outside, human and nonhuman.²⁶ At the heart of fermentation processes are humans' bacterial ancestors: genetically flexible and ontologically permeable, "effective coevolutionary partners" because of their adaptability.²⁷ Foucault's biopolitics helped scholars begin to understand the ways ideology works on and through our human bodies: now, with the turns in theory toward new materialisms (speculative realism, speculative materialism, object-oriented ontology), feminist science and technology studies,²⁸ performance studies, animal studies, and critical approaches to the Anthropocene,²⁹ scholars are also considering the ways ideology affects the more-than-human.

Fermentation prompts us to tune in to other ways of being, and to change our perspective of ourselves and the world around us. As a modality through which to approach feminisms, fermentation unsettles the second-wave feminist mantra "our bodies, ourselves" in light of the trillions of microorganisms that form an integral part of our bodies. By shifting our view to the microbiological, fermentation reminds us of our inextricable relationship to ecology, and the complex interactions between our body, other bodies, and the environment. Fermentation activists are aware of the ways a food microbiome is tied to a human microbiome, and the ways these biomes are tied to capitalist consumption and production as well as countercultural practices of consumption and production that challenge capitalism's aims.

In her discussion of what she terms *microbiopolitics*, Heather Paxson states that "dissent over how to live with microorganisms reflects disagreement about how humans ought to live with one another."³⁰ Here, Paxson argues that the politics of our relationship to the microbiological world serves as a microcosm for the politics of our relationship to the macrobiological. This rings true when we consider the relationship between antibacterial imperatives and colonial histories, for example. In the geographical context of Canada, where I live as a settler on colonized, Indigenous lands, health and wellness are largely defined in ways that are hyper-sanitized: people are encouraged to use antibacterial soap and antibacterial hand sanitizer, even as research emerges on the risks that living an over-sanitized existence can wreak on one's

25. Frost, "Re-considering the Turn to Biology in Feminist Theory," 307.

26. One example here would be the microbes that live on the skin of the human body and the porousness of human skin as an absorptive boundary.

27. Fermentation reminds us of our evolutionary origins in bacteria or prokaryotes: we "coevolved" with bacteria. Katz, *The Art of Fermentation*, 10–12. See also Katz, "Fermentation as a Co-evolutionary Force."

28. Karen Barad's feminist theoretical physics is one notable example. Barad, *Meeting the Universe Halfway*.

29. This includes Haraway's take on the Chthulucene and its relationship to composting, where she makes the claim that "we are all compost, not posthuman." Haraway, "Anthropocene, Capitalocene, Plantationocene, Chthulucene," 161.

30. Paxson, "Interlude," 115–21. See also Paxson, *The Life of Cheese* and Paxson, "Post-Pasteurian Cultures: The Microbiopolitics of Raw-Milk Cheese in the United States."

immune system.³¹ The notion of being antibacterial ignores the fact that human bodies are constituted by symbiotic relationships with bacteria. As part of a feminist ethic, fermentation functions as an alternative to antibacterial imperatives—one that can acknowledge the value of antibacterial practices such as handwashing in hospitals and also be wary of a widespread, indiscriminate adoption of antibacterialism as the primary approach to being and staying well. Fermentation shakes up commonly held conceptions of health, disease prevention, and immunity by reframing how we view bacteria and other microorganisms in our shared ecosystems.

“As contamination changes world-making projects, mutual worlds—and new directions—may emerge,” Anna Tsing states in *The Mushroom at the End of the World*. “Everyone carries a history of contamination; purity is not an option.”³² Many of the researchers in *Fermenting Feminism* are wary of language such as clean food and clean living, and they resist the uncritical adoption of language of hygiene or purity when advocating ways of consuming. Fermentation allows feminists to problematize their own complicity in discourses of cleanliness and hygiene, using microbial concepts of fermentation to consider clean discourses in a larger context of colonial histories that include antibacterialism, cultural cleansing, and genocide.

In “filthglycerin,” a work by the Chilean nonbinary artist Agustine Zegers, the artist addresses colonial cultures of sanitization through the object and metaphor of dirty glycerin soap. By bringing the antibacterial soap into contact with benignly contaminating matter—dried leaves, hair, and other detritus—Zegers gives soap the possibility of becoming something else. Zegers encourages people to participate in the filthglycerin work³³—to take their own antibacterial soap and put some dirt into it—creating a counter-colonialist and counter-anthropomorphic Fluxus script. Paradoxically, when considered from the perspective that humans are “bags of microbes”³⁴—a phrase proffered by planetary geologist Catherine Neish in a conversation with artists Kelly Jazvac

31. Even mainstream food writers such as Michael Pollan recognize the medical benefits of the war on bacteria that began with Louis Pasteur while also acknowledging the sociobiological and sociopolitical problems it introduces into culture. Speaking as an American, Pollan states, “We’ve kind of gone overboard on the war on bacteria. . . . We have created what is literally an antibiotic culture.” Pollan, *Cooked*.

32. Tsing, *The Mushroom at the End of the World*, 27.

33. There are other scholarly and creative texts, such as Karin Bolender’s “R.A.W. Assmilk Soap,” featured in the anthology of multispecies ethnography *The Multispecies Salon* that extends research in feminist technoscience and multispecies studies to issues of hygiene, cleaning rituals, cross-species relationships, consumption, and ontology. Perhaps not coincidentally, Bolender’s work was published as an artist multiple book with soap by the Laboratory for Aesthetics and Ecology, which published *Fermenting Feminism* and which participated with me as a cocurator on subsequent iterations of the project in Copenhagen and Berlin. Bolender writes of hers and her donkey companion Aliass’s collaboration “R.A.W. Assmilk Soap”: “Like our bodies themselves, every bar of R.A.W. Assmilk Soap holds its own unwritten story, in the invisible traces of bodies and antibodies immersed and entangled in specific times and places.” Bolender, “R.A.W. Assmilk Soap”; Kirksey, *The Multispecies Salon*.

34. Jazvac, *Forward Contamination*.

and Christina Battle—it is the dirty soap that might be more life-affirming, not only for humans but also for the bacteria that live with us.

Fermentation Is Survival and Futurity

Underlying the question of what is life-affirming or vital is the drive to survive: to live longer, and to live well, whatever that means in a given context. Similar to its embodying both preservation and transformation, fermentation embodies survival and degradation, futurity and decay. Biodiversity is necessary to the survival and futurity of an ecosystem, including the ecosystems of our bodies. It is widely understood that the survival of our species depends upon biodiversity,³⁵ a scientific reality that many of us learned in high school biology. By the same logic, Katz proposes that the consumption of live fermented foods promotes biodiversity of microbial cultures in your body, which, in turn, promotes survival.³⁶

To approach fermentation with an awareness of its capacities for both survival and decay poses an interesting provocation for thinking about feminism's futures. Here, I think of the imperative to uplift Indigenous and 2 Spirit feminists and the complicated challenges of doing so when it comes to working within colonial institutions such as universities and art museums. During Canada's sesquicentennial celebrations in 2017, it seemed as though more Indigenous artists and writers were being given a platform than ever before, with the Liberal government belatedly pouring in funding for Indigenous art and programming. But whether such temporary moves will lead to a future in which relations between Indigenous people and the settler-colonizers who live on the colonized land are more equitable and ethical remains to be seen.

This is a problem that queer Indigenous artist Walter Kaheróton Scott takes up in his recent web-based work *XINONA*, commissioned by the National Film Board of Canada (NFB) for Canada's sesquicentennial and included in the Toronto iteration of *Fermenting Feminism*. In it, kombucha functions as a metaphor for Indigenous identity: as a symbol of hip consumption, the widely marketed tonic of kombucha serves as a cheeky metaphor for the shifting place and value of Indigenous identity in the neocolonial context of Canada. The question of the indigenization of arts and academic institutions—in contrast to the decolonization of those institutions, which would see a substantial restructuring of the very foundations of those (colonial) institutions—continues to be contested by Indigenous and non-Indigenous scholars,³⁷ and Scott creates a sci-fi allegory of an Indigenous “kombucha planet” to take this up in a parodic way. Are such Indigenizing moves around Canada's sesquicentennial celebrations being made to clear the Canadian colonial conscience? This is a question incisively posed by Scott in *XINONA*,

35. Katz, *Wild Fermentation*, 10.

36. Katz, *Wild Fermentation*, 11–12.

37. Garneau, “Migration As Territory: Performing Domain with a Non-colonial Aesthetic Attitude”; Tuck and Yang, “Decolonization Is Not a Metaphor.”

offering as it does an intervention into the problematics of present-day Canada and the perhaps well-intending but ultimately fraught efforts at inclusion.³⁸

Scott's winking juxtaposition of fermentation with contemporary Indigenous politics in Canada reminds us of the work that remains to be done in making a world that is reparative and regenerative to those who have been oppressed by colonialism—and to do so without tokenism, misappropriation, or romanticizing narratives of resilience. Scott's work expresses Eve Tuck's argument in a metaphorical way: namely, that we must resist the tendency for decolonization to become a palatable metaphor in progressive circles and instead understand decolonization quite literally—as the decolonizing of land and institutions. Decolonization is unsettling in ways that are not easily appropriated or consumed by the colonial mainstream.³⁹

Like the transformative processes of fermentation, which emphasize mutability and adaptability to specific contexts and lands, Métis artist and scholar David Garneau emphasizes the integrality of contemporary art practices to Indigenous survival and resurgence.⁴⁰ Contemporary art, Garneau writes, “is the site of cultural adaptation, of experiment, and it is the pre-figuration of change.” Arguing for what he calls a noncolonial, Indigenous aesthetic attitude, Garneau states, “My contention is that by expressing their experience and sharing their knowledge through aesthetic means, Native artists—especially performance artists—have come to modes of contemporary Indigenous being that are more inclusive, persuasive, and useful than those produced by political or traditional approaches alone.”⁴¹ As a contemporary artist who works across media to take up pressing political issues in nuanced ways, Scott's work stands as an example of the kind of practice Garneau calls for, with the work resonating on multiple levels—including the comedic and the conceptual. *XINONA* is both candid and ironic; it is a speculative world in which kombucha—this tonic steeped in complex transnational histories and now distributed as an upmarket capitalist product for beautification, self-betterment, and gut health—becomes “a sticky allegory where language goes to die.”⁴²

What preservations and transformations need to take place for us to cultivate more ethical ways of being together in the world? According to Garneau “Non-colonial, Indigenous aesthetic attitude is the refusal to see one's self as always and only a subject of colonization. It recognizes art as the name we give to those actions, objects, and spaces with which we permit ourselves to produce moments of critical creative freedom. Culture

38. In one particularly telling moment, the character *Xinona* thinks to herself: “As I am summoned from obscurity by the government to represent myself (aesthetics are propaganda by other means), suddenly I can feel the kombucha pulsing through me—I can see its amber hue running thru the veins on my hands as I type.” Scott, *XINONA*.

39. Tuck and Yang, “Decolonization Is Not a Metaphor,” 1–40.

40. As Garneau puts it in “Migration As Territory,” “Art is essential to Indigenous resurgence and we need to take it seriously as epistemology if we are to engage its inspiring potential.”

41. Garneau, “Migration As Territory.”

42. Scott, *XINONA*.

is tradition. Art is something else.”⁴³ In the time since Garneau’s words in 2017, perhaps the challenge has become to ensure that non-Indigenous consumers of Indigenous art are not perpetuating the same toxic colonial patterns of their predecessors. Steeped in the bubbling politics of life and place, *Fermenting Feminism* reminds us of the ways we might draw from tradition and learn from history while working together to transform culture in ways that are more livable and just.⁴⁴

Fermentation Is Care of the Self and Care of Others

As a process of microbiological change that embodies cross-species interdependence and nourishment, fermentation is conducive to a reconsideration of present-day feminist politics of care. The foundations for such work have been established by technoscience scholars such as Maria Puig de la Bellacasa in her groundbreaking *Matters of Care: Speculative Ethics in More Than Human Worlds*.⁴⁵ Looking to different forms of care, Puig de la Bellacasa critiques self-care for its enmeshment in neoliberal imperatives, arguing for the importance of feminist movements to develop socially focused practices that expand care from the self to the self and others.⁴⁶

Instead of patriarchal and colonial views that perceive nature, land, and humankind as infinite resources to be plundered and exploited for profit, an ethics of fermentation foregrounds care—of the self and others—alongside embodied understandings of finitude, such as those advocated for by Kaja Silverman in her discussion of feminism and motherhood to foster more ethical world-views.⁴⁷ Alongside ideas of interdependency and limits is the idea of exit or escape. “So long as the fantasy of exit prevails,” Sharma writes, “care is in crisis.”⁴⁸ Here, exit includes everything from everyday removals (for example, opting out) and retreats (for self care) to more substantial life choices like leaving mainstream society to live off the grid.⁴⁹ Sharma positions the male fantasy of exit in opposition to the historically feminized purview of care work, arguing that “exit is an exercise of patriarchal power, a privilege that occurs at the expense of cultivating and sustaining conditions of collective autonomy,” and I keep this critique in view as I think through the political potentialities of fermentation in relation to feminism. From Sharma’s critique of exit as an extension of man⁵⁰ to Tsing’s thesis on

43. Garneau, “Migration As Territory.”

44. Here I draw from Judith Butler, whose feminist theory is shaped by an ethical drive toward making more lives livable and to considering the politics of what constitutes “livability” or a livable life—and who is warranted such a life—through a feminist framework. *Fermenting Feminism* seeks to extend Butler’s theory to non-human or more-than-human lives, such as microbial life. Butler, *Undoing Gender*, 1.

45. Puig de la Bellacasa, *Matters of Care*.

46. Puig de la Bellacasa, *Matters of Care*.

47. Silverman, *Flesh of My Flesh*.

48. Sharma, “Exit and the Extensions of Man.”

49. Sharma, “Exit and the Extensions of Man.”

50. Sharma notes that women are inordinately tasked with the labors of care and interdependency while men are more readily able to exit: “The inability to exit the gendered divide demands enclosed regimes of self-care rather than collective communal care.” Sharma, “Exit and the Extensions of Man.”

contamination as collaboration⁵¹ to Sharma's and Silverman's argument for accepting finitude and limited constraint when it comes to conceptions of motherhood and maternal capacities,⁵² many contemporary intersectional feminists argue for conceptions of mutual interdependency as a way of resisting capitalist and neoliberal ideologies that privilege the self above all else.

Works like the collaborative reflection by artist S. E. Nash and scholar Stephanie Maroney, based on their time spent together at Katz's Foundation for Fermentation Fer-vour (Ffff), serve as an example of the possibilities for fermenting on the margins of capitalism without reentrenching hegemonic ideologies or exiting from the labors of care. Nash and Maroney spent three weeks in Katz's residency, which they describe as having veritably transformed their understandings of fermentation, communal living, economies, and care—all knowledges that they brought back with them and incorporated into their daily lives as queers, food activists, artists, and educators. Their daily haptic rhythms saw them caring for many different ferments and human beings: "We embraced a tactile connection to the creative activities of microbes by caring for miso, sourdough, pyment, sauerkraut, milk kefir, and many other living foods. . . . The connection of food, fermentation, people, and microbes makes room for rethinking the composition of our individual bodies and social fabric alike."⁵³ The challenge then is to not be fooled by the cultural fantasy of exit and the desire for elsewhere that Sharma warns of⁵⁴ and instead to integrate queer and feminist world-making projects (represented by such spaces as the Ffff) into existing social structures to transform the everyday in ways that are collectively affirming. Sharma herself is hesitant to write off certain countercultural exits as necessarily problematic; instead, she emphasizes the need for feminists to critically consider their own fantasies of exit and escape from intersectional perspectives—especially with a view to those who do not have the class privilege, mobility, or other forms of access (including not being tied down to dependents) to do so.

Approaching the world around us and within us through material processes and speculative metaphors of fermentation encourages us to consciously inhabit a world of mutual interdependency and finitude, in contrast to neoliberal capitalist views of infinite limits and self-directed striving. *Fermenting Feminism* queers dominant conceptions of care as well as the relationship between care work, intersectional feminisms, and community. As Belgian philosopher Isabelle Stengers states, "Poisoning is easy but nurturing is a craft, the neglect of which may be understood in relation to our vulnerability to capitalism."⁵⁵ By exiting their regular lives and living, for a brief time, in a fermentation-focused collective, where they shared space and knowledge across disciplines and

51. Tsing, *The Mushroom at the End of the World*, 27.

52. Sharma, "Exit and the Extensions of Man"; Silverman, *Flesh of My Flesh*.

53. Nash and Maroney, "Bubbling Bodies and Queer Microbes," 87.

54. Sharma, "Exit and the Extensions of Man."

55. Stengers, "Experimenting with Refrains."

experiences, Nash and Maroney were reminded of the deep importance of nurturing ourselves and others each day—and the labors therein. To neglect this work of nurturing is, as Stengers notes above, to make us even more vulnerable to the inimical ideologies of unbridled capitalism—a risk we cannot afford to take.

Fermentation Is Harm Reduction

Katz's Foundation for Fermentation Fervour is one way in which his lived practice of fermentation nourishes himself and the queer homesteading communities that he is a part of. As Katz outlines in his introduction to *Wild Fermentation*, fermentation is vital to his living a vibrant life with HIV/AIDS since his diagnosis in the 1980s. Based on the results he witnessed in his own life, Katz maintains that fermentation nourishes his body, supports his immunity, and prevents the intestinal upset that the antiretroviral drugs he takes are known to cause.⁵⁶ In this way, fermentation can be seen as making more lives livable in the sense espoused by Judith Butler,⁵⁷ while also serving as a mode of self-care and as a way of caring for others. Katz is careful to note that fermentation did not prevent him from contracting HIV/AIDS, but it has allowed him to live a more active and joyous life following the diagnosis.

Most simply, harm reduction means to reduce harm, often referring to ways of making high-risk behavior less risky: this might mean using sterile rigs through a Safe Injection Site when using injection street drugs as a drug user or using a condom. While harm reduction is most commonly associated with high-risk behaviors such as the use of injection drugs, tobacco, and alcohol, it also comprises other aspects of human existence. My experience working as a frontline mental health, addictions, and harm reduction worker at the Living Room Drop-in in Vancouver's Downtown Eastside neighborhood between 2010 and 2013 provided me with a more capacious understanding of harm reduction that exceeded the strictly clinical definitions of the term.⁵⁸ My social worker colleagues, many of whom had been working at the Drop-in since its inception in the early 1990s, told me early on that it was not wise to hope for the flashy success stories

56. In addition to making nutrients more bio-available, fermentation also produces B vitamins, probiotics, and omega-3 fatty acids. Katz, *Wild Fermentation*, 6.

57. "Sometimes, a normative conception of gender can undo one's personhood, undermining the capacity to persevere in a livable life. Other times, the experience of a normative restriction becoming undone can undo a prior conception of who one is only to inaugurate a relatively newer one that has greater livability as its aim." Butler, *Undoing Gender*, 1.

58. Researcher and social worker Vikki Reynolds, with whom I studied nonviolent crisis intervention and what Reynolds terms *vicarious trauma* in Vancouver, BC, has developed a framework of radical harm reduction that reimagines the strategies and aims of harm reduction from a perspective different from dominant clinical ones. This mode encourages "ethical frameworks and liberatory practices" that can more realistically assist at-risk groups (such as 2 Spirit and trans youth) overcome structurally entrenched barriers to access for housing, for example. Reynolds emphasizes that for those navigating cycles of poverty and addiction, harm reduction can include everything from access to housing and trauma therapy to food security and nutrition and cooking classes, arts programs, outdoor walks and hikes, and employment opportunities. Reynolds, "Case Study," 132.

that tell of people being healed or rescued from the grips of addiction and homelessness. It was more likely that harm reduction will do just that: reduce harm⁵⁹ and help make someone's life more livable through the reduction of harm in their everyday life. My colleagues did not relay this as a narrative of failure, but rather as a narrative that fundamentally challenges how we define success and what constitutes a livable, self-determined life for someone who is street-entrenched and/or choosing to use substances such as street drugs.

What struck me as I dove deeper into the world of fermentation is that the physical process of fermentation can itself function as a form of harm reduction. Quite literally, fermentation can reduce harm by making certain foods less toxic, as in the case of the cassava tubers, a staple food in Africa and Asia that “contain high levels of cyanide and are poisonous until they have undergone a soaking fermentation.”⁶⁰ While this is a very clear example of fermentation functioning as harm reduction (where the transformative action of microbes reduces the risk of poisoning or death from a given substance), there are other examples of fermentation as harm reduction: many fermentation practitioners attest to the ways in which fermentation helps them nourish themselves and cultivate ways of living that diminish harm to our bodies, to others, and to the world around us.⁶¹ Recently, I've come across Carlington Booch, a kombucha microbrewery based in Canada's capital city of Ottawa that is run by self-identified addicts and alcoholics in recovery; for them, kombucha represents a viable form of harm reduction, both biochemically—as something they consume to feel physically good—and economically—as a form of employment that keeps them active and accountable to a community.⁶²

Understanding fermentation as a practice of harm reduction resonates with a feminist politics and ethics that seeks to reduce harm and suffering across species; understanding fermentation as harm reduction also makes space for conceptions of livability that exist in the liminal spaces between being sick and being well, or being a so-called success versus being a failure (successfully overcoming an illness versus failing to heal; successfully recovering from an addiction versus failing to get sober and stay sober⁶³), and so on. Harm reduction frameworks that are informed by an ethos of

59. In their definition of harm reduction in relation to drug use, Simon Lenton and Eric Single argue “the central defining characteristic of harm reduction is that it focuses on reduction of *harm* as its *primary goal* rather than reduction of *use per se*.” Lenton and Single, “The Definition of Harm Reduction,” 213.

60. Katz, *Wild Fermentation*, 2.

61. Katz, *Wild Fermentation*, 6–7.

62. Carlington Booch co-owner Jon Ruby references his own history of addiction and his time living on the streets in Vancouver's Downtown Eastside (Fournier and Ruby, 38).

63. The politics of sobriety and intoxication in relation to the methodology and metaphor of *Fermenting Feminism* is an area I am currently exploring at more length. In the first publication of *Fermenting Feminism*, there were contributions that considered alcohol from a range of perspectives. There was a photographic essay by Bristol-based documentary food and drinks photographer Nicci Peet, for example, that documented women beer brewers—historically marginalized in the brewing scene—in England and New Zealand. Titled “Women That Ferment Together Stay Together,” Peet's contribution shed light on the larger, transnational communities

fermentation and feminism can shake up tendencies toward all-or-nothing thinking, shifting discourses away from healing toward considering individual and collective actions in terms of reducing harm—both to oneself and to others.

Fermentation Is Queer Time

To make sourdough bread, you mix flour, water, and sourdough starter in a ratio of 3:2:1. Then you let the mix rest for thirty minutes before adding in salt. This period of rest is the *autolyse*, or self-digestion, stage,⁶⁴ when the microorganisms in the sourdough starter really get to work. For the human baker, it is a kind of magical stage, especially for those used to making non-sourdough breads that involve the strenuous labor of kneading. As Jessica A. Lee puts it in her brilliant paper “Yeast Are People Too,” “The creation of a good sourdough is a symbiosis between baker and microbes” (176). Autolysing means that, instead of kneading the mix yourself, you wait for the passage of time for the naturally occurring yeast and bacteria in the sourdough starter to break down the gluten for you, and to create an acidic environment within which the sourdough will thrive. The act of waiting becomes a different kind of labor, requiring patience to allow the microbial transformations to take place on their own time.

In the fall of 2016, I attended a kombucha workshop in a refurbished warehouse loft in downtown Toronto, the fast-paced city I’d been living in as a PhD student. I assembled in a semicircle of chairs with a group of predominantly white women with seeming class privilege and a few young white and mixed-race people who, like me, looked more economically precarious with our bike helmets and grubby boots. I had been brewing kombucha for many years, but I liked to attend workshops every now and then to gain insight into new approaches to practicing and teaching fermentation. The workshop was progressing smoothly, and when we got to the step where the SCOBY is added to the tea and sugar solution, the facilitator noted that seven to fourteen days of fermentation are required for the sugar and tea solution to be transformed into kombucha. I concurred: in my experience, seven days in a fairly warm environment tended to be the minimum time that kombucha would be ready to drink. It is after seven days that the sugar and caffeine in the tea solution will have transformed into

that gather to celebrate International Women’s Collaboration Brew Day on March 8—an annual day established by the nonprofit Pink Boots Society in 2014 that occurs alongside International Women’s Day (Peet, “Women Who Ferment Together Stay Together,” 80). There are also contributions from those who identify as sober addicts and addicts in recovery, including the artist and writer Clementine Morigan—a vocal advocate and activist for sober spaces and sobriety agency in feminist and queer communities (Morigan, “Guts,” 66). It was important to me to have critical takes on intoxication cultures as well as alternative and marginalized viewpoints from within the alcohol industry as part of the dialogues in *Fermenting Feminism*, and I continue to hold this view.

64. While the most technical definition of *autolyse*, as originally defined by Raymond Calvel, is a mixture of flour and water without the starter or levain, I’ve noticed that the term is used more broadly in present-day fermentation communities to include the period when the flour, water, and levain rest after mixing before folding in the salt. Calvel, *The Taste of Bread*, 31.

the effervescent tonic known as kombucha, which contains acid esters and, some believe, has health benefits.

“Seven days? I have to wait seven days?!” one of the older women whispered loudly to her friend. “Why am I even here then?” the other woman whispered back. They were visibly upset. In that moment, perhaps ironically, I caught myself feeling impatient with the women’s impatient responses: I wondered how they thought fermentation worked, or what they understood kombucha to be—other than something you pay upward of five dollars per bottle for at a store. In contrast to fast food, fermentation is a slow food.⁶⁵ As with other trends from eating local to abiding by diets such as paleo, feminist scholars must consider the politics of access—where access to being able to eat a certain way is wrapped up in issues of class, among other factors, such as where one lives (indeed, Indigenous feminist scholars and artists like jaye simpson⁶⁶ have written extensively on the colonialist biases behind alternative food movements)—when describing a certain way of eating as superior to another.

Fermentation invokes a different rhythm of production and consumption—one that requires a reorganization of time that resists the demands of capitalism and other modes of what Jack Halberstam calls *normative time*. Normative time is the time of “family, heterosexuality, and reproduction,” while queer time refers to temporalities that emerge, “at least in part, in opposition” to these institutions.⁶⁷ Fermentation is part of queer time: temporalities that operate in counter to what Elizabeth Freeman calls *chrononormativity*.⁶⁸ I mentioned recently to some friends that I have started to make sourdough bread, to which the consensus among the group was “sourdough takes way too much time and energy, time and energy that I do not have right now.” Many of the friends I spoke to have young children, and I, in contrast, am child-free and living without dependents. I consider my capacity to fit in the tasks of maintaining the sourdough starter and preparing the dough each week to be a temporal privilege I could afford during my time as a PhD candidate primarily working from home.

Will the rhythms of fermentation be something I sustain if I get a job that has me working outside of the home for the majority of the day, or if I have children? While some might see the act of caring for ferments to be a temporal privilege, others might see it as queer family-making that exists as a legitimate alternative to more mainstream conceptions of family, parenting, and time structured by frameworks of heteronormative,

65. The slow-food movement emerged in the 1980s in response to the increased hold of fast-food culture in contexts such as North America.

66. In their spoken-word performance “Let’s Talk about White Vegan Witches,” Oji-Cree Anishinaabe Two-Spirit writer and artist jaye simpson addresses the colonialism, classism, and inaccessibility of West Coast food movements. “Let’s talk about all of the white vegan witches who are against the seal hunt, who are against indigeneity, who are against food sovereignty. Let’s talk about that,” simpson firmly pronounces, arguing for Indigenous self-determination and food justice in the context of Turtle Island.

67. Halberstam, *In a Queer Time and Place*, 1.

68. Freeman, *Time Binds*, 3.

reproductive futurism.⁶⁹ This is the premise of the video *Family Jewels*, by Chicago-based artists and partners Eleonora Edreva and Leo Williams. In the video, curated in the Copenhagen iteration of *Fermenting Feminism* at the Medical Museion in 2018, the artists configure their many starter cultures as their queer children in a way that is both humorous and movingly sincere.⁷⁰

The durational needs of fermentation are such that emotional resources such as patience as well as temporal flexibility are required to maintain a continuous kombucha brew or to keep a sourdough starter bubbly and alive. Collaboration and collective models of care—or starter coparents, as it were—might also help. According to Anna Tsing, “Collaboration means working across difference, which leads to contamination. Without collaborations we all die.”⁷¹ Through its site-responsivity and its queering of time, fermentation unsettles normative conceptions of temporality and production while raising questions about the structural ways in which advanced capitalism affords some people with much more time than others. For a feminist practice of fermentation, I ask, how can we cultivate spaces—temporal, physical, affective, conceptual—that encourage the queer rhythms of fermentation on more collective levels? How might a feminist ethic and praxis of fermentation transform capitalistic understandings of labor to make time much more equitable and accessible across differences?

Conclusion: Fermentation Is Collaboration

Fermenting Feminism encourages moving away from individualism, anthropocentrism, and categorical purity in favor of sour ferments, dirty soap, multispecies starter cultures, and feminist co-laboring. As a metaphor and material process, fermentation embodies characteristics such as accessibility, symbiosis, harm reduction, biodiversity, and care. A feminist politics of fermentation also challenges feminists to consider the often ambivalent tensions between preservation and transformation of existing cultures and structures, and to extend our considerations to the more-than-human. With the myriad transnational practices that engage with feminism and fermentation in freshly generative ways—and with the urgency of both long-standing and emergent issues related to the intersectionality of oppression—it seems as though feminism is indeed worth preserving. The many projects comprising *Fermenting Feminism*, and the cross-disciplinary communities that bubble up in proximity,⁷² represent some of the many possibilities

69. Edelman, *No Future*, 19.

70. Edreva and Williams, *Family Jewels*.

71. Tsing, *The Mushroom at the End of the World*, 28.

72. *Fermenting Feminism* takes place within much larger communities and conversations happening around feminist and queer ecologies, new feminist materialisms, microbial life, eco-futurities, and multispecies feminisms. Take, for example, the recent work on feminism and composting by Astrida Neimanis and Jennifer Mae Hamilton in their 2018 article “Composting Feminisms and Environmental Humanities” and my experimental text on autotheory and compost for the *CSPA Quarterly* special issue “Recipes for Ecological Revolts” (Fournier, “Sustainable Secrets”). Another example of concurrent conversations around microbes and material digestive practices in the context of contemporary feminist research and practice includes experimental feminist work on multispecies organizing and extra-discursive practices that extends Haraway’s more speculative research in

for cultivating ethical ways of being together on the multispecies, neocolonial lands on which we exist. I continue to cross paths with artists and others engaging fermentation in ways resonant with intersectional feminist politics. I think of Sha Agbayani's work on fermentation as a practice for resisting settler colonialisms, for example, through the perspective of Phillipinx life as a "Bacteria Bruxa," or Jessica B Johns's convincing description of the kombucha SCOBY as an allegory for what treaty relationships are supposed to look like in so-called Canada. I also think of Tiffany Jaeyeon Shin's work with the Korean Natural Farming technique of JADAM to insert lactic acid into soil in a gallery in Brooklyn as a way of countering the troubling finding that "immigrants lose their native gastrointestinal microbes within six to nine months of arriving in the United States."⁷³ The fizziness and explosive possibilities of fermentation both energize and challenge transnational feminisms to conceive of languages, frameworks, experiments, and practices for living (and dying) that are expansive enough for the human and the more-than-human in all their complexity—including but not limited to the microbial world.

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Acknowledgments

I presented a version of this article as a keynote address at McGill University's Institute for Gender, Sexuality, and Feminist Studies inaugural "Leavening the Conversation: Intersections of Food, Fermentation, and Feminism" conference in Montreal in 2017. In 2016, I was invited to present an earlier iteration of this article as a lecture in the Sex Salon Series at the Mark S. Bonham Centre for Sexual Diversity Studies, University of Toronto, where I received generous feedback. I am also grateful to Dr. Astrida Neimanis and the anonymous reviewers for their supportive encouragement and insightful comments during the review and editorial process. I also would like to thank my collaborators Sean Nash and the Laboratory for Aesthetics and Ecology. This research was made possible by the Social Sciences and Humanities Research Council of Canada.

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Staying with the Trouble, such as the 2019 conference "Multispecies Storytelling in Intermedial Practices," coorganized by *Fermenting Feminism* collaborator Ida Bencke of the Laboratory for Aesthetics and Ecology through the Centre for Intermedial and Multimodal Studies at Linneaus University in Sweden.

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