Against healthist fermentation: Problematizing the ‘good’ of gut health and ferments

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Abstract

Despite its history, fermentation is currently celebrated as both a food and health intervention. In the context of healthist discourses, fermentation is no exception to the sticky reaches of singular food truths: eat this, not that, because “it’s good for you[r gut].” However, the mandate to eat fermented or probiotic foods requires time, know-how, and material resources that are not accessible to all who eat. This framing of fermentation also fails to account for the multiplicity of health needs and ignores other barriers to food/health access. By privileging self-reliance (e.g. “I don’t buy bread; I bake my own”) and control (over one’s body, over microbial life), fermentation practices enable a culinary stance of moral superiority, which reinforce a healthist paradigm that it claims to subvert. This paper examines healthist fermentation, or pursuing fermentation in the name of gut health, to problematize assumptions about choice and control in fermentation contexts. It argues that health is not a fixed state but rather enacted with more-than-human agencies and (re)negotiated at every eating event. Using a combination of approaches from critical food studies, feminist theories, and communication studies, this paper analyzes fermentation as a way to reimagine health as being co-constructed with other scales of life.

Introduction

This paper examines the baseline assumptions around fermentation particularly when it is practiced as a food or health intervention because they fuel reductionist and universalist ideas about health. This form of fermentation praxis—what I am calling *healthist fermentation*—departs from the historical necessity of preserving nutrients that would otherwise spoil and, instead, focuses on the added-value that fermentation confers to foods, such as improved digestibility or a more ‘authentic’ taste or ‘cooking’ method. By seeking ferments for their essentialized traits, healthist fermentation continues to support narrow definitions of what is nutritious, healthy, and ‘good’ and, as a result, can limit our understanding of how health is co-constructed with others.

Healthism, as defined by Robert Crawford (1980), frames health as being attainable through changes in lifestyle choices and positions personal health as a primary mode of achieving wellness. A similar fixation

on health can be seen in the current hype surrounding fermentation, fermented foods, and gut health. For example, probiotics like Bio-K+® have been institutionally prescribed to combat hospital-acquired *Clostridium difficile* infections while also being commercially available at drug stores in Quebec (Bio-K+®, About us, 2019). In a recent article about food cravings, the Bio-K+® blog explains the scientific research that correlates gut flora and appetite, hinting at the promising future of probiotics: “efforts are now going to be looking at ways to over-ride these unhealthy urges by altering the gut microbiome with beneficial supplementation and proper food recommendations. The good news is, *it won’t take you years or even months to regain control of your cravings*” (Bio-K+®, 2018, emphasis added). While a surface reading of this article could accept it as a piece of soft marketing, the ideological underpinnings of this messaging point to problematic ideas of health: first, that cravings are categorically labeled as ‘unhealthy

urges' because they fall outside the scope of human control; second, that longstanding failure to control one's cravings is something to 'regain,' overcome, and instantaneously fix; and, third, that supplementation is believed to be universally beneficial when it can just as easily upset homeostatic balance. By positioning probiotics as an intervention—one that can be prescribed or purchased—health is framed in terms of supplementation with particular microbial strains or, in this case, commercial products carrying those strains. Reducing probiotics to a function perpetuates the formulaic 'checklist approach' to health and renders fermentation a 'food-based' and 'natural' tool to be used to attain health.

While the Bio-K+® narrative is problematic in its own right, the greater hype surrounding fermentation and gut health reinforce the twin myths of control and choice as determinants of health. Sources of fermentation knowledge range from medical professionals to media influencers who use their expertise or ratings to validate ferments as food that is 'good' and 'healthy,' echoing the ideas of reductive nutritionism articulated by Gyorgy Scrinis (2015). These voices highlight the need for the 'right' bacteria in one's diet, which are the presumed answer to the combined failure of poor control (over one's cravings, over one's diet, over one's microbiome) and its concomitant negative health outcomes. Especially in a neoliberal and capitalistic context, these voices assume that all people have equal opportunity and willpower to attain health as if executable, absolute, or guaranteed. The presumption of choice and (self) control even reaches the point where some gut researchers insist on individual agency to change their microbiomes *because of*, not in spite of, the biological determinism of genomes: "Since there is much we can do to shape the environment within our guts, we have control over our microbiota and can compensate for the lack of control we have over our human genome" (Sonnenburg and Sonnenburg, 2015, p. 209). However, by upholding the myths of choice and control, healthism ignores the structural and interpersonal barriers of race, class, gender, and other forms of embodied difference, thereby exacerbating existing inequalities.

I follow the critique of Metzl and Kirkland (2010) in that "'health' is a term replete with value judgments, hierarchies, and blind assumptions that speak as much about power and privilege as they do about well-being" (p. 1-2). In particular, I challenge the notion that fermentation is an unproblematic good, to shed light

on the "set of moral assumptions that are allowed to fly stealthily under the radar" (p. 2) in the context of fermentation practices. While my argument is situated in the North American foodscape/mediascape¹, it may not necessarily be contained within the geographic confines of North America proper. That said, what spills over from different regional contexts may actually indicate the spread and reach of ideological influence. Additionally, I critique both commercially available ferments as well as the individual practices of fermentation because they operate from the same anthropocentric origin of viewing the microbe as an entity to expend.

Using a combination of approaches from critical food studies, feminist thought, and communication studies, this paper will first explain fermentation as a food intervention and a health intervention before critically examining its consequences when practiced in pursuit of healthism. Included in this discussion is a critical analysis of the figure of a DIY Fermenter, or one who chooses to make and do fermentation themselves instead of relying on institutional, professional, or industrial bodies. Rounding out the discussion is a proposal to move away from healthist fermentation, namely through the consideration of relationality and working with microbes to co-construct health. Given the interdisciplinary nature of food studies and critical dietetics, this paper draws upon multiple sets of literatures, including the life sciences, social sciences, humanities, and mass media. Although this may seem jarring or disparate, they are meant to be compounding because medical concerns are intricately tied in with social struggles, ideological issues, and current affairs.² Intentionally weaving these concerns stems from the inherent complexity of food as well as our bodies, which, taken together, call for the foregrounding of intersectionality, interdependency, and multiplicity instead of universalism, autonomy, and singularity. With this in mind, I take seriously Metzl and Kirkland's salient reminder that "our own health depends in part on our value judgments about others" (p. 2), and it is in this spirit that I hope the following analyses will help counter the hegemony of an overinflated Self as seen in anthropocentric thought. I aim to problematize how fermentation is discussed and practiced, with the

1 Appadurai (1990) describes five -scapes (of which mediascape is one) in order to chart the interrelated flow of materials/ideas on a global scale. Freidberg (2010) defines foodscape as "the actual sites where we find food."

2 See Annemarie Mol's work on the composite (2016), in which disparate worlds (of agriculture, cuisine, nutrition, and sensuousness) 'hang together' in a foodstuff (she takes up the French dessert *clafoutis*).

hopes that it might lead to a more nuanced rendering of how people, foods, and microbes can together to enact health.

Fermentation:

From a Necessity to a Choice Intervention

Fermentation is a process of transformation, both materially and symbolically, due to the work of microbes such as bacteria, molds, and yeasts. Throughout history and across geographic regions, fermentation has been a common method of food preservation when seasonal harvests yielded abundant ingredients; in turn, the resulting ferment would secure nutrients for times of dearth (Steinkraus, 2002). For many societies, fermenting food was coupled with composting so that soil biomes could be propagated for future seed sowing. Some of the earliest instances of fermented foods include Roman garums, Egyptian beers, and rice wines, often thought to confer spiritual and/or medicinal benefits (Mouritsen et. al, 2017; Armelagos, 2000; Terada, 2007). Preparing ferments built a sense of community and ritualized practice (di Schino, 2011), while their consumption helped inform in-group and out-group identities at national scales (e.g., we/they are the people who eat these/those foods). In this sense, fermentation simultaneously supported multiple forms of health, not just biochemical compounds that optimized one's physiology.

Despite its history, fermentation is currently celebrated as an intervention to subvert the industrial food system and the industrial health complex. Eric Holt Giménez and Annie Shattuck refer to the current food system (since the 1980s) as the "corporate food regime," which operates in the neoliberal mindset of economic liberalism, free-market forces, and monopoly-driven enterprises (2011, p. 115). Whereas the corporate food regime saturates the market with identical, refined, and processed commodities, fermentation allows for diverse flavors and preparations on the consumers' terms. In other words, fermentation allows the neoliberal subject to reclaim what has been taken away from them via industrialization, including nutrients, taste, or even social status.

One might also see a similar reclamation in the way that fermentation can combat the medical system. Where conventional medicine falls short, ferments are praised for their elixir-like qualities, dating as far back as the early 20th century with Russian scientist Élie Metchnikoff who theorized that proactively consuming lactic acid

bacteria could neutralize toxins in the gut and delay aging (Gilbert et al., 2012; see for instance Vandenbergh, 1993, p.232 and del Rio et al., 2014, on the use of lactic acid bacteria as an oral tuberculosis vaccine). In more recent examples, personal testimony evokes the idea of holistic health, both in the sense of mind-and-body and in an ecological sense. GT Kombucha, one of the earlier kombucha enterprises that started in California, infuses his beverage designs with the spiritualism of what founder GT Dave calls "an Eastern spiritual perspective" after having spent childhood visits at ashrams in India, consulting the blessings of a holy man to cure family ailments (Dave, n.d.). The founder's mother, Laraine Dave, believes that her cancer was cured because of the beverage, citing its ability to "turbo-boost" the immune system (Foster, 20 March 2015). Other brands and blogs tout kombucha's ability to improve inefficient digestion, thereby mitigating the ecological footprint on the planet's edible resources because it curbs appetite (Crum and Lagory, 22 April 2011).³

As both a food intervention and a health intervention, fermentation sets up the causal relation that 'eating ferments' leads to 'better status' physiologically, socially, or economically, making it an uncontested good to pursue. This relationship gains momentum with each enunciation by medical professionals and food influencers, who expound upon ferments' benefits such as bioavailable nutrients and improved digestibility. In the case of sourdough bread, longer fermenting times help Lactobacilli degrade wheat gluten, minimizing discomfort in non-Celiac gluten sensitivity (NCGS). Both kimchi and sauerkraut have considerable amounts of bioavailable iron because the bacteria that help preserve these ferments also produce ascorbic acid. Although vegan sources of vitamin B₁₂ are few, fermenting with the bacterium *Propionibacterium freudenreichii* may provide a new way to produce B₁₂ on a non-animal growth medium, such as fava beans or grains. Each of these ferments serves a nutritional function to the eater. What I am calling healthist fermentation refers to this myopic view of ferments as a functional food or tool, capable of delivering specific nutrients or metabolites, including their preparation and consumption, for the explicit purposes of supplementing one's physiological makeup.

3 Presumably, one might pursue fermentation only for the ludic pleasure of taste. But, even then, the resources required to make the ferment (e.g. time, ingredients, equipment) may indicate affluence, privilege, and the freedom to choose to ferment.

As an intervention, healthist fermentation is seen as a site of personal activism for *doing something* about a food/medical system that is perceived to be broken. It places agency back on the individual subject, especially those who can afford to participate in these seemingly subversive behaviors. It is precisely this emphasis on doing (or, the “do” in do-it-yourself directives) that mobilize those who are most able.

A Closer Look at the Twin Myths of Healthist Fermentation: Choice and Control

In the context of healthism, fermentation is no exception to the sticky reaches of prescriptive food claims: eat this, not that because, as the logic goes, ‘it’s good for you[r gut].’ Often, these claims have been decontextualized, epitomizing what Alissa Overend (2018) calls “singular food truths”, which deliberately promote “a misguided, one-dimensional understanding” of foods’ complexity, such that “there are no static or intrinsic truths to a food’s

healthfulness” but are rather dependent on circumstance and context. Backed by the legitimacy of science and testimony, current narratives oversimplify fermentation into dualistic terms, mobilizing binaries such as good/bad bacteria and objective/subjective (food) knowledge to selectively promote a healthist agenda. These messages reveal a metanarrative that casts microbes for their utility *in relation to the human eater*—that is, the essentialized microbe is either fed or eliminated for the purposes of human health.⁴ For instance, as E. Melanie Dupuis notes, the yogurt brand Dannon changed the scientific name of probiotic species *Bifidobacterium lactis* DN-173-010 to “Bifidus Regularis” in order to emphasize the purported health outcomes to be expected after intake (2015, p. 142). This rebranding subtly advertises regular bowel movements when the yogurt is consumed

4 In a Google N-gram of the terms ‘probiotics’ and ‘prebiotics’, both terms have similar increases in usage in the late 20th century, but the latter term delayed by about twenty years. Perhaps this lag can be explained by the initial fixation on the probiotics as a model intervention, only to recognize that probiotics’ effectiveness is dependent on its feed (i.e., prebiotics).

Figure 1: “Daughter Tells Mom To Try It” Television Commercial by The Dannon Company, Inc., aired on August 20, 2006, 8:41AM. Source: U.S. Federal Trade Commission, File number: 0823158.

(see Figure 1). In 2009, Dannon Company was sued for “deceptive claims” and “exaggerated health benefits” because the efficacy of their Bifidus Regularis strains could not be substantiated by human clinical trials (FTC, 4 February 2011). While the case of Dannon yogurt might be an extreme case of a singular food truth, similar messages permeate health communications and cast microbes for their utility and function.

While it may be easy to think of ‘friendly bacteria’ as being helpful and ‘bad bacteria’ as pathogenic, these good/bad labels are not fixed. They depend on context⁵ These categorizations set up the mistaken notion that we-humans can control microbes (we cannot) and renders fermentative food practices as being formulaic:

“right” bacteria	→	“right” food
“right” food	→	“right” eating
eating “right”	→	health

Following this syllogism, then, maximizing the intake of the ‘right’ bacteria makes for optimal health. However, a number of counter-examples come to mind. First, the intake of probiotics does not guarantee that the bacteria will reach the intestines. They may die along the way due to the acidity of the stomach, unless covered in a protective coating or in a fat-based micelle (Shori, 2017). Or, in the case of probiotic drinks in East Asia (e.g. Yakult), which have recently gained popularity in North American markets, certain ingredients that make the beverage more marketable can actually threaten the viability of the live, active cultures. Their use of sugar alcohols (i.e., polyols) may make the product cheaper or more palatable, but sugar alcohols can also compromise the desired bacteria (Rapaille et al., 2003). Even when ferments are not consumed for their live, active cultures, they are sometimes consumed for their metabolites or particular enzymes. Wine consumption, for instance, is often promoted for resveratrol, cited to be ‘good’ for anti-aging. However, the yeasts that produce this compound also produce sulfates as a secondary metabolite, which is associated with headaches or other irritations. Each of these examples contain contradictions of good/bad outcomes from consuming a single ferment: drinking the ‘right’ drink does not guarantee intestinal delivery, drinking the ‘right’ drink may also contain ingredients that kill the ‘right’ bacteria, or drinking the ‘right’ drink contains the ‘wrong’ by-product. These contradictions

evinced the reductionist thinking that health can be attained in a piece-meal fashion, following what Jessica and Allison Hayes-Conroy’s critique as “*reductionist* understandings of nourishment,” privileging “universal metrics — calories, nutrients, and so on — redefining ‘food’ (at least for health purposes) to be the sum of these standard parts” (2013, p. 1, original emphasis). Health is not—and cannot become—a checklist of nutrients.

This framing of fermentation fails to account for the multiplicity of health needs, ignoring the structural barriers to food/health access, even exacerbating the medicalizing and consumerist logic that fuels probiotic or fermented food industries. Concurrently, the value of incorporating fermented foods into one’s diet seem tautological or self-evident, referring to the historical legacy of fermentation practices as a façade for validity (*it works*) and reliability (*it’s been working*). Although many cookbooks, blogs, and periodicals are quick to list various ferments, their recipes, their countries of origin, and the curative compound it may contain, few elaborate on the time, know-how, space, and materials required to prepare these foods. Time considerations are noteworthy because the justification to industrialize many foodstuffs was in speeding up and making consistent the fermentation process (e.g. bread, coffee, cheese, miso).⁶

Thus, fermentation mobilizes the privileged subject to take matters of food literally back into their hands and reorient agency back into their body, *but only those who can afford to do so*. This follows what Kate Cairns and Josée Johnston (2015) have termed the “do-diet” in its ability to rephrase restrictive dietary advice into positive choices (e.g. “Do eat smart after dark”). Similarly, it seems that healthist fermentation focuses on the positive benefits of choosing ferments, the extreme case of which is do-it-yourself fermentation discussed in the next section.

By framing health as a voluntary endeavor, ability elides with morality where rule-abiding can quickly slip into rule-enforcing. As Charlotte Biltekoff (2013) reminds us, “nutrition is not only an empirical set of rules, but also a system of moral measures” (p. 180). This moral system tends to conflate individual health outcomes with public health objectives, that to attain membership in healthy

5 Consider the bacteria *Lactobacillus delbrueckii*. They are hailed as ‘friendly’ and ‘health-affirming’ when found in probiotic yogurts; however, they are considered ‘bad’ in beer production and pathogenic in instances of urinary tract infections (UTI)..

6 Here, one might recall the concept of “gastro-anomie” put forth by Claude Fischler (1979) in which a departure from ‘traditional’ ferments to industrialized ones reflects an alienating shift from fermenting-out-of-necessity to fermenting-as-choice.

communities means that one must achieve moral *and physiological* uprightness (see also LeBesco, 2010). Deborah Lupton (1999) notes a historical shift at the end of the 19th century, when the individualistic humoral model of health (e.g. blood, yellow bile) was replaced by dietary guidelines meant to surveil and regulate diet at the population level, “as bodies became recognized as productive machines, vital to the military and economic interests of the state” (p.72). The language used in these guidelines (and that of nutrition science, in general), “draws upon moral sub-texts around bodily discipline and the importance of self-control” (p.74). The observations of Geneviève Rail and Natalie Beausoleil (2003) echo that of Lupton and Billekoff that “the desire to achieve health has become a new form of corporeal (self) control and guilt has become intimately tied to an individual’s failure to achieve it.” Subsequently, the stance of moral superiority perpetuates its corollary: that to *not* have stellar health is to have somehow failed on the level of personhood (versus acknowledging structural barriers and actively dismantling them), without any regard to the differences, both embodied and imposed. Indeed, as Richard Wilk (2001) notes, “moral pronouncements about consumption are inevitable, but not that they are arbitrary; on the contrary, they are highly patterned,” often deployed to justify or rationalize class differences or social inequalities (p.250). Fermentation’s shift from necessity towards choice reflects a certain social mobility and class privilege, asymptotic to the power and status conferred to “omnivorous” foodies (Johnston and Bauman, 2010) or by gaining culinary capital (Naccarato and LeBesco, 2012). Both concepts build on Bourdieu’s notion of distinction (1979), such that taste (attitudes) and food practices (behaviors) can both uphold and disrupt class-based hierarchies. They can also conceal the privilege and capital required to partake in such culinary practices and keep them firmly rooted as ‘benign’ practices.

In the next section, I take up the character of the DIY Fermenter as a heuristic to better unravel the power relations and agency in which this archetype participates. In so doing, I hope to show that even the seemingly counter-hegemonic behaviors of DIY Fermenters strengthen the very system it tries to disrupt.

A Closer Look at the DIY Fermenter

Unlike the commercialization and mass production of food commodities, fermentation champions the do-it-yourself (DIY) ethos, the populist spirit of sharing, and

the handmade care that goes into small-scale, or ‘craft’ production.⁷ DIY Fermenters situate their practice as a way to counter normative food practices (such as buying) with making their own; in so doing, they conflate the poor choices of purchasing with the poor health outcomes of a food. Even foodwriters report the commercially leavened breads at the market to be fake and suggest DIY fermentation as its solution: “How can you avoid this sourfaux? You can check the ingredients, of course [...]. Or, you could just make it yourself” (Daoust, 2018). Here, personal action—and the required to take it—epitomizes individual merit and overcoming food, health, or taste barriers. Thus, by privileging self-reliance (*I don’t buy bread; I bake my own*), the DIY Fermenter can claim culinary and moral superiority, which is based on the flawed assumption of universal agency and meritocracy. This assumption enables the privilege of choice “to stealthily fly under the radar” while contradicting its façade of positive action, reinforcing a healthist paradigm that it claims to subvert. This seemingly contradictory outcome can be seen in the argument of Hayes-Conroy and Blankenship (2017) on capitalist coasting. The authors use archetypes of the flâneur, hot-rodder, and slow food activist to examine how each archetype carries “privileged mobility,” or effortless social positioning due to an unearned advantage (p. 191). How they cope with capitalism produces both reinforcing and resistant structures for/against capitalism. For instance, the slow food activist, defined as “someone who recognizes the transformative power of local culinary adventures,” who “takes the time to eat ‘right,’” ensures that no harm is done by their food choices but, in so doing, reinforces the requirement of consumer citizenship (p. 188). The DIY Fermenter could be considered a similar archetype in that the fermenter resists commercially processed or mass-produced foods; but, in so doing, they also reinstate the neoliberal myth that one can make/do/eat their way out of capitalistic confines.

In addition to reinforcing the system that it tries to reject, two additional unintended consequences emerge around the DIY Fermenter: one is engaging with subjugated knowledges unreflexively, and the other is perpetuating an explicitly anthropocentric approach to health.

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7 See the work of Wilkinson-Weber and DeNicola (2016) on the problematic use of the term ‘craft’, particularly around who is granted access to the world of craft production and who benefits economically from participating.

Implied in the DIY Fermenters' behaviors is the desire for 'returning to' a kind of fermentation praxis from a pre-commercial food era, which itself assumes that there once was a time of 'rightful' eating from which we have erroneously departed. This may appear in a return to analog techniques (i.e., handmade), a return to using old (i.e., pre-industrial) ingredients, or even a return to original or 'authentic' contexts to prepare and consume a ferment (i.e., 'local'; see also Dupuis and Goodman, 2005). Perhaps most dangerous in the evocation of "returning to" is the nostalgia towards a bucolic but imaginary past, one that overlooks legacies of resource extraction. According to Julie Guthman (2008), alternative food practices tend to romanticize agrarianism, which erases the explicitly racist ways in which land has been distributed historically. The resulting color-blindness creates a double violence whereby the history of racist oppression is erased and this erasure reinforces white privilege.

Furthermore, the valorization of the (often colored, gendered) labor dismisses the longstanding structural barriers, exploitation, and histories of oppression of those who prepare ferments out of obligation. Although the DIY Fermenter positions their foodmaking as being a gesture of health, of care, or even distinction, their practices depart from the necessity or expectation of having to prepare ferments, sometimes daily, for hungry families. While I do not mean to imply that DIY practices trivialize the lived experiences of these foodmakers, I become weary when the recipes and know-how from these foodmakers are decontextualized (often by the privileged or, to borrow a phrase from Lisa Heldke, by food adventurers) and subsequently used for commercial gain, without acknowledgement or remuneration. Heldke elaborates on the dangers associated with seeing Others as a resource, like when their cuisines become commodifiable for the food adventurer to consume: "we objectify the Other, in order that we may use them and their possessions (literal and figurative) to enhance our own lives—economically, culturally, socially. For in the end, it is about *us*. The Other is interesting and important insofar as he or she serves to illuminate *me*, to render my life in the world more authentic" (2003, p.48, original emphasis).⁸ When the DIY Fermenter

attends (or worse, hosts) a fermentation workshop, I am left to wonder whose knowledge is capitalized upon, to what ends, and to whose benefit? When the DIY Fermenter doles out knowledge with impunity (as if it is theirs to authenticate), questions of ownership and ethical transfers problematize the power relations of who is speaking for whom (Alcoff, 1991). At the same time, providing 'traditional' or historically rooted fermenters with platforms to share their expertise can risk tokenizing them because they embody both their social differences and distinct knowledges.

Given the current revival of fermentation in popular culture, the circulation of fermentation know-how provides fruitful ground for questioning whose knowledge is being validated and whose is silenced. In an attempt to show whose expertise is more valid, the cacophony of expert voices ends up amplifying discourses around authenticity, exoticism, and the politics of alterity. When food adventurers extract and abstract subjugated knowledges, the encounter is framed as 'exchanges' and 'substitutions.' These instances of decontextualization permit those with the most social mobility the loudest platform while also circumventing the social and ethical accountability that ought to come when encountering Others. Perhaps the DIY Fermenter's attempts to commodify Others' fermentation cultures stems from what bell hooks (1992) terms "eating the Other," such that the "over-riding fear is that cultural, ethnic, and racial differences will be continually commodified and offered up as new dishes to enhance the white palate—that the Other will be eaten, consumed, and forgotten" (p. 39). But it is precisely this kind of excitement and 'spicing up' that can be found in the current hype of fermentation. Commodifying the fermentation cultures of Others allows for difference and foreignness to be overlooked because their health benefits are foregrounded, but overlooked in a way that renders embodied difference (and its attendant social relations) to remain hidden.⁹

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else's religious beliefs, or buying their archaeological treasures, or perhaps even playing their instruments, we tend to see as just food—not the sort of thing that needs protecting, or that can be harmed in any way by someone else eating it or cooking it. We don't need to overcome any compunctions about eating the food of the Other, because, where food is concerned, no compunctions exist [...]. Given these connections, it is possible for the glib borrowing of foods engaged in by food colonizers to constitute a form of injury to another culture" (2003, 45-46, original emphasis).

8 Heldke's argument is worth quoting in full, for she makes clear the blind assumptions we have about food, food's availability, and Other's foods that are available for the colonizers' taking: "[W]e tend to see food as the sort of thing one would always have access to, as a matter of course. Who would ever wonder if they have the right to eat another culture's cuisine, for heaven's sake? While we might think twice before trying on someone

9 Admittedly, not all cross-cultural fermentation ventures take advantage of otherness. Consider Japanese koji production in fine-dining restaurants of Copenhagen (Redzepi and Zilbur, 2018), kimchi introduced to Le Cordon Bleu schools in France as

I do not mean to suggest that all DIY Fermenters participate in these problems out of malicious intent or hidden agendas. (Just as well, I recognize my own complicity in pursuing ferments for the sake of better health.) However, what I aim to call attention to is a more reflexive consideration of relationality with other species or, to phrase differently, to attend to collective consequences of individualist pursuits of health. In the final section, I examine relationality with microbial species in order to reimagine health as being co-constructed with other scales of life.

Moving Away from Healthist Fermentation

As I have argued thus far, the prescription of ferments sets up an impossible (and therefore insidious) conundrum: achieve health through full control, when control can never be absolute. Although healthist fermentation ideologies may lead us to believe that we can control microbes and commandeer them at will, microbial resistance is a sobering reality that is already underway (e.g. antibiotic resistance). Many of us may not readily think of the human-microbe relationship, but healthist fermentation frames this relationship on asymmetrical terms by casting the microbe as a resource to accumulate, consume, and dispose. These messages capitalize on the invisibility of both the microbes themselves (e.g. how do we know that microbes are in the ferment?) as well as their effects inside the intestines (e.g. how do we know that the microbes are active inside the body?), often relying on the affective pull of testimony (*I feel better!*) and/or the deductive reasoning of science (*This is "Truth"*) as evidence for making fermentation an imperative. In other words, the merit of ferments relies on reductionism (*this works because of X*) and categorization (*these work, not those*) for their messaging to catalyze the social politics of moral one-upmanship.

Healthist fermentation suggests that health is a fixed destination at which one can arrive only if having eaten 'right'. Much of that agency is oriented in the individual human who can exercise power over food and microbe to prepare ferments. Yet, ferments remain dynamic and unpredictable, largely because of the liveliness of microbial life and their susceptibility to ambient environments. As E. Melanie Dupuis writes: "fermentation will always be dangerous because it troubles, with its messy dynamism,

the ingestive imaginary of freedom as choice and control" (2015, p. 143). To put simply, ferments cannot be made by will and ingredients alone; fermentation requires working *with*—not *on*—microbial life.

Fermentation decenters the human from loci of power—of which healthism is centrally a part—because of a necessary encounter with microbial life. Helpful here is the work of evolutionary biologist Lynn Margulis (1998), who reorients human positionality neither as the top nor center of a food web. She rejects the Darwinian understanding that Man is the most evolved species and argues that such reductionist thinking is "as dangerous as it is prevalent" (p. 56). Building on Margulis' work, Myra Hird (2009) takes this notion further by outlining a microontology for (microbial) life because they are philosophically relegated to a lesser status when they fail to be 'big like us.' We may not always think of microbes, but microbes are omnipresent, as they are inside, on, and around us at all times. Some are along for the ride, some may even help us, but others can kill. It matters how we describe these (often imperceptible) relationships because the latest research indicates that the body contains a ratio of human cells to microbial cells on the order of 1:1, making us just as microbial as we are human (Sender et.al, 2016). Fermentation can show us the hidden relations that are invisible yet tie us together: we are literally composed and decomposed by microbial life who, in turn, transform our food, our bodies, and our environments at scales that we cannot easily see. Anthropocentrism can blind us to the other relations that keep us tethered and accountable because it places us in a presumed position of power.

Despite what western neoliberalism would have us believe, we have never been individuals (Gilbert et al., 2012; Heldke, 2018; Bates, 2005; Kelley, 2016; see also Alexis Shotwell, 2016), and to continue believing in our individualist, humanist purity and sanctity will only stick our heads further into the proverbial sands. Karen Barad (2007) proposes the idea of entanglements to capture the deeply connected ways in which entities, like threads, are tangled up with one another without one entity (like language) over-determining all of the others in such an entanglement.¹⁰ What does it mean to embody others? What are the responsibilities that ought to come with embodying others and their knowledges? Or, specific to this discussion: How do we engage with these others

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a form of gastrodiploacy (Kim, 2012), or the Bulgarian yogurt industry in Japan (Yotova, 2013). While these instances are not completely non-innocent, some level of consent and institutional agreements enabled them to happen as a starting point for considering what ethical exchange could look like.

¹⁰ Perhaps the term "probiotic" is problematic in its own right because it positions the mankind in vertical relation to the microbes at His disposal

whom we cannot easily see or sense? Barad argues that these relations do not encompass “a static relationality but a doing—the enactment of boundaries—that always entails constitutive exclusions and therefore requisite questions of accountability” (Barad, 2003, p. 803). To embody others means to consider their needs in addition to our own. What kinds of health could be enacted if we shifted the question from “What *should* I eat?” to “What needs to be eaten?” Or, “What needs to be fed?” This passivity in voice is not one of defeat or restraint. It is expanding the boundaries of what constitutes our very beings as always already entangled with others (Hey, 2019). Our collective well-being is at stake, including (but certainly not limited to) the environments we share in the face of climate change or the bodies we inhabit when homeostasis run amok. Not only can we include others’ concerns into our own ethical purview; we can shift our relations with others so that our concerns are shared, aligned, and connected.¹¹

At a time when many of us are acutely attending to questions of multispecies thriving and sustainable eating practices, this notion of power and accountability is particularly salient. Microbes are ubiquitous workers, remediating our wastewaters, producing insulin, fixing nitrogen in our soils, let alone regulating our moods, immune systems, and vitamin K production. Consider the latest in taste innovation where yeasts are deployed as molecular factories to produce leghemoglobin, the ‘bloody’ tasting compound of the Impossible Burger, a soy-based bean patty made to taste like animal without the guilt that accompanies its flesh. And, as more of these interventions point to the invisible labor of microbial life, we must approach the human-microbe relationships first with the question of agency: how can we perform humanity in a way that holds us more accountable to (microbial) others, so that we do not take our inflated sense of self for granted? We ought to care because microbes can live (and have lived) without us, when the reverse is not true. Interspecies relationality is not just a utopic ideal; concepts such as companion species (Haraway, 2003) and collaborative contaminations (Tsing, 2015) are dire calls to reconsider how we occupy and resist the Anthropocene, which is a call that food studies, perhaps especially, should heed (see also Kirksey, 2018). Thinking of health as an emergent practice or performance (as opposed to a fixed state or being)

may help us revise how we live (and eat) with others. Symbiosis is never a guarantee—but one that is actively and reflexively examined by how we tread this planet and treat all species (including our own) responsibly.¹²

Equally, and akin to the shifting ecologies around and within us, health is not a fixed state; it is enacted with more-than-human agencies and it is perpetually (re)negotiated at every eating event. Microbial bodies and microbial foods complicate dominant ideologies of health because they shift attention away from solutionist directives of eating fermented products towards a process-oriented approach of living with, working with, and eating with microbes. In the end, fermentation is not immune to the reductive, universalizing rhetoric of healthism, especially as it positions ferments and probiotics as the ‘right’ kind of eating. In the paradigm of healthist fermentation, microbes, like nutrients, are reduced to the health benefits they confer, and the presumed benefit is subsequently universalized as yet another directive and stepping stone for moral superiority. These assumptions go on to inform ideas of the body (such as its purity or boundedness) that deepen the problematic associations of health with control. By framing control and choice as determinants of (gut) health, healthist fermentation presents secondary problematics that exacerbate the weight of unreflexive privilege.

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¹¹ I am deeply influenced by the work of Lisa Heldke and Deane Curtin (1992) who first mobilized the term ‘relational selves’ in the context of food studies.

¹² Microbes have their own population dynamics such that skirmishes in the intestines (or when some microbes are in the wrong place) result in what we call a foodborne illness; though, clearly, one species is doing quite well or well enough to prolong human discomfort. See also Heldke (2018) and the importance of starting with the parasite.

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