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Acting Edible:

The Taste of Performance on a Damaged Planet

A dissertation submitted in partial satisfaction of the

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in Theater and Performance

by

Elizabeth Marie McQueen

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ABSTRACT OF THE DISSERTATION

Acting Edible:

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by

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Professor Michelle Liu Carriger, Chair

This dissertation, "Acting Edible: The Taste of Performance on a Damaged Planet," examines the intersection of food studies and performance, addressing urgent environmental concerns. I use terroir, a popularized yet historical French word often translated to the taste of place, to analyze the contradictions, anxieties, and aesthetics of contemporary performances that utilize food, from transnational performance art to global entertainment venues. Following theater and performance studies scholars who position food as a performance medium, the dissertation focuses on performance and media that activate the senses, digestion, and eating through edible matter. Braiding new materialist and feminist science and technology studies with performance studies, Chapter 1 introduces terroir as a framework for capitalist and anthropocentric articulations of performance. The terroir of particular foodstuffs is rehearsed throughout the dissertation to facilitate analysis of social relations produced through production and consumption, alongside

critical ecological interventions that attend to urgencies in climate violences. I turn to vital matters that offer new scales of analysis for alimentary performance: microbes, microplastics, and a broader revisit to the remains of performance. Chapter 2, Microbes, positions microbes as key figures in contemporary displays of food performance, reconfiguring theatricality in the Probiotic Turn and complicating multispecies and feminist science and technology studies claim for play with nonhuman partners. Chapter 3, Microplastics, wades through the emergent anxieties about microplastics in food and the methodological failures of seeking microplastics in performance as a defining matter of 21st-century immersive performance and entertainment. The framework opens up in Chapter 4, Theatrical Remains, to theorize the convergence of scientific research space and theatrical and tourist space in sites such as Biosphere 2, Disneyworld, and other future-thinking research sites. Ultimately, by examining performance through the microscopic components of food, a new scale of analysis is introduced in conceptualizing the ecological violence and possibility of performance.

The dissertation of Elizabeth Marie McQueen is approved.

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Emerging Scholar Award: International Conference on Food Studies	2020
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The Carol Fisher Sorgenfrei Graduate Fellowship	2019

Select Publications

Schiffler, Elizabeth. "Microbial Theatricality: Selfmade, Celebrity, and Scales of Hunger." *Global Performance Studies* 6, no. 1–2 (2023). https://doi.org/10.33303/gpsv6n1-2a133.

Callejas, Ileana A., Liana Huang, Marisol Cira, Benjamin Croze, Christine M. Lee, Taylor Cason, **Elizabeth Schiffler**, et al. "Use of Google Earth Engine for Teaching Coding and Monitoring of Environmental Change: A Case Study among STEM and Non-STEM Students." *Sustainability* 15, no. 15 (August 4, 2023): 11995. https://doi.org/10.3390/su151511995.

Baur, Devon and **Elizabeth Schiffler**. "Annotated Play Lists" in *The Methuen Drama Handbook of Gender*, edited by. Sean Metzger and Roberta Mock. London: Bloomsbury Methuen, 2024.

Schiffler, Elizabeth. "The Park as Stage: Radical Re-Casting in Disneyland's Social Clubs." In *Performance and the Disney Theme Park Experience*, edited by Jennifer A. Kokai and Tom Robson, 247–64. Cham: Springer International Publishing, 2019. https://doi.org/10.1007/978-3-030-29322-2_13.

Schiffler, Elizabeth. "Proximity, Precarity, and Microscopic Distinctions in Nonhuman Performance: An Interview with Pei-Ying Lin." *Theatre Journal* 74, no. 4 (December 2022): E-101-E-110. https://doi.org/10.1353/tj.2022.0089.

Schiffler, Elizabeth. "Disclaimer by Tara Ahmadinejad." *Theatre Journal* 73, no. 4 (2021): 568–70. https://doi.org/10.1353/tj.2021.0116.

Schiffler, Elizabeth. "Epistenology: Wine as Experience: By Nicola Perullo, New York, Columbia University Press: Arts and Traditions of the Table: Perspectives on Culinary History, 2020, 195 Pp., ISBN 9780231197519." *Food, Culture & Society*, December 16, 2021, 1–2. https://doi.org/10.1080/15528014.2021.2011675. ix

Select Conference Activity

Schiffler, Elizabeth, “Earthly Visitations: Theatrical Remains of Simulacra and Sustainability in Biosphere 2” American Society for Theatre Research. November 9-12, 2023.

Schiffler, Elizabeth, “At the Edges of Food Studies” Association for the Study of Food and Society. May 31-June 3, 2023. Recipient of ASFS Travel Award.

Schiffler, Elizabeth, “Eating Plastic Parks: Microplastic Performance in Baudrillard’s Disneyland,” American Society for Theatre Research. November 3-6, 2022.

Schiffler, Elizabeth, “Beyond "Real" Food: Terroir as a Framework for Alimentary Performance,” Twelfth International Conference on Food Studies. October 23-24, 2022. Recipient of Emerging Scholar Award.

Schiffler, Elizabeth, “Microbial Theatricality: Selfmade and Scales of Hunger,” Performance Studies International. July 6-9, 2022.

Schiffler, Elizabeth, “On Terroir: Edible Reenactment and American Gastronomy,” American Society for Theatre Research. October 28 - 30, 2021.

Schiffler, Elizabeth, “Between and with Sticky Hands and Beating Wings: Nonhuman Gesture in 5,000 Year Old Honey,” American Society for Theatre Research. November 5, 2020.

Select Public Media and Publications

“Why Do ’80s and ’90s Movies Always Feature Huge Breakfasts That Nobody Eats? Capitalism and Diet Culture.” *Nowthis on TikTok*, 29 February, 2024. https://www.tiktok.com/@nowthis/video/7340801403386006830.

Schiffler, Elizabeth. “On the Theatricality of Food.” *Midnite Snack*, August 16, 2023. https://midnitesnackmagazine.com/.

Hueso, Noela. “TFT Student Elizabeth Schiffler Serves up Performance Art Dining Experience with ‘Imagine Dinner.’” *UCLA Newsroom*, April 18, 2023. https://newsroom.ucla.edu/stories/elizabeth-schiffler-imagine-dinner-performance-art.

Slusser, Wendy. “Where Food Meets Performance with Elizabeth Schiffler.” UCLA LiveWell. https://podcasts.apple.com/us/podcast/ucla-livewell/id1466451886.

Select Presentations, Invited Lectures, Workshops

Performance & Dining Workshop, “Imagine Dinner,” Semel Healthy Campus Initiative, UCLA. April 18th, 2023.

Workshop Leader, “On Correspondence: Communicating Artistic Practice with Audiences,” Arizona State University, Emerge Festival. November 18, 2022.

Invited Talk, “Snow Eggs: Situated Tastes and Partial Archives,” UCLA, Atlantic History Series. May 6, 2021.

Curated Film Screening, “*Gather*: Indigenous Food Sovereignty,” UCLA, Food Studies and American Indian Studies Center. February 26, 2021

Fig. 1.1 *Edible Mushroom Lamp.* A guest dips a mushroom from the lamp installation into a cashew cream and cilantro oil spread. Photograph by Jason Sean Weiss. Los Angeles, California. November 3, 2022. Printed with permission from Ananas Ananas. https://ananasananas.com/comissioned/

Introduction: A Mushroom Anecdote

Blue, yellow, and trumpet mushrooms sat delicately pinned onto three lampshades, waiting for guests to eat them at The Future Perfect house in Los Angeles in 2022. Titled "Edible Mushroom Lamp," the functional lamps were placed next to a swirled mound of cashew cream and cilantro oil (fig. 1). Created by artist duo Ananas Ananas, the commissioned food art blends outdoor space with interior domestic life. Illuminating further, the mushroom lamps highlight fungi as part of human life, shaping them as adornment but also as nourishment. Like all of their

work, Ananas Ananas's designs are built to be eaten: each mushroom is brushed with a marinade to add umami to the earthy bites. The mushrooms act on the human body, inciting salivation, if not satiation.

Additionally, The Future Perfect house is not solely a space humans move through–by inviting guests to eat a lamp, the Future Perfect house moves through the human bodies. Food in performance is not static but instead acts on the body from the space it inhabits. But perhaps more importantly, the edible installation demonstrates the contradictions and anxieties of food as art: "Edible Mushroom Lamp" is both concession and performance, transformative and conservative, human and non, in its performance. The mostly digestible art is a mold, literally and conceptually, for the case studies this dissertation curates: a scaling swath of transnational performance art, global entertainment venues, and microscopic encounters humans have with food.

Ananas Ananas sourced the blue oyster mushrooms from Smallhold, an organic urban mushroom farm in Vernon, CA, outside Los Angeles. Smallhold, at the time of Ananas Ananas' performance, had developed a patented technology to grow mushrooms that major commercial grocery stores do not regularly sell. The farm produced varietals such as blue oyster mushrooms, which are typically harder to grow commercially. Their website claims, "By growing mushrooms in communities around the country, we're helping people reconnect with their food, environment, and farmers."[1] Smallhold cultivates the mushrooms in sawdust, a byproduct of the lumber industry. A significant component of their production process and marketing is that the farms compost or donate 100% of the substrate that the mushrooms are grown on, reducing the considerable amount of waste that most food production produces. They also collaborated with artists like Ananas Ananas, who sought to change the dominant food culture around mushrooms

[1] "Smallhold Vision & Values."

by providing nationally accessible yet varietally diverse mushrooms. As the now global agricultural practice of monocropping is one of the leading detrimental practices that increase greenhouse gas emissions, decrease soil health, and restrict flavor and nutrient complexity in foodstuff, Smallhold's interventions prove promising. Yet, in an age where local, sustainable, organic, and regenerative farming methods have become marketing techniques alongside agricultural practices that resist industrial food production, the performance of food operates at many scales.

These artist-farm collaborations run throughout the dissertation, all to varying effects. Chapter 3, Microplastics, analyzes the functional greenhouse housed within Living with the Land, a ride in Disneyworld. The global entertainment venue seemingly opposes the ethos and aesthetics of Smallhold and Ananas Ananas. Yet, the local performance and practice of food production in the influential theme park will invite some of the contradictory concerns about food in our current times. In particular, I do not assume that sourcing local produce for any part of food *performance* is the ultimate intervention that can be made in food systems. Perhaps more so, I am interested in the performance of efficacy in agricultural interventions, when time and time again, aesthetic experiences with food prove more liquid than concrete in terms of material changes to food production. The "Edible Mushroom Lamp," with a rich earthy umami flavor (often masked in commercially grown button mushrooms), brightly asserts itself– visually and gustatorily, washed and topped with flavor enhancements or condiments. Taste and flavor guide some of the dissertation's inquiries. Chapter 1 will begin with converging taste as aesthetic and taste as sense through a study of the concept of *terroir*. But this does not assume a unified food aesthetic for the end of the world. Condiments will conclude this dissertation, as Chapter 4, Theatrical Remains, explores the material and aesthetic impact of small ketchup condiment

packets that circulate in global entertainment venues. A microscopic analysis of food within the performances can include the place of production of props, particles, and produce in performance.

Ananas Ananas has created a series of independent dinners and installations, but much of their practice is governed by corporate partnerships and commissions: Veronica González and Elena Petrossian are acutely aware of the high overhead costs of food performance and the increasingly limited funding opportunities for artists in the U.S., especially in a medium that is often categorized in event production as catering.[2] Experiences produced by Mastercard and commissions from high-end designers Prada and Cartier all financially allow the duo to create, choose to source local and artisanally made food rather than industrially produced material, and ultimately, imagine eating otherwise. Of course, corporate sponsorships and "scaling up" does not guarantee survival. While sustainable, local, ethically sourced food may seem, publicly, a new norm, scholars have been questioning the feasibility and efficacy of these terms across multiple fields, including food studies.[3] In February 2024, at the time of writing this introduction, Smallhold farms filed for bankruptcy after it was revealed their financial status was less successful than what they had been telling investors.[4] This surprising failure to public audiences countered the successful narratives surrounding Smallhold: in July 2023, Smallhold announced scaling to the Amazon-owned Whole Foods grocery stores nationwide and received numerous publications touting the transformative sensory and agricultural effects of their business. Yet, commercial success has not translated into financial sustainability, at least not enough to appease

[2] Distinguishing whether food in performance is catering or art is not always a loss to creative practice. Chef and artist Minh Phan was commissioned to cater a fundraising dinner for a significant arts museum in Los Angeles. Minh was able to secure more funding for the labor, prep, and dishwashing teams by billing her work as catering.

[3] Guthman, *Agrarian Dreams*.

[4] Marston, "Mushroom Vertical Farming Company Smallhold Files for Bankruptcy; Firm in 'Worse Financial Shape than Previously Disclosed.'"

investors. Smallhold, like Ananas Ananas, struggled to balance the commercial and environmental constraints of working with food.

This dissertation expands on the emerging scholarship that contends with the effects and aesthetics of food performance to consider the medium's contemporary complexities. As food and performance studies converge, so do major 20th-century aesthetic shifts in food. Take, for example, Ananas Ananas' blue oyster mushroom plating. The gentle indent on the outward-facing cap of the mushroom held "algae caviar," a culinary technique that emerged from the foundational modernist (also called molecular) restaurant El Bulli in the late 1990s. Alongside modernist gastronomy's dramatic effect on food in restaurant spaces, the farm-to-table movement emerged in the 1970s, and organic food movements became a mainstream concept in the 90s. Initiated by Alice Waters's restaurant Chez Panisse, Ananas Ananas' citing of Smallhold farms within their menu directly calls to Waters' early intervention of serving a single whole peach as a dessert, citing the farm that grew it on the menu, a dish that will appear again in Chapter 1. The attention to sourcing drives many of the theoretical questions in this dissertation, such as: what does attention to agricultural production provide our understanding of performance, aesthetics, ethics, and the convergence of these facets in conceptions of taste, both classed and sensed? To return to the "Edible Mushroom Lamp," where are the trumpet and yellow mushrooms from? Origins unknown. What might attention to the means *and* matter of production reveal about the environmental impacts of performance today? Not only will material production practices be unearthed, but the sensory impact of changing flavors will drive my inquiry.

As the introduction will review, an emerging body of literature grapples with food's aesthetic, ethical, material, and sensory effects on performance. I want to untangle why and how

these subfields have emerged and how the environmental entanglements that ensue have run adjacent, if not directly visible, to those alimentary concerns. Theoretically, this dissertation surveys where and how food has stayed in the margins of theater and performance studies, environmental humanities, new materialism, and multispecies studies. Greatly indebted to the ethnographic study of matsutake mushroom production in her book, *The Mushroom at the End of the World*, Anna Tsing's sensory, commodity, and hope-seeking analysis inspires much of this text–hence opening with a mushroom performance and a nod to this field-defining work in the title of the dissertation. The performance works will provide possibilities for renegotiating human relationships with food while perhaps, sometimes simultaneously, staging the violence of anthropocentrism that has led to the significant impact of environmental destruction brought on by industrial agriculture and food production. Chapter 1, Terroir, will present the overarching frame of the dissertation. *Terroir*, most commonly translated to the taste of place, combines food's spatial and sensory impacts on performance. Considering both the spatial interventions that food invites, from agricultural sources to bodily engagements, simultaneously invites taste and digestion as primary modes for engagement. Save for a few examples from film, the case studies, including an installation presenting cheese made from bacteria cultured from human bodies, articulate how food performs, but performance is not predicated on visual display. Rather, food performance is a microscopic process of acting edible.

Scales

The opening anecdote has rehearsed some of the scales this dissertation encompasses. The case of mushrooms, or perhaps more accurately, a carton of them, brings global food production, planetary health decline, and formal possibilities in performance aesthetics to the

foreground. Perhaps these three approaches to scale are not brought out evenly, but rather than attempting to create equality across scale as an offering, the case studies in this dissertation provide myriad avenues in which to entangle three not-quite-distinct fields: globalization studies, environmental humanities (and it's bedfellow new materialism), and performance studies. Each of these fields has unique conceptions of scale that can inform each other and can perhaps map out a new approach to interdisciplinary thinking, with greater attention to methodological distinctions in key terms that may repeat across disciplines but are rehearsed in distinct modes.

Scale, a foundational concept in Geography, has been cemented as a keyword to "describe either an areal unit on the Earth's surface… or the extent of a process's or a phenomenon's geographical reach."[5] Scale is a spatial inquiry, one that has predominantly emerged out of critical interrogations of globalization, where scales such as "the national or the local are being eviscerated by the global."[6] Globalization has certainly transformed food production, from the emergence of monocropping in agriculture to the elusive organic farming practices to the homogenization of taste. Inherently intertwined with the shifting production modes are the differentiating and diversifying diets and tastes around the world. Much of the analysis that follows seeks the microscopic edge points between local and global, often found within the molecular composition of foodstuff or in a specific site of digestion of something edible. We might consider this as less a definition of scale but rather an attempt to *sense* scale through taste.

Those sensed changes could be as explicit as reproduced hamburgers globally or as abstract as the absence of nutrition as soil health reduces nutrient density in crops. As the severity of climate crises has caught public, governmental, and academic attention, the rhetorical

[5] Herod, *Scale*, xi.

[6] Herod, xii.

and spatial issues that scale identifies also emerge in the humanities and social sciences' determination of human impact on planetary health. The Anthropocene, an epoch that has reinvigorated academic inquiry into the environment, is also a concern of scale. However, instead of an areal *unit*, as Herod defined it, we might consider scale to be a concept that describes an areal *impact* on the Earth. While still a spatial issue, impact, or the relation and encounter between one thing onto another, is of primary importance. There is still the concern of the unit that measures, but the unit's relation to something else, whether that is overall planet health, ocean acidification, soil health, etc., is another tension produced via scale. The relation between the two things is also scalable, which can help unpack the uneven effects of climate change, as the Global South continues to face more of the violences to human, animal, plant, and planetary life than the Global North.

To further 'scale down' the issue of scale, those *things* that impact each other have their own scalar issues. For example, while certain impacts may address humans, entire fields of academic inquiry have long been devoted to understanding the uneven and unjust categories that produce subjects (often humans) as a spectrum of human– more often less than human. Race, Gender, Disability Studies, and many other fields that have shaped much of the humanities have complicated any concept that a singular "anthropos" is the determining figure of life on earth, and certainly, the impact of the human is not evenly distributed. The scale of the human can then be proposed through feminist science and technology studies and queer of color new materialist projects which seek to disrupt the subject-object divide, which addresses how gendered, racialized, and othered subjects have been rendered objects throughout much of Western history. This also leads us to multispecies as a scalar inquiry, in which the limits of the human species are explored at a range of scales, from the trillions of bacteria in human guts to the networked

understandings of interspecies connection, codependency, parasitism, or companionship, to name a few.

This dissertation is as much about sensing scale as it is theorizing it, which then means it is also about perception and representation of scale. This will take a microscopic material analysis at times, where the molecular components of performance, such as the presence of viral life in Pei-Ying Lin's *Virophilia*, will challenge how representation materializes in a dinner performance. Food becomes particularly useful to contemplate issues of scale in performance. As the mushroom anecdote modeled, the representation of mushrooms is not quite mimetic, for on display are edible mushrooms meant for consumption. This material performance, where food plays itself, is upheld in almost every chapter. Slight variations will expand the concept of theatrical matter, but case studies will rarely veer into the symbolic. My commitment to this curatorial approach is meant to serve as a base for linking materialist and new materialist inquiry and propose performance's unique situation as an artform ripe for environmental inquiry.

Early new materialists have heavily relied on the representation of matter, often in literature, to articulate the agency ascribed to things. And yet, where I find potency in the field of inquiry is a return to material analysis in the humanities. There are performative instances where the discursive meets the material. However, as a humanities project, where iterations and metaphoric strategies (a linguistic form of representation) have long dominated methods, I hope to set up a project that sits in impact, where material objects begin the inquiry into performance. Firstly, I do this to contend with developments in environmental humanities and new materialism. Secondly, thinking deeply about the material impacts of performance can pave the way for greater communication between arts and sciences and can perhaps open avenues for collaboration or at least shared understanding.

The following section on Food as Performance explores the many subfields of performance studies that have begun to tackle food– which are not wholly mimetic inquiries but do touch on the material impacts of food on performance, the body, and the senses. Through this section, I will ultimately offer theatricality, rather than performativity, as a guiding term for my approach. Overall, I find theatricality as a concept that suggests exaggeration and proposes its own iteration of scale. Making things grander, more perceivable, and more sensible happens through material effects: lighting instruments, scenic paint, decibel shifts, etc. I suppose this project can veer towards a scientific approach to performance, where I attempt to refigure the affect of performance to the taste of performance; which includes aromas, chemical compounds, sugar levels, mouthfeel, sweetness, acidity, and many other components that make up the taste of performance.

The introduction overall sets the stage for the broader impact of each chapter. As a food studies project, each chapter identifies edible components of performance to theorize material impacts: economic, environmental, aesthetic, and beyond. Yet, as many food scholars have shown, different food material imbricates different ecosystems, economies, and cultures. Not all foods act the same, so foods do not perform the same. In this vein, I address three critical subfields of performance studies that have all come to the study of food. I do this in order to illustrate that food is not a thematic subsection of performance studies but rather theoretically integral to conceptualizing performance in the 21st century. Food performance reshapes representation at the core, extending far beyond a bounded archival, aesthetic, or theoretical method. This dissertation addresses some anxieties around the human-centric practice of performance, concerns that are laid out by eco-performance scholars. In proposing theatrical

matter as a key component of food performance, new materialism intrinsically links with performance studies and proposes another foundational theoretical line into food.

The attempt to draw new materialism into the fold also complicates the neo-Marxist scalar approach to food, drawing together the seemingly conflicting theoretical frames of materialist and new materialist studies. Perhaps the complex space of performance can entangle these theories into a productive conceptualization of the aesthetic and sensory impacts of material flows due to global and planetary change. As such, the materials and performances that the dissertation curates are additionally an exercise in scale. Intentionally, I think with performances that may at first glance appear "localized," such as an intimate gin-tasting performance by Zina Saro-Wiwa in Los Angeles (Chapter 1), but through an exploration of the materials and production process of the performance, reveal a transnational flow through the Nigerian-produced gin. Similarly, I broach sites that have been cast as epicenters of globalization and homogeneity, such as Disney theme parks, to revisit the bodily impact of immersive entertainment environments at microscopically small scales. Yet, in both of these sites and in other chapters, the curation wanders to the "small life" of performance. In Chapter 2, Microbes, "small life" is identified through microbial performance in Christina Agapakis' *Selfmade*. Throughout the dissertation, "small life" is challenged through feminist new materialist conceptions of matter, in which shipping crates, ketchup packets, microplastics, and other particulate components, visible and invisible, all constitute food performance.

One of the curatorial aims of the case studies is to consider scale in performance as an approach that can serve environmental and economic issues broadly. Through this, I suggest that the theatricality of the local is a critical aesthetic that emerges from the neoliberalization of food policy in the early 21st century. Refracted through the contradictory yet interconnected concerns

of the dangers of consumption and the fantasy of ethical consumption under capitalism, film, television, and popular media reveal how the local itself relies on theatricality, where we might think of scaling out and in, or up and down, as a dialectical relationship, rather than a priori.

Food as Performance

The study of food creeps its way into nearly every academic discipline, whether in representation, material, or commodity. However, this dissertation highlights how sciences and humanities might collaborate, in practice and theory, due to the alarming distance between scientific and humanities research, rapidly gaping funding disparities, and scholarly methodological differences. At UCLA, where I conducted most of the research, the disciplinary divide is also a spatial one. North Campus is home to the arts, humanities, law, and social sciences, and South Campus to medicine, hard sciences, engineering, and math. The study of food may appear all over campus, but Food Studies, an undergraduate minor and a graduate certificate, is housed in the School of Public Health–a South Campus home. Food Studies as a field, however, acknowledges that it has a much wider reach than nutrition or public health interventions, and universities globally are incorporating new pedagogical offerings blending disciplines. However, while Food Studies Centers and Institutes have begun to emerge in universities, the championing of food's "interdisciplinarity" can mostly be found within schools of Public Health, Agriculture, Ecology, Nutrition Sciences, and occasionally Anthropology and Sociology. Yet, these institutions of the study of food rarely dismiss food's cultural and aesthetic dimensions. For example, the newly launched Rothman Family Institute for Food Studies at UCLA claims it "will become a world leader in using food as a lens to guide and inform public policy, community organization, education, public health and medicine, environmental justice,

and the arts [emphasis added]."[7] So, while I am voicing my concern for the disciplinary landscape that food is inhabiting in academic institutions, it is also true that my gently uttered rationale in conversations with ecologists, nutritionists, and public health professionals: "Well, food is an art form, often a kind of performance, too" is rarely, if ever, met with disagreement. This dissertation speaks not only to performance art and theatrical works that *perform with* food but also to how performance studies and food studies are interlinked, offering new methodologies to both fields.

Theatrical and embodied engagements with food can be found in a growing number of collections, journal special issues, conference working groups, and books in theater and performance studies. No work has been so elementary to articulating the myriad overlaps between the two fields as Barbara Kirshenblatt-Gimblett's cornerstone piece "Playing to the Senses: Food as a Performance Medium" (1999), which opened the subfield of food as performance. Kirshenblatt-Gimblett identifies how food can perform, in and out of the body, through visual, behavioral, and processual registers, or her junctures of "to do, to behave, and to show." Since Kirshenblatt-Gimblett's defining offering, subsequent interventions illuminate how food has long haunted theater and performance, whether in its metaphoric capacity (such as Brecht's disdain for "culinary theater") or materialized in performance practice (for example, the Futurist Cookbook or Fluxus edible performance art), or as props on stage or concessions in the audience. Finally, with the rise of the study of performance of everyday life, our daily encounters with food, whether in restaurants, the kitchen, farmer's markets, farms, factories, or grocery stores, invite embodied, sensory engagements into the inquiry of food as performance. Performance Studies approaches consider food's role beyond nutritionism (food as fuel, of varying quality) to identify food's theatrical roles in everyday life.

[7] "Rothman Family Institute for Food Studies."

The utility of applying performance theories to the study of food is that no field is better suited to address the material and symbolic, quotidian and theatrical, corporeal, spatial, and temporal aspects of food. I do not claim to address this all in one fell swoop, but rather theater and performance theories' expansive approaches can, and have proven to be, exceptionally useful for the many ways in which food is animated by, and in turn animates, beings, including lines of gender, race, species, and place. In what follows, I will thread together some of the aspects of food that can be explored through performance, along with the extant alimentary literature in theater and performance studies–as food is no longer only a medium for performance but perhaps an entire method and approach that is worth chewing on.[8]

There are four crucial areas in which I illuminate how food works in conjunction with performance. Beginning with discussing **theatrical matter**, I take up foundational performance studies scholars who interrogate *where* and *how* performance materializes, remains, or fades. Less concerned with food material, theatrical matter perhaps best points to nonhuman matter's critical, agential, and influential role in performance, which includes food. Particularly through Robin Bernstein's notion of *scriptive things* and Rebecca Schneider's determination that performance *remains* through temporal crossings, things and matter complicate performance's time-based, human-based nature. If we consider food a theatrical matter itself, inviting interaction, then its scripts have deeply embodied, intestinal, and digestive interactions with those eating it. **Critical eating studies,** coined by Kyla Wazana Tompkins, has emerged from a blend of performance and literary studies and is an essential aspect that illuminates the way food is entangled with producing bodies, subjects, and species in metaphoric and material capacities.

[8] I reluctantly include a food pun so early on in this project. My hope is to 1) exorcize as many puns as possible in this dissertation so they do not wind up in the book project, or at least weed out the most unsavory ones (I cannot help it) and 2) to practice the ways that food not only metaphorically, but literally shapes our perception and rhetoric in the world.

Finally, **alimentary aesthetics** reshapes performance analysis and, in turn, food by shifting the scope and senses of performance toward molecular and sensory interaction. Where Joshua Abrams notes how the history of theatricalized restaurant experiences has changed the 'stage' of the restaurant space to the plate in a scenographic analysis, Kristin Hunt considers the near-collapsing of mimetic "distance" when looking at alimentary performances, which ultimately complicates debates of theater's efficaciousness and philosophical, ethical, and nutritional debates regarding what constitutes "real" or "fake" food is in our industrialized, globalized, theatricalized food system. Rather than pinpointing food to one particular *thing*, examining food as animate matter, performance itself, edible, digestible or indigestible, and finally as a sensory, mimetic, theatrical, aesthetic, molecular form are all aspects of food that are uniquely cared for when applying performance studies.

Theatrical Matter

Theater and performance, composed of bodies and texts (dramatic texts and performing bodies), have long asked what constitutes the performance, and if the presence of the body is essential, then how long does this presence last? Does performance entirely dissolve or linger on in unexpected material, affective, historical, or material residue? Performance studies scholars have worked both to distinguish and blur how humans perform with matter. Two key ideas emerge: performance remains through interaction, and interaction is determined not only by human agency but also by material composition. These distinctions directly apply to food studies, and thinking through these ideas with food will create new microscopic interventions in performance.

Food may not immediately appear in canonical performance studies, but as this dissertation will continually position, food appears in the margins, footnotes, and anecdotes of much scholarship. Rebecca Schneider's *Performing Remains* (2011) argues for performance's residual and temporal stickiness. As a temporal project, she examines how performance resists ephemerality by passing through or touching multiple temporalities, specifically in historical re-enactment performances. However, it is also a question of animacy: she cites Fred Moten's activation of "inter(in)animation" and Donne's love poem that describes "lovers lying still as stone statues" where the "live and the stone are iner(in)animate and the liveness of one or deadness of the other is ultimately neither decidable nor relevant."[9] Schneider exits the realm of the literary to reference the inter(in)animation between material culture, such as monuments, music, food, props, and body interactions. While *Performing Remains* focuses on the human body and how it can "literally touch time through the residue of the gesture or the cross-temporality of the pose," Schneider has extended her argument into the nonhuman realm in later works aligning with New Materialist projects considering the vibrancy of matter.[10] As this dissertation hinges, new materialism and performance studies are interlinked in their approaches to the agency and effect of matter.

In the case of food as matter, were we to utilize Schenider's adaptation of inter(in)animation, what does the gesture of eating invite in terms of temporal crossings? Take, for instance, the thrice-mentioned salt pork in Civil War Reenactments. Schneider identifies the doubling effect of "eating" salt pork, where "representing eating salt pork in a faux Civil War camp as well as, and simultaneously, engaging in the actual act of eating it," reveals the

[9] Schneider, *Performing Remains*, 7.

[10] Schneider, 2.

"conundrum of theatricality" where representation and real come to collide.[11] However, eating salt pork poses additional temporal complexities. This particular representational/real salt pork does, in a way, disappear if eaten. The fading power of performance, rightly disputed, is reinvited with a particular ephemeral dimension with food. Eating stretches the time of performance across microscopic lingerings: one must digest the salt pork, incorporate it, *and* discard it. Long after the representational soldier leaves the representational, and perhaps real, battleground, the salt pork remains in their gut.

If Schneider sought interactions that could "literally touch time," Robin Bernstein's *Racial Innocence: Performing American Childhood from Slavery to Civil Rights* (2011) explored how things themselves could incite those interactions. Rather than focusing on the temporal consequences of interaction, Bernstein analyzes how things can propose a set of invitations to the body that can engender racial formations, conceptions of childhood, and gender. Using the term *scriptive things*, things not only are interacted with by people but offer a script, or scripts, for the body through their thing-ness. Bernstein demonstrates how scriptive things blur Diana Taylor's conception of archive and repertoire since interaction cannot be separated from a thing-that-scripts: "when scriptive things enter a repository, repertoires arrive with them. Within a brick-and-mortar archive, scriptive things archive the repertoire—partially and richly, with a sense of openness and flux."[12] The openness to interaction is also central to Leo Cabranes-Grant's *From Scenarios to Networks: Performing the Intercultural in Colonial Mexico* (2016), where Bruno Latour's actor-network-theory is employed to map the assemblages of props, material, and theatrical remains of colonial Mexican performance. While these works are not about food, they theorize the power of nonhuman agents in performance. Historically, in

[11] Schneider, 41.

[12] Bernstein, *Racial Innocence*, 13.

Western theatrical practice, these nonhuman players are called props, including mimetic food, plastic food, gestures surrounding food, or even edible, material foodstuffs. For example, In *The Stage Life of Props*, Andrew Stofer traces the shifting use of communion bread in medieval Catholic mass through nonliturgical religious drama to articulate the ambiguous and yet material role props take in performance. In the case of Catholic Eucharist, ritual performance transforms (now) unleavened bread and wine into the literal body of Jesus Christ and puts the audience into direct material communion with the spiritual world through materialized food.[13] Theatrical matter is always matter-in-relation, which includes a relation to time and body, an important consideration for food studies as these relations vary in scale, space, subject, and consequence.

As critical eating studies will show, food can undoubtedly script historical, cultural, racialized, and multispecies subjects. Still, within the performance of food, there is a doubling of thing-ness: the particulate matter present and active in the food determines how a body might respond, interact, and become-with the thing. For example, eating an apple today versus 200 years ago are two distinct corporeal invitations. As a representation of past food and a real present edible foodstuff, Schneider's salt pork is layered in its faux-ness, realness, and temporality. Even my claim of 'an apple today' hardly makes any sense as the conditions that produce apples vary so much globally that reducing an apple to an apple invites some worrisome elisions. The case studies follow my attention to material specificity. For example, Chapter 1 considers a single distillery of palm wine gin in the Niger Delta created by artist Zina Saro-Wiwa and a specific case of rose wine produced by Camins2Dreams in Lompoc, California. The scripts that contemporary food produces may also invite new scriptive things: Chapter 4 follows a small plant in the kitchen at Biosphere 2, ultimately rethinking our understanding of food and

[13] Sofer, *The Stage Life of Props*, 50.

consumption at its smallest particulate composition and how that affects the remaining qualities of performance.

Theatrical matter reorients how we might examine archival materials to seek interactions, iterations, temporal crossings, and scripts in food. Food, in its many existences, is linked to performance. The following section will further explore how food, as a theatrical matter, is a particularly vibrant one that calls for new understandings of what and where performance is found. While many humanities approaches can, and have, analyzed the symbolic role food takes in a particular society, culture, or community, or the many ways of representing food and consumption from visual art to literature, performance studies is uniquely positioned to tackle the active, agential, material foodstuff alongside its representational and symbolic capacities.

Food as Performance

Theatrical matter underscores the agential and assemblage-making possibilities of studying food as performance. However, before the emergence of the study of nonhuman participants in performance, scholars were examining the potent area of food as a lens into performance. Whether focusing on food props, the kitchen sink drama, or alimentary metaphors, food has emerged in the study of theater and performance. Kirshenblatt-Gimblett's seminal works on food never fully emerged into a book, but the previously mentioned 1999 article in *Performance Research* is linked to her chapter, "Making Sense of Food in Performance: The Table and the Stage" in *The Senses in Performance* (2007).[14] The article answers Kirshenblatt-Gimblett's 1999 call for new theater histories by considering Renaissance banquets and the restaurant as a theatrical space.

[14] Banes and Lepecki, *The Senses in Performance*, 88N1.

Kirshenblatt-Gimblett's 1999 article surveys approximately thirty years of performance art that accounts for the multiple ways in which performance artists have engaged food as a medium emerging from the late 1950s. Rendering food an active performance through its vitality, she suggests that food "is already highly charged with meaning and affect. It is already performative and theatrical. An art of the concrete, food, like performance, is alive, fugitive and sensory."[15] Kirshenblatt-Gimblett addresses how destabilizing assumed traditional Western sensory hierarchies, interiority and viscera, and the blurring of "art and life" are three key categories to understanding how food performs. Kirshenblatt-Gimblett is interested in how food performs, even when "dissociated from the senses–" in a way, she predates Bernstein's scriptive things– food can invite sensory interactions even when not being eaten. She notes, "while we eat to satisfy hunger and nourish our bodies, some of the most radical effects occur precisely when food is dissociated from eating and eating from nourishment. Such dissociations produce eating disorders, religious experiences, culinary feats, sensory epiphanies, and art."[16] The dissociations that extend food into the theatrical are important ways to reorient humans' relationship to eating. However, this type of dissociative performance is not unique to artists. It would not be a stretch to claim that many American food producers have certainly distanced, if not entirely dissociated, "eating from nourishment–" Pasteurization as a widely adopted industrial practice in American food production materially reduces the microbial diversity of foods through the eradication of bacterial life, as Chapter 3 will interrogate. Approaching food as performance, as "already performative and theatrical," allows not only for a closer examination of how artists can perform new relationships with food but also how corporations, food, and agriculture industries, and the business of food perform particular relations with food. This dissertation works against any

[15] Kirshenblatt-Gimblett, "Playing to the Senses: Food as a Performance Medium," 1.

[16] Kirshenblatt-Gimblett, 3.

assumptions that small-scale performances are the only avenue for radical change, just food futures, or that business and agriculture are entirely absent of possible, if only partial, interventions into food systems.

Kirshenblatt-Gimblett continually calls for reorienting theater histories toward edible performances, particularly the role that banquets and feasts play in understanding the development of theatrical performance. Dorothy Chansky and Ann Folino White took up the call for food and performance histories with *Food and Theatre on the World Stage* (2015). This anthology traverses multiple methodologies for interpreting food as a material companion and subject of theatrical works. Ann Folino White's monograph *Plowed Under* (2015) also examines political protests and theatrical productions that responded to the Agricultural Adjustment Act of 1933 (and its later amendments) to illustrate the contradictions of imagined American abundance and the realities of hunger in 1930s America. For example, Folino White interrogates surplus milk as a tactic in a strike. The public strike included dairy farmers dumping milk into the streets with spectators watching, staging a kinesthetic, theatrical scene in which milk flowed through the streets.[17] Met with tear gas by the state, Folino White points to how food protests can invite sensorial, embodied knowledge from both spectators and participants– especially when dissociated from eating. Artists utilize the theatricality of food as both a resistant and oppressive quality in performance. Rather than concerning food studies with fantasies of "authentic" food production or performance, theater scholars have foregrounded how food was always already theatrical, reaffirming theater and performance studies' crucial role in the study of food.

Additionally, the existing work on food as performance works to expand food as imbricated in, but not reliant on, the act of consumption. Much of literary and performance studies analysis of food begins by exploring food's mimetic properties–what it performs as *other*

[17] White, *Plowed Under*, 102.

than food. But consumption functions both literally and metaphorically in food performance. The linking of literal and metaphoric consumption is what Kirshenblatt-Gimblett calls the "alimentary canal" in her initial survey of food and performance works, noting the expansive approach to grappling with food "from the mouth to the anus, and at all points in the food system, from foraging and cultivating to cooking, eating, and disposal."[18] One of the utilities of performance theories is the ability to explore "all points along the alimentary canal." The interiority of the body is always entangled with its external form, the open mouth, mind, and subjecthood that informs consumption. Critical eating studies is an emerging subfield working parallel and as part of theater and performance studies, which interrogate food in and as performance. Broadly, critical eating studies directly address the ever-emerging concerns of ethics of consumption in U.S. and global diets, diet as reflective of cultural and social structures, and the future of food in the face of environmental destruction.

Critical Eating Studies

Critical eating studies was initially coined in Kyla Wazana Tompkins's *Racial Indigestion: Eating Bodies in the Nineteenth Century* (2012) to counter what Tompkins identified as food studies' penchant for single-commodity narratives, largely inspired by Sidney Mintz's *Sweetness and Power*, which traces the history of sugar as a trans-Atlantic commodity. Additionally, "it is also a move that weds food studies to body theory, here with a particular focus on race in the context of the literary and cultural production of the nineteenth-century United States."[19] Tompkins identifies how architecture, advertisements, and food production produce race by rendering the Black body edible, but also how eating does not necessarily equate

[18] Kirshenblatt-Gimblett, "Playing to the Senses: Food as a Performance Medium," 85.

[19] Tompkins, *Racial Indigestion: Eating Bodies in the Nineteenth Century*, 2.

with smooth consumption, seeking points of "indigestion" in her analysis. Similar to Barbara Kirshenblatt-Gimblett's identification of the "alimentary canal," Tompkins' reorientation of food studies to critical eating studies refigures a study of commodities to instead consider food as always in relation to bodies. Tompkins works from Black feminist theorist bell hooks' articulation of "eating the other," which proposes consumption of media, advertisements, and film as not a passive action but rather an avenue to appropriate, violate, and control Black bodies.[20] Both Tompkins and hooks complicate the consumption of media, literature, or other cultural objects as not a smooth movement but rather reflective of the complexity of racialized human digestive systems.

Anne Anlin Cheng picks up critical eating studies as a point of departure in "Sushi, Otters, Mermaids: Race at the Intersection of Food and Animal; or, David Wong Louie's Sushi Principle" (2015) which follows a similarly slippery method of oscillating between literary depictions of eating and food and an embodied engagement with eating sushi. Cheng presents "the sushi principle," which destabilizes the body in relation to the consumption of raw fish, ontologically complicating the human while also establishing new ethical relationships in multispecies assemblages where eating is involved. Ultimately, the sushi principle becomes an ontological question; as Cheng notes, to eat sushi " is to open myself up to the vulnerability of my own flesh."[21] Critical eating studies complicate "consumption" as a smooth action, proposing the "alimentary canal," indigestion, and rawness as a bodily methodology for our understanding of food. Food is neither purely metaphorical nor void of material, and the act of eating is similarly layered. This dissertation follows this approach. In each chapter, eating or the edible is

[20] hooks, *Black Looks*.

[21] Anlin Cheng, "Sushi, Otters, Mermaids," 11.

central to every performance. Eating may be as straightforward as sipping a glass of wine or as abstracted as ingesting microplastics–both of which may happen simultaneously.

I am bringing together theater and performance scholars with literary, queer of color new materialism, and Black feminist methods to build a method for studying food that provides a framework, albeit a messy and bodily one, for considering (mostly) human relationships with food. Ultimately, this project proposes that alimentary theatrical conventions can serve as ontological propositions–collapsing the every day and the spectacular in microscopic ways.

Alimentary Aesthetics

As the study of food and performance has begun to secure its foothold, scholars have articulated the mechanics of alimentary performance across several registers. Namely, I see theories of space and the senses as two key registers that guide the study of food. Food as performance invites two significant shifts in theatrical analysis: multi-sensory performance complicates mimesis and theatricality, and telescoping spatial arrangements renegotiate the body in relation to food.

As Kirshenblatt-Gimblett argues, food as performance incorporates an exhausting array of theatrical spaces. This dissertation attempts to stretch to many spaces, but the restaurant space, where food is central to performance, is a particularly useful space to think from. Food and performance scholars Kristin Hunt and Joshua Abrams introduce analyses of theatrical dining experiences, particularly chefs who work in the modernist culinary movement and the previously mentioned El Bulli, alongside Copenhagen's NOMA and Chicago's Alinea. In Abrams' 2013 article, "Mise En Plate: The Scenographic Imagination and the Contemporary Restaurant," he argues the modernist restaurant as a theatrical space reveals not only changing design or architectural aesthetics but also determines intimacy between chef and diner and food and body,

to reorient the *place* of the human in food systems. Abrams articulates how restaurants are already theatrical by reviewing their spatial history, including introducing chef counters and viewing food preparation as part of dining experiences. But by examining the limits of eating through theatricalized culinary encounters, he proposes the multiple sensory modes and ontological shifts that take place when examining dining spaces, where:

> "scenographic imagination with the intimate distance and questions of taste, appetite and desire posed by food's revealing the human body as porous and fundamentally connected to the environment help us to recognize the relation of the human body in space, like all great art, challenging us to consider the place of the human."[22]

Abrams invites closer interrogation of the intimate interactions in culinary performances by rethinking the space of food as performance. What if the plate itself was the space where food performs, or the historically changing and culturally specific distance between chef and diner? Theorizing food as a spatial practice also requires new senses to emerge as critical in experiencing performance, linking the body and space in unexpected ways.

Kristin Hunt continues the sensory exploration in *Alimentary Performances: Mimesis, Theatricality, and Cuisine* (2018) to connect the modernist culinary movement to avant-garde performance art to see the resonances (rather than explicit historical connections) in theatrical representation and presentation of food. This results in "culinary mimeticism," where multi-sensory experiences demand a theatricality of "examination at close range and in detail rather than willing suspension of disbelief at a distance," shifting the scale of representation to shrink to potentially imperceptible distance.[23] These changes in scales of performance invite new

[22] Abrams, "*Mise En Plate*," 14.

[23] Hunt, *Alimentary Performances*, 10.

players into culinary performance, where the body, tongue, and gut encounter foam or algal membranes. The multi-sensory shifts in alimentary performance also change how things script behavior, where the visual and tactile interaction may blur with smell, taste, and other bodily responses to food. As Hunt offers, "by reframing the bodily modes in which representation may be experienced, culinary mimeticism provides a generative alternative to the supposed divisions between mind and body, sensation and intelligence, aesthetics and interpretation."[24] These divisions, upheld by Western philosophy, are also renegotiated with *rasaesthetics,* the classical Indian quality of performance which captures a savory, sensory quality linked to taste (rather than Western philosophical, aesthetic traditions that privilege sight and sound).[25] What and how the body learns from interactions with food changes how we extend notions of knowledge beyond the visual and textual realm, potentially complicating what it means to "use food as a lens" in emerging food studies discourses, institutions, and educational spaces.

These areas, theatrical matter, food as performance, critical eating studies, and alimentary aesthetics, determine the foundational questions around the (im)possibility of contending with food. In many ways, a dissertation about food will be limited: food is so massive a category of material, metaphor, science, and art that it appears everywhere. How is it possible to stretch from sites of agricultural production at the industrial scale to localized intimate encounters with molecular techniques that manipulate food matter? The molecular gastronomic movement of the 90s is critical because it sets up a microscopic turn at the aesthetic and sensory scale. The molecular turn in fine dining is paired with the '90s and early 2000s rise of Nutritionism, or the overreliance on food's nutrient parts, such as antioxidants or protein. The farm-to-table movement that slightly pre-dates these two alimentary shifts also changed production and

[24] Hunt, 156.

[25] Schechner, "Rasaesthetics."

consumption desires in seeking and tasting locality. Molecular gastronomy, Nutritionism, and Farm-to-Table all work as movements at the microscopic level. Food is molecular, sensory, and spatial.

The dissertation broadly works to capture the alimentary aesthetics of the 21st century–perhaps an attempt that will fail. The failure to narrate, sense, and theorize the totality of food will appear again in Chapter 4 on microplastics. The case studies collected converge across media, matter, and scope. The key performance art pieces in Chapters 1 and 2 mark artistic interventions that move from molecular gastronomic techniques of the 90s *and* performance art practices of the 60s. In Chapter 1, Zina Saro-Wiwa's silent gin tastings incorporate the dissociated sensory entanglement through recomposing consumption. In Chapter 2, Pei-Ying Lin's *Virophilia* uses foam but inoculates the molecular technique with mimetic viruses to blend modernist gastronomic techniques with global concerns spawning from industrial food production. In 2021 and 2020, respectively, Saro-Wiwa and Lin articulate localized, transnational, sensory, and theatrical food performances that stretch material food production interventions to global consumption anxieties. While it is perhaps generally agreed upon that small-scale performance art and global performance venues all fit into the study of theater and performance, this dissertation seeks to articulate *how* these spaces- a gallery, a theme park, a farm, a kitchen, a celebrity's armpit, a hearth, a boat, and more, share the material practice of edible matter yet scale in varied ways.

Theatricality of the Local

I wrote this dissertation in California. I have found it a challenge not to be influenced by the pervasive story of local, organic, natural, healthy, artisanal, or otherwise foods that often are

produced through the fantasy of the real.[26] These terms cannot entirely be conflated with their complex histories, political and commercial applications, and fantasies. However, they each suggest an ability to resist various harmful effects of industrial food production on the environment and consumers. Each word contains important distinctions in its own right, providing alternative ways food can be produced or consumed compared to industrial food. However, while these terms can be applied in dietetic, economic, or agricultural contexts, aesthetically, these terms have begun to converge. Their exaggerated effects, global application, and converging meanings all contain what I call the theatricality of the local. Theatricality is not empty of matter but rather works dramatically with material resources, inciting a renewed urgency for theorizing theatrical consumption, waste, and decomposition.

Industrial food production has reshaped all food matter: its global circulation, industrial production, and extreme alienation create a confusing relationship between humans and food. This general concern about what and how to eat has appeared throughout U.S. history, from 19th-century anxieties about race and consumption to early 20th-century anxieties about food-borne illnesses, to 1970s organic food movements, to current 21st-century manifestos where food production and consumption are considered more and more interlinked.

A major aim of this dissertation is to outline a range of performances that utilize food at the center, at the margins, and in unexpected places. None of the food is wholly mimetic, and most are edible. Specifically, I include performance works that require or at least encourage food consumption in some capacity. I am interested in performances that use real food. The edible parameter significantly limits the works surveyed. However, as my literature review has articulated, food's mimetic and metaphoric capacities have been well-researched. Instead, these

[26] In the summer of 2021, I attempted to consume only food produced locally, purchased from farmer's markets, farm stands, or Community Sourced Agriculture (CSA) boxes. The experiment was extremely expensive.

edible performances highlight U.S. contemporary food cultures' theatricality and global, ecological, and commercial reach. I aim to make the parameter of edible food explicit, for I believe it materially unearths the effects of industrial food production that circulate globally, which has a massive impact on planetary health and changing conceptions of taste. The theatricality of food, in turn, opens up performance studies' conception of theatricality as one that necessarily invites a scalar analysis.

Scale is critical when considering theatricality. As Chapter 3 on Microbes expands, theatricality has been defined by Thomas Postlewait and Tracy Davis as a quality of failure. Contemporary wellness culture, environmental activism, and even the wildly expansive area of food studies in the academy position food interventions as an answer to many problems–namely human and planetary health. While I am in some agreement that food studies has survived in the margins of academia and food remains a concerningly hidden area of study in environmental concerns, this dissertation argues that the inevitable aesthetic, ecological, and even commercial failure of food is equally, if not more, important. Some of these failures are mimetic, and some are material. Still, in general, I am hesitant to assume any one approach will solve our contemporary environmental and social problems, and often, to assume so elides the messy realities of change. I speak to the scientific method's penchant for positivism and progress and the neoliberal fantasy of perfectionism, efficiency, and the promise of "voting with your fork." I am especially wary of the emergence of three terms that circulate in public and academic conceptions of food as single answers to food crises: **local**, **artisanal**, and **sustainable**. That material change could be restricted through food's inability to fully exist outside of capitalist commodifications (Chapter 1, Terroir), enacting relationship-building human and nonhuman interactions (Chapter 2, Microbes), what it means for food to be *edible* (Chapter 3,

Microplastics), and how scientific and theatrical environments that produce agriculture, food, and performance have remained and adapted from the late 90s to present day (Chapter 4, Theatrical Remains). The performances I have curated in the following chapters are neither wholly resistant nor fully representative of food system issues, including the environmental impacts of food production and consumption.

This section works to untangle the mono-application of local, artisanal, and sustainable by offering some qualities to complicate the assumptions that haunt these terms. While this dissertation limits the performances to incorporate edible, material food, I should amend my statement above–I am interested in the physical act of consumption and the process of eating as part of performance– but I remain cautious, if not wholly uninterested in, the determination of *real* food. Local, artisanal, and sustainable are all haunted by the real. Local food, farmer's markets, small-scale farmers, and sustainable practices, while perhaps potent options for renegotiating food systems, also carry a purity of matter–a purity that is alarmingly still haunted by Western Enlightenment logic and even falls in line with anti-theatricality. The concern of the *real* can be usefully mapped onto early food and performance scholarship to present early binaries that mirror nature-culture divides. The perplexing staying power of nature-culture binaries is one that feminist science and technology studies, queer of color new materialists, and environmental humanities have sought an urgent blurring. The emergence of artisanal and local as historically situated terms will present key films and literature that incited the over-fantasification of food interventions. But first, I begin with efficacy in eco-performance as a lens into how I diverge from contemporary eco-performance studies. So I name this section the Theatricality of the Local, seemingly oxymoronic but perhaps an antidote to our overreliance on a fantasy "real."

Food as matter that fails might cause some unease. Especially in environmental humanities and ecological performance, the role of hope and action in performance to enact change is highly valued. I do not discount this need but instead open the possibility of considering a total or pure efficacy as not the only outcome for ecologically entangled performance. Or that efficacy may be better articulated across scales, especially in theater and performance. The scalar approach to performance, matter, and even taste is indebted to Max Liboiron's work in *Pollution is Colonialism.* Their theorizations and material interventions in science methodologies, thinking with indigenous and feminist science and technology studies approaches, greatly inform this dissertation. The methodological complexity of understanding the efficacy of performance in environmental action relies on Scott Magelssen's tentative reflection that "performative radical acts of eco-protest are, on the face of it, about saving something out there, but a closer look reveals it's about something much, much closer."[27] While the perceived performative action of protesting BP, Shell, or other environmentally destructive corporations may initially appear visually, dramatically, and loudly, Magelssen offers that theatrical analysis may identify closer, smaller interventions, changes, and articulations toward rebuilding human relationships with the nonhuman, the surrounding space we inhabit, and perhaps even the material that we ingest. This dissertation follows suit–some of the performances covered may initially present drastic or transformative environmental changes. A performance may source locally grown food or meditate on the vast ecological damage that has been inflicted on the planet–but, as Magelssen aptly points out, "it is worth noting here that what we in drama seldom like to admit is that the enterprise of live theater itself, in particular professional and

[27] Magelssen, "'Some Are Born Green, Some Achieve Greenness': Protest Theater and Environmental Activism," 236.

academic theater, is not very 'green.'"[28] I do not assume that *more* theater and performance *about* the environment will solve our climate issues. Narrative will not be the primary framework for understanding the impact of the performances covered. Material remains, and sensory entanglements may performatively offer effective solutions. Still, they will theatrically muddle up and occasionally close the ever-ending nature-culture divide that remains a crucial fracture of American culture, including diet.

The material method to address the ecological impact of performance is directly drawn from Una Chaudhuri's foundational article "There Must be a Lot of Fish in that Lake," which critiques Western naturalist and realist traditions for reinforcing nature-culture binaries by representations of nature on stage.[29] Theater and performance studies have long been concerned with mimesis, creating a distinction between the real and the representational. While I don't claim all matter, edible matter (often food, drink, or other comestibles) blurs any clear line between representations and an original. The indistinguishable space between the representer and represented, or Hunt's "culinary mimeticism," when food "performs," is a nuanced method of a particular genre of food performances, ranging from dinner theater to fine dining spaces. A modernist culinary dish– such as Ferran Adria's (of the aforementioned El Bulli) spherified olive, is simultaneously visually performing as an olive and is actually made up of blended olive matter. Distinguishing whether it is real, fake, actual, or performed becomes a debate that better reveals our contemporary concerns about what exactly food *is* rather than a conclusive approach to defining a singular aesthetic of food. Additionally, the metaphoric application of cooking and food to theater and performance reveals not only biases and binaries surrounding food and performance but also the very nature-culture binaries that Chaudhuri articulates as a logic that

[28] Magelssen, 227.

[29] Chaudhuri, "'There Must Be a Lot of Fish in That Lake.'"

reinforces behaviors and actions that assume humans are superior and separate from the natural world.

Philosophies of theater and performance have exercised metaphors of food: cooking, eating, and digesting articulate the transformative and efficacious potentials of performance. From Richard Schechner's discussion of theater as "cooking" raw materials to Bert O. States' theorization of the "nourishing" qualities of experiencing performance, metaphors have emerged in scholarship between food, performance, authenticity, and theatricality. These two metaphors illuminate a fantasy of the "real," a framework for theater and performance that identifies methods to do "actual" theater, creating a binary between real and fake theatrical approaches. The effects of the binary of performance and theater, or efficacy and entertainment, is discussed in Stephen Bottoms' article "The Efficacy/Effeminacy Braid: Unpicking the Performance Studies/Theatre Studies Dichotomy" (2003). Bottoms argues that the disciplinary distinctions between theater and performance have resulted in a binary opposition of theatricality and performativity, in which performativity is "active and dynamic," or in Schechner's terms, more efficacious than entertaining, or of having real, useful, material consequences and transformations. As Bottoms illustrates, this renders the opposite of efficacious performance to entertaining theater, where "'theatricality' continues to be associated, unthinkingly, with ingrained connotations of empty show and ostentation, lacking in transformative potential."[30] Bottoms continues this analysis, linking entertainment with effeminacy. Addressing anti-theatrical and anti-gay rhetorics in theater and performance criticisms, Bottoms reminds us that "to be involved in theatre is—ergo—to be feminized, if not downright effeminate."[31] The oppositional structure between masculine and feminine essentialisms occurs in the study of food

[30] Bottoms, "The Efficacy/Effeminacy Braid," 181.

[31] Bottoms, 176.

as well. Hunt reminds us that "the tendency to distinguish the female cook from the male chef along lines of creativity" remains present in the study of food, and as the theories of food and performance grow ever closer, the risk of reinforcing the essentialism and effeminacy of theatricality and cooking as less-than, or not creative-enough, is dangerously possible.[32] In this way, theorizing the theatricality of the local can perhaps cancel out, or at least confuse, the stubborn logic of nature-culture, cook-chef, and theater-performance binaries.

Eco-performativity is part of my method. Material analysis to find failures, limits, anxieties of food in the environment.

While Bottoms complicates Schechner's braid, I invite another framework to muddy and meddle with the mapping of performance in *Performance Theory*. Similarly to the efficacy-entertainment braid, Levi-Strauss' "culinary triangle" has continued to influence the study of food and culture, for example, a 2020 special issue in the *Food, Culture and Society* journal titled "From Nature to Culture? Lévi-Strauss' legacy and the study of contemporary foodways" claim that Levi-Strauss' analytical framework "still provide[s] a fruitful avenue for interrogating contemporary foodways." [33] The culinary triangle presents an analytic structure that discerns different cooking methods across the triangulation of raw, cooked, and rotten. Rotten, as we will see, is often left out as it doesn't map quite so neatly onto Western nature-culture binaries: is rotten after, before, or aside culture? Nature? Rot, decomposition, and fermentation disrupt transformation as an entirely human process, as Chapter 3 will suggest. For example, because of the direct application of heat via fire, grilling meat is considered closer to "raw" or "nature" than boiling meat for a soup, where heat is dispersed through a liquid to cook meat.

[32] Hunt, *Alimentary Performances*, 9.

[33] Graf and Mescoli, "Special Issue Introduction: From Nature to Culture? Lévi-Strauss' Legacy and the Study of Contemporary Foodways," 470.

This formulation of the development of cooking lingers on in popular culture, as the model closely resembles Michael Pollan's argument in his work *Cooked: A Natural History of Transformation*. Perhaps Pollan's title can reframe how food and performance theories are intertwined through theories of transformation.

The culinary triangle, similar to Schechner's *Performance Theory*, addresses transformation as a process; for Schechner, it is between "actuals," and for Levi-Strauss, it is from "the raw." However, Levi-Strauss' conception of cooking as efficacious or transformative, that cooked food denotes cultural developments, runs counter to Schechner's efficacy, which seeks performance as the actual and cooking as the "overdone" or "theatrical" performance. Maybe their exhausting formulations can cancel efficacy out of the equation. Or rather, bringing early food and theater theory into proximity can reveal a long desire, a fantasy, for locating a material "real." However, what are we left with if efficacy is dissolved, or at least destabilized, in food and performance? The performances that each chapter takes up have scales of efficacy and scales of entertainment. These are taken at range: not indicative of ethical superiority or inferiority, but rather working at a spectrum, some having more effects at certain scales than others, effecting, inserting, and imagining relationships with food partially, if not wholly, outside our industrialized food system. However, none of the performances I cover produce "real" foods or edible matter. I propose that the ever-pervasive fantasy of the real, particularly in alimentary performance, can be countered by a critical consideration of the theatricality of the local and the artisanal through microscopic material gestures.

Local, organic, natural, healthy, artisanal, etc, have all begun to emit a similar aesthetic in U.S. foodways. Dewey, brightly colored fruits and vegetables rest abundantly in a woven basket or wooden box. However, of the slew of adjectives listed above, local and artisanal should be

defined separately to understand their convergence (if an uneven convergence). Local food describes the "close" proximity of food production to a consumer. Close, in a global food system, is a relative term. Local is a question of scale when examining foodstuff. Is *local* determined by the 100-mile radius of Michael Pollan's locavorism? Living in California, the state that produces a majority of the country's fruits and nuts, a third of its vegetables, and huge industries of dairy, cattle, and other commodities, *local* can certainly mean industrially produced.[34] Local emphasizes the place of consumption more so than the mode of production, which places the burden of consumption on the individual. Unless, of course, the adjective sought is actually *artisanal* food production, which suggests traditional, non-industrialized production processes.[35] Artisanal is a quality of production. But what scale is artisanal? In relation to Sysco's wholesale beef production, White Oak Pastures' regenerative cattle production and Maui Nui's wild-harvested venison function artisanally. However, the locality would be severely compromised if I shipped their products to my kitchen from Maui or Bluffton, Georgia. This convergence of production and consumption as desirable, resistant qualities of food is not unique to 21st-century performance. However, the scales at which these qualities appear, materialize, and are performed are increasingly dramatic.

How is it that locality and artisanal became so conflated in U.S. foodways? I draw a few stories in 21st-century U.S. popular culture where the local and artisanal converged. These films and theatrical interventions will haunt the remaining chapters, reappearing, as food stories do, in unexpected avenues. Between 2000 and 2010, several significant popular books and documentaries incited various discussions on the state of food production and consumption in the

[34] "CDFA - Statistics."

[35] Artisanal food production, as others have pointed out, does not necessarily mean non-commercial. Paxson, "Locating Value in Artisan Cheese."

United States. Eric Schlosser's journalistic expose *Fast Food Nation* (2001), Morgan Spurlock's documentary *Supersize Me* (2004), Michael Pollan's *The Omnivore's Dilemma* (2006), and Robert Kenner's *Food, Inc.* (2009) do not independently conflate artisanal or local food as a singular band-aid for contemporary food crises. However, these cultural products (along with others) emergence and popularity mark a point of convergence in American food culture: an aesthetics of food that could serve as an ethical, dietetic, and environmental counter to industrially and globally produced food. The burden of consumption becomes a moral action. The ripple effects of these cultural products within and outside of academia are too numerous to illustrate fully–but throughout the dissertation, I work to think through the aesthetic and ecological effects of these dominating ideas about food on theatrical space and performance works in the years that followed.

Whether academic courses that have an underlying preference for farmer's markets as interventions into community food systems, chefs and artists prioritizing locally sourced ingredients, and consumers seeking ethically and artisanally produced goods, it feels stubbornly contradictory, or perhaps just absurd, to assert that the local and artisanal is theatrical. And yet, here I am, asserting that theatricality is a critically important quality to seek in food performance, especially in performance that emits qualities initially read as resistant to industrial food production. I do this in particular to question and disprove a singular food aesthetic (namely a farmer's market utopia with piles of shiny fresh produce and pressed cardboard containers and canvas tote bags, all things I regularly personally perform but am hesitant to adopt as a desirable outcome at scale) that will serve as an answer to industrial food production and consumption. Similar to Kyla Wazana Tompkins' warning that a single-commodity narrative in food histories limits our analysis in conceptualizing how consumption and production are entangled in social

histories and material culture beyond food commodities, resistant-to-industrial food aesthetics cannot *look* or even *taste* the same – it cannot all be local, or artisanal, or anti-commodity, or harmoniously engaged in relationships with nonhumans, at least at this stage of capitalist ruination.

Consumption is intimate but communal, as many case studies will propose. The following performances will not provide any taxonomy or concrete distinction of the theatricality of the local; in fact, they will muddle them further. However, each performance will draw together aspects of theatricality, locality, commodity, ecological entanglement, commensality, and sensory immersion. From theme parks to dinner performances to intentionally sourced foodstuffs to accidental incorporation of toxic matter, the dissertation will utilize scale to better understand efficacy and the *micro-* to better contend with theatricality. For this reason, I survey a range of theatrical spaces to articulate better the scales in which theater and performance operate in contemporary culture and to resist homogenizing eco-performance into one aesthetic, one action, or worse, one type of environmental effect. The title of this dissertation, particularly following the colon, draws on an edited collection, *Arts of Living on a Damaged Planet* (2017), from Anna Tsing, Heather Anne Swanson, Elaine Gan, and Nils Bubandt. As Anthropocene, multispecies, posthuman, and STS scholars have begun to theorize the vast and varied amount of ecological damage as an inciting and all-encompassing epoch, survival must be renegotiated through ethical relationships, responsibilities, and behaviors with the nonhuman world.

Acting Edible (Methods)

'You are what you eat' remains a forceful orientation in food studies. The provocative adage is regularly attributed to French philosopher Jean Anthelme Brillat-Savarin in his 1825 book

Physiologie du goût: Méditations de Gastronomie Transcendante (*Physiology of Taste or Meditations on Transcendental Gastronomy*) in which he provokes to "tell me what you eat, and I will tell you what you are."[36] Whether disputed as a nationalistic or essentialist determination of food's impact on the human body or upheld as a dietary or cultural lens into understanding the profound influence of food on the formation of humans, subjects, and beings, this phrase remains as a critical idea–even method, into the study of food. Key to this phrase is understanding the distance and application of taste–is it literal or metaphorical? Does taste assume a higher elevated status than lower classes, or is it critical to being-in-the-world? These differences of taste shift globally. On the one hand, this dissertation questions the aesthetics of food in performance; on the other, I examine microscopic entanglements that occur in the act of eating.

This double meaning of taste, as physical action and sense of value, will flip, fold, and materialize in a range of matter throughout the ensuing chapters. *Acting edible* invites a microscopic immersiveness to performance, where audiences are entangled with the production of performance through intimate consumption. *Acting edible* also proposes ontological problems, as the human body becomes nonhuman as it consumes other animals, viruses, bacteria, and microplastics through the porous act of eating. However, as the vast majority of consumable food produced on this planet is industrially and commercially produced, the aesthetic consideration of the performances will only be with a close, microscopically close, analysis of the particles of performance. Fermentation, inoculation, distillation, Pasteurization, containment, oozing, dripping, firing, grilling, shucking, packaging, delivering, shipping, and any number of practices and techniques to perform with food will also be under close watch. The lengthy list of actions is not only suggestive but also invokes the challenge of space and place in food performance. If narrating the process or performance of food, then sites of production, places of consumption,

[36] Brillat-Savarin and Fisher, *The Physiology of Taste, or, Meditations on Transcendental Gastronomy*.

and the traversing of food matter globally, and they all impact even the most localized performance.

Let us return to the place of this dissertation's production. The project was completed in UCLA's Theater and Performance Studies program, but my research also took place while completing the Graduate Certificate in Food Studies at UCLA, a program housed in the School of Public Health. At first, I was a bit of a sore thumb in our graduate colloquium; it felt as if we, the graduate students, were not only speaking different languages but also of different ideologies and certainly practicing entirely different methods. Yet unlikely companions in public health, environmental sciences, archaeobotany, and epidemiology pushed my understanding of food, especially regarding the theoretical offerings I might aim to make as a scholar. Particularly, through working and thinking with those in the sciences, efficacy became a critical term to investigate, as it remains a potent determinant in scientific methodologies, especially when it comes to climate change and environmental impact mitigation.

Additionally, this program gave me great insights on how I choose to intervene in scholarship– largely to speak between humanities and sciences and theoretically and practically build companions, terms, and ideas that can work across these methods that seem, at times, completely incoherent. Because of my goals in collaboration, the dissertation will cite scientific studies–not as studies to provide *outside* methods as validation or proof, but instead to compare and bring alternative approaches to understanding nonhuman matter into this largely humanities-oriented project. My concluding chapter will ultimately propose new pedagogical approaches to food studies and discuss how interdisciplinary thinking might inform mixed methodologies. But ultimately, as Chapter 1 begins, there is a simple, relatively old word that has both evaded translation from French but is found and still used in nearly every field that takes up

the study of food: *terroir*. Sort of translated as the taste of place, terroir is the term that links the aesthetic concerns of taste to the local, global, industrial, and artisanal environment that produced them. Terroir serves as a word that can link, rather than alienate, the disciplines that attend to food.

Chapter 1
The Terroir of Performance, The Performance of Terroir

"When humble commodities are allowed to illuminate big histories, the world economy is revealed as emerging within historical conjunctures: the indeterminacies of encounter."[37]

Often, in explaining terroir, I begin with a small performance. I utter something like, *oh, you know how a sommelier might say you can taste the minerality of the ocean breeze from the vineyard where the grapes were picked in a sip of this pinot grigio*? *That's terroir. The idea that a particular region produces a particular taste.* This narration is paired with a wave of my hand as if I was wafting scents and a bit of snobbery into my nose. I suppose this attempts to invite the audience in: I acknowledge the elitism associated with taste and terroir, and certainly, wine. There is a limit to which one might *sense* the landscape, the production process, and if that even matters in a single gulp. My performance occurs in many places: department gatherings, meetings with scholars, food and performance conferences, and the ever-satisfying nonacademic social event. However, it also often happens in a small wine shop in Silverlake, Los Angeles, where I have worked as a part-time salesperson, learning about wine, winemakers, and regions worldwide. Initially born out of financial necessity as a graduate student, it has also served as a rich site for exploring the connection between taste, place, aesthetics, and commodities in American consumption. The discount on wine is nice too. I translate small bits of information about a bottle into a story, sharing it with eager customers.[38]

Terroir is a fickle word with ambiguous definitions, regularly described as untranslatable from its French origins. As this chapter will illustrate, while the word itself may remain the same, the concept of tasting the environment that produced a bite or sip of food has translated

[37] Tsing, *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins*, 119.

[38] To be fair, there are some less than eager customers who end up with that glazed look not dissimilar from a tired student in a nine o'clock in the morning seminar.

across cultural contexts and changing food landscapes and performance mediums in the face of environmental destruction; it has even changed within French agricultural and culinary history. One useful translation is cemented in the title and intervention of Amy Trubek's book *The Taste of Place: a Cultural Journey into Terroir* (2009). However, the idea that a particular locale might impart distinct qualities to a food item has caused a slew of other scholarly reflections on this concept. Scholars have pointed out the commodifying and nationalistic properties of terroir.[39] Others have addressed the transformative potential of the environmental connection chefs, artists, and even foodies cultivate through an embodied approach to terroir.[40] This chapter defines terroir as both: a word that encapsulates the mess of eating food on our globalized, interconnected, industrialized, and multispecies planet. Below I will schematize the concept across time, introducing a few of these shifting definitions. This layered approach, seeking the possibilities amongst the destruction from capitalism, and alluded to in the epigraph of this chapter, is indebted to Anna Lowenhaupt Tsing's *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins* (2015), as I'll elaborate on in my definition of *terroir 3*, which is the closest I get to a neologism surrounding the word terroir.

Before landing at *terroir 3*, I will wander through first, second, and in-between iterations of terroir. In some ways, this historical chart mapping terroir, briefly, through France, Italy, and the U.S. is limited, but charting terroir also points to the dominant definitions and uses of the word as it gained a global reach (table 1). This chart illustrates the ambiguity, in terms of double, triple, and contradictory meanings, not ambivalence, nor comprehensive, of the applications of terroir. Additionally, while there is some chronology to the examples (see the suggestive

[39] Parker, *Tasting French Terroir*; Paxson, "Locating Value in Artisan Cheese."

[40] Markstein and Steijn, "The Dramaturgy of Wine, the Terroir of Performance"; Abrams, "Towards an Ecological Dramaturgy of Dining."

inception dates), nearly all definitions are repeated throughout time and place and can be applied to particular contemporary usages, including performance practice.

Table 1: An extremely abbreviated chart of terroir.

Terroir 1	*A farmer's proper relations with soil.* Olivier de Serres' *Les Théâtre d'Agriculture et mesnage des champs* considers terroir as a set of good relations between farmer and soil, resulting in quality produce.	1600
anti-*Terroir*	*Regional alimentary properties of particular foodstuffs.* Louis XIV's absolutism reduced regional taste to a pejorative and rendered terroir out of fashion, so while the definition did not change, its assumed ethical and aesthetic promises were reversed.	Late 17th C.
Terroir 2	*The taste of place.* As global trade grew and the exportation of French food and wine dominated U.S. conceptions of taste, terroir became a fetishized quality of wine, cementing critical European wine regions and expanding to other foods that exoticized regional specificity to create a fantasy of taste through colonial logic. 1787 marks Thomas Jefferson and James Hemings' 3-month trip to France, during which Jefferson sought to replicate culinary regional specificity in Virginia, bringing terroir to the diet of Americans descended from Europe.	1787
anti-*Terroir 2*	*The taste of place.* As urbanization consolidated social life, food was similarly consolidated, increasing food-borne illnesses. Pasteur's 1859 experiment introduced Pasteurization as a practice of food stabilization, which subsequently homogenized tastes and molecularly and spatially disrupted the regional specificity of food. (See Ch. 2)	1859
Terroir (Terra)	*The taste of place.* Terroir is redefined, and not entirely translated, through the Italian Slow Food Manifesto, which then becomes central to Alice Waters' food activism alongside the Organic movement of the 70s and the Food Movement of the early 2000s.	1989
Terroir 3	*An embodied encounter with food via the senses, whether consciously or not, puts an eater in relation with the environment, space, place, people, and matter that produced the eaten thing.* In contemporary performance practice, whether that is daily, dining, or theatrical encounters with food, each of these *terroirs* emerges—marking a not-quite-new use	21st-century

	of terroir but rather one that is resistant and commodified simultaneously.	

The performance practices that this chapter will sense are all contemporary practices–beginning with a case of wine I received one day at the wine shop. As terroir has expanded beyond (and perhaps always worked outside of) winemaking, so too will the chapter. A performance piece that invites audiences to participate in a silent gin tasting introduces the complexities of applying terroir 3 to food in performance: just as terroir holds multiple meanings, so will taste and, likewise, place. Terroir then becomes a framework for the entire dissertation: it proposes a multi-layered and multi-scalar method for interrogating performance that utilizes food in nearly any form. The chapter will conclude with a short survey of film and television that have perpetuated, and perhaps alarmingly transformed, "anti-*Terroir 2*" to offer some of the cultural counter-arguments, which serve as a critical expansion of how *Terroir 3* produces possibilities *and* anxieties around food. Terroir activates food as a commodity, food as environment, situating food in place and as a time-based process, and blends scientific, agricultural, aesthetic, and affective encounters with what we ("we" being quite expansive) eat.

In covering terroir from so many angles, methods, and mediums, I aim to narrate its critical importance–not only its transformative and resistant properties to the industrialized food system but where it swells and also elides hegemonic ideas of food, environment, and aesthetics. Terroir, I argue, is an approach to food that can work against, productively, the dramatic shifts that have occurred in representations *and* material realities of what is edible (mostly food), just as well as it can work for them. The representational concerns I contend with align with Walter Benjamin's *A Short History of Photography* from 1931, where Benjamin identifies the limitations of photography,

> "Which is able to relate a tin of canned food to the universe, yet cannot grasp a single one of the human connections in which that tin exists; a photography which even in its most dreamlike compositions is more concerned with eventual saleability than with understanding."[41]

This concern about the masking of production through photography and visual culture informs my curation in this chapter and beyond: while films, images, and the visual will undoubtedly leak into the works I analyze, I will often begin with the food itself: for example, the bottle of wine that begins this chapter.

Not unlike a can of food, there are many points along the wine supply chain that mask the means of production. These transformations can certainly accrue capital, from grape berry to alcoholic beverage, extracted labor from pickers, or hidden components of what is molecularly present in the comestible (e.g., Mega Purple, a concentrate from a grape varietal that can be added to enhance the color of wine, regardless of the pigment in the primary varietals). However, transformation is also a condition of preparing food. How does a food and performance scholar approach transformations at these varied levels? Much of this analysis depends on a scalar approach, where the effects of food have to be considered at scale. Human and material connections become materialized and digested if only at the microscopic level, muddling up conceptions of taste rather than Benjamin's concern for visual obfuscation.

Terroir is dependent on taste: whether that taste is a Bourdieuan taste that reflects class distinctions or a sensorial engagement through flavors, digestion, and incorporation of matter into the body will shift throughout this chapter. Whether taste is conversely dependent on terroir is determined by which terroir is utilized. However, this dissertation

[41] Benjamin, "A Short History of Photography*," 24.

argues that a vastly expansive and contradictory conception of terroir 3 proves that taste is dependent on the environment *and* process (both human-led and non) that produced the edible material. How and to what effect taste is compromised, elevated, dramatized, or obscured is variable and will take a microscopic analysis of materials *and* performance practice. This chapter sets out the model for the remaining chapters that focus on particular matter that change our understanding of the environment, which, therefore, may change how we conceptualize tasting it. This chapter moves between food that reads, initially, as mostly a commodity–a bottle of wine, for example–to an alimentary performance by an artist who creates her own illicit gin from the Niger Delta. I conclude with reflections on the elisions that have occurred in contemporary U.S. and global adaptations of terroir that have led to its perception as a word only for foodies, elitists, and utopian food activists who dream of "real food." Finally, I propose the importance of sticking with terroir as a word to grapple with the aesthetics, economies, and environments of food.

Beginning with a Bottle of Wine

The wine shop in which I work, Vinovore, was opened in September 2017 by a Los Angeles-based restaurateur, Coly Den Haan, who wanted to focus on women-made wines and the emerging trend (and long-time historical practice) of "natural wine." Natural wine is a contested category of wine by wine devotees, scholars, and professionals.[42] I am not a sommelier, nor do I propose a new history of wine or a nuanced critique of the global wine industry. Still, the case of natural wine serves as a critical example of the conundrum of terroir in contemporary food production and consumption. The/A case of natural wine captures urban 'foodie' trends that

[42] Feiring and Choksi, *Natural Wine for the People*.

glorify locally or artisanally produced products, emergent concerns about unknown or industrially augmented food products that potentially have adverse effects on human health, and producers and consumers seeking production practices that have less harmful effects on planetary and social life. However, most importantly, 'natural wine' in Los Angeles is a humble commodity: its qualities, the *terroir,* emit a nearly imperceptible distinction between a taste for value created by commodity fetishism and a taste for forging new conceptions of food as integral and integrated into the environment.

What makes natural wine "natural?" There are many ways to answer this question. Natural wine's wandering yet particular qualities mirror the futile attempts of contemporary wellness media's goal for "real" food. On the one hand, there are significant alterations in the production process compared to industrially produced wine. On the other, health benefits to consumers such as no hangovers, low sulfites, or a more vague penchant for the appeal of 'nothing added' to food all circulate as part of natural wine's capital.[43] Generally, winemakers who make natural wine will limit the processes that go into fermentation. Whereas industrial wine has developed practices introducing commercial yeasts, sulfites, and sugars to manipulate the fermentation process, those identifying with the natural wine movement often avoid most, if not all, interventions.[44] The material effects of natural wine are debated in both commercial and scientific spheres, but its public appeal continues to grow.

On the one hand, I'm a bit of a believer in natural wine's transformative potential (at very particular scales.) Food journalist and author Alicia Kennedy describes natural wine's elusive qualities as "a process of minimal intervention in the fermentation of maybe organically grown

[43] There are numerous studies on the effects of wine, whether hangovers are caused by sulfites, tannins, sugars, or some other assortment of organisms present in wine. There is no dominant scientific conclusion as to why we get hangovers from wine other than perhaps dehydration.

[44] The microbes at work are not given such a break, for the fermentation is still reliant on nonhuman labor.

grapes and zero-to-low additives," which I might add are commonly identified as tasting "funky" (read: yeasty, volatile, extreme in some capacity in flavor profile) generally lower alcohol by volume (ABV), and often, but not always, reliant on *terroir*. Not unlike other scholars who have hinted at the promise of sensory life that comes through a sip of unfiltered wine, fermented with non-commercially produced ambient yeast by winemakers who I could name, even know, I have some hope that this type of comestible and process shows small cracks in the consolidated and exploitative supply chain that determines so much global food production.[45]

The global food production crisis is narrated succinctly in *Food Rebellions! Crisis and the Hunger for Justice,* by Eric Holt-Giménez and Raj Patel, as the result of "decades of skewed agricultural policies, inequitable trade, and unsustainable development [which] have thrown the world's food systems into a state of chronic malaise."[46] Importantly, they distinguish root and proximate causes for food crises, untangling the overemphasis on secondary causes like *consumption* from governments, global organizations, and corporations. They critically center industrial food *production* as the critical problem leading to global hunger, diet, and agricultural crisis. Importantly, Holt-Giménez and Patel determine food justice, farm worker movements, and activist groups offering regional agroecological small-scale farming models as tangible solutions to industrial food production, countering a dominant bias that *small* does not work at a global scale. Albeit conceptually and even somewhat aesthetically, this dissertation follows Holt-Giménez and Patel's assertion that small is a crucial scale in conceptualizing global food crises, and one that I will extend to performance practice. However, while emphasizing food production as the critical nexus in food justice movements, of which I agree, a performance

[45] Perullo, *Epistenology*; Bennett, *Vibrant Matter: A Political Ecology of Things*.

[46] Holt-Giménez, Patel, and Shattuck, *Food Rebellions! Crisis and the Hunger for Justice*.

studies approach, I believe, is laden with the issue of consumption. The aesthetic issues of sustainable food production, alternative food movements, and the emerging sensory, narrative, theatrical, and aesthetic impacts of food will dominate the dissertation without leaving behind the critical attention to food production in performance as well.

Some of my small hopes come from working at the wine shop. My understanding of the wine I sell is very much a commodity *and* a product of grapes, people, energy, and time. As Anna Tsing articulates with matsutake mushroom production in *The Mushroom at the End of the World*, examining supply chains of "humble commodities" can reveal "the indeterminacies of encounter."[47] There are moments along the life cycle of natural wine that slip in and out of commodity: sometimes a case of wine entirely alienated from labor (of both humans and nonhumans), and other times de-alienated through story, terroir, and digestion. These shifts are mediated through taste. The supply chain of natural wine is incredibly varied and, similar to Tsing's argument, is not "scalable," as I will illustrate below. Natural wine can sometimes, but not always, utilize agroecology practices, serve smaller regional communities, and build responsible relationships with farmers, pickers, and producers, the kind of alternative movement that proposes rebellious behavior in the face of global industrial food production. The *scaled-down* production model is not a simple fix, but, to follow Tsing's methods, it makes cracks in supply chains, changes existing wine production models, and creates what Tsing calls "patches" in production rather than presenting industrial food production as a smooth, vast, large given.

Terroir is not a word unique to natural wine. It is a word that continually appears in national and global wine industry reports, sommelier descriptions of bottles, and journal articles, and remains an elusive quality that reinforces the dominance of certain wine production regions–

[47] Tsing, *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins*, 119.

think of Champagne, a region in France that is the only place in the world that is allowed to produce Champagne wine, explicitly linking taste to place. Champagne has a regionally, governmentally, culturally, and aesthetically determined terroir. However, the process by which the Champagne is made is codified at an industrial scale. In some ways, natural wine producers compromise the predictability and codification of specific tastes in service of ethical, agroecological, or alternative production practices in winemaking. There are minor, slight departures from the industrial practice. How do those departures change terroir? In many ways, it is because of natural wine's inability to scale up that it has become such a contentious product, resulting in frustrated food reviews, exaltations from other writers, and thinly veiled insecurities of the establishment of the 20th-century wine industry and its extensive culture.[48]

Narrating natural wine is a precarious story: I will likely later contradict myself. As I established in the introduction, this project's goal is not to glorify artisanal, local, natural, or real food production as a single solution to our global food and climate urgencies. Yet artisanal, local, and alternative modes of food production will continue to appear throughout this dissertation. But before I do that, the story of the supply chain of natural wine will introduce a few lenses for the performances and products presented in the following chapters.

When I open a case of wine delivered by a FedEx driver to the shop, I am confronted with wine in its most alienated state. A paper slip accompanies the twelve bottles encased in cardboard, with an invoice from the distributor. Distributors play a critical role in the life of natural wine. They are licensed businesses (and often individuals) who can import wines from outside of the U.S. and sell wholesale to shops and restaurants, but they also curate selections from regions, understand the tastes of particular markets, and broader trends in wine.

[48] Kennedy, "On Natural Wine"; Teague, "A Skeptic's Tour of New York City's Natural Wine Bars."

This particular case holds twelve bottles of (mostly) grenache rose wine from Camins 2 Dreams, made by Tara Gomez and Mireia Taribo, a couple living in Lompoc, California. The rose is made from a blend of many grapes along the Camins 2 Dreams wine production line. Some of the grenache is specifically picked for the production of their rose, as we might normatively conceptualize in winemaking. Some of the juice comes from the bleed from other harvests–the few times I've helped sort berries (grapes) from stems, the stainless steel conveyor belt collects what might look like waste juice but is collected into a small steel tank to serve as a companion juice for blending the rose. So, on the one hand, their wine is produced with minimal intervention; Camins 2 Dreams uses little to no sulfites, incites fermentation with ambient yeasts, and generally follows the nebulous natural wine practices. But as we linger on the material process, the *doing* of wine, the rose consists of human interventions, adjustments, and means of saving, reusing, and blending to create a bottle. In its "naturalness," there is greater involvement with human production, intimacy, and intention behind their choices.

Gomez and Taribo have a small production facility and tasting room. Small is an adjective reliant on relativity, but to paint a picture, they operate out of a 2,000-square-foot business lot.[49] They have one to two occasionally hired assistants who are locals who take the job to make a bit of extra money, but it is not their primary income. Farm workers and pickers are hired by the people who own the vineyards, but Tara and Mireia are part of the picking process, waking up in the middle of the night when the sugar content of the berries is just right.[50] Otherwise, harvest days, processing days, blending, tracking, bottling, disgorging, cleaning, and sorting are done by Tara and Mireia and whoever chooses to volunteer time and energy.

[49] 2,000 sq. ft. is comparable to an average university blackbox theater.

[50] "Camins 2 Dreams."

I woke up early on a Saturday morning in September of 2022 in Echo Park, Los Angeles, to make the two-hour drive up the California coast to Lompoc. Gomez and Taribo had received a few bushels from the Temecula area the night before. The berries were not going to become Camins 2 Dreams wine. A casino had a vineyard that did not have the processing equipment to make wine, as is true of many small producers, so Camins 2 Dreams was contracted to process their berries into wine. Much of California's natural wine is made in community: many producers don't own vineyards, processing or bottling equipment, or even sometimes the grapes themselves. The supply chain is shared, borrowed, split, and swapped around.

Because a particular bottle, vintage, and even general category of natural wine cannot be produced at a large scale, the wines become less predictable in the market (and in the mouth). Customers will come in regularly to ask for their favorite bottle of an Oregon dry riesling or a Northern California carbonic grenache. Just as often, I have to tell them we do not have it in stock. Materially, winemakers do not and cannot make a volume of wine that would keep all natural wine shops and restaurants consistently stocked with a particular vintage. The larger the volume of berries harvested and fermented, the more intervention is needed, both in human and nonhuman labor (such as the bacteria that transform the sugars into alcohol). To "scale up" would betray the production qualities of minimal intervention and require stabilizers such as sulfites to control the juice's aging and the bacteria's activity.[51] So, winemakers are limited in what scale they can produce, meaning that, unlike commercial producers who ferment at a volume that meets market demands, natural wine producers will likely fail the demand.[52]

[51] The process of adding commercially produced yeasts, sulfites, and other additives to wine is temporally specific: winemakers have not always produced wine in this way. Along with the emergence of our understanding of microbial life through Pasteur came the commercial production of yeast in food systems, changing food production to produce more stable, consistent, and predictable tastes.

[52] These limitations will always be tested in a capitalist market, and this is true with natural wine: producers will push the limits of production, likely compromising certain production values.

The inability to scale has relegated natural wine to aesthetic and commodity margins. Unpredictable in taste due to minimal fermentation control, alongside resistance to 'scaling up,' leads to a frustrating foodstuff for the larger American wine industry.[53] Eric Asimov, the New York Times wine critic, points out the distance (and industry anxieties) between natural wine and the American wine industry:

> "Gen Xers and millennials have grown up in an entirely different world. Beers now come from hundreds of small breweries in dozens of historic and newly created styles. Cocktail-making has become an esteemed craft in which every ingredient counts, and high-end spirits producers are all over, working in every style. This rising interest in the culture and beauty of ingredients isn't restricted to just alcoholic beverages: Chocolate, olive oil and honey, just to name a few, have been marketed according to their provenance and quality to a growing audience of people who appreciate such things."[54]

In the article detailing the concerns the American wine industry will soon face, Asimov suggests that millennial consumers' attention to social and environmental justice issues is a critical area that the industry should seriously address. I am in agreement with Asimov, but will closely examine a reflection of Asimov's– where the "interest in culture and beauty of ingredients" is rising. With the attention to "provenance"–the place of origin- the *terroir* becomes a quality that *counters* the performance of an elitist terroir 2*,* which I opened the chapter with. Or at least diverges from a taste that is *only* aligned to products produced by capital to taste that acknowledges the ruinous nature of global food production. The American wine industry has no

[53]Asimov, "12 Natural Wines to Drink Now."
[54] Asimov, "The Wine Business Sees a Problem."

issue with *terroir*, but an attention to *provenance* has illuminated that industrial food production is at odds with taste.

In the State of the U.S. Wine Industry 2022 report, which Asimov covers to address the generational shifts in taste, natural wine is mentioned once, in a footnote.[55] In 2023, the same wine report dedicated a few pages in their advertising section on young consumers, health, and finally, a section on natural and organic wine. The final section on natural wine suggests that the producers in the health and sustainability-focused subculture of natural wine "cast doubt about the rest of the wines made in the industry" through their "need to start their consumer message by implying that all wine is made with chemicals and loaded with additives. They then go on to tell the story of how their wine isn't that."[56] The report, perhaps accidentally but aptly, conflates changes to production processes as marketing tactics. The confusing reality of natural wine as a commodity is that it does precisely this: there are significant interventions that attempt to reshape social and environmental relations through the process of making wine while also surviving the market by "telling the story" as a way to advertise their product to consumers. The industry report reveals what writer Alicia Kennedy poignantly observed about popular culture's unease with food-trend cultures that emphasize social or environmental well-being, including veganism and natural wine:

> "Neither natural winemakers or drinkers nor vegans are the powerful ones here. If you've been thinking they are, perhaps it's time to interrogate why you feel that way—to ask how we can move forward for a better world, instead of mocking anyone trying to do things a bit differently."[57]

[55] McMillan, "State of the US Wine Industry 2022," 64.

[56] McMillan, "State of the US Wine Industry 2023," 40.

[57] Kennedy, "On Natural Wine."

Kennedy identifies an issue of scale: while there is certainly an emerging market for socially or environmentally conscious wines, these particular markets are incredibly small compared to wine consumption globally. And while natural wine is a smaller subculture than veganism, neither has proven to alter consumer habits on a global scale. As identified earlier, natural wine has limits to its scalability. Yes, there may be shortcuts, alterations, and even claims of a given wine's production processes that are not actually materially accurate. However, rather than identifying a dramatic shift in the market, these reports and reflections show general anxiety from industrial food producers around the emergent desire for a new kind of *terroir*.

Gomez and Taribo produce a socially and environmentally specific terroir with Camins 2 Dreams. As queer winemakers, the two regularly narrate their relationship in interviews as a deviation from an industry that is still dominated by white male producers, rehearsing their story in interviews, tv shows, and podcasts.[58] Gomez, a member of the Chumash tribe, also narrates the prejudice she has faced as one of the few Indigenous winemakers in the U.S. and the barriers she faced in seeking national distribution for wine, including "being turned away from commercial wine buyers before they tasted the wine because of my connection to my tribe."[59] Camins 2 Dreams exemplifies the shifting conceptions of terroir in contemporary foodways, where social and environmental diversity and resisting colonial and industrial modes of production are desirable traits– traits that, as of yet, rely on narration and performance, continually telling and showing their bodies, practices, and relationships to audiences.[60]

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[58] Hidalgo, "The Couple Making 'Pride Wine' in the Santa Ynez Valley to Uplift the LGBTQ+ Community"; Den Haan, "Camins 2 Dreams."

[59] Kettman, "A Childhood Chemistry Set Helped Make Tara Gomez a Winemaker."

[60] Camins 2 Dreams can also carve new pathways for an indigenous-led terroir, reframing particularity as anti-colonial, rather than dominant enology practice which often glorify indigenous grape varietals with little to no regard of indigenous peoples.

Narration, when thinking about terroir, is also interconnected with land. While land, environment, soil, and grapes are all mediators and factors in terroir, humans, the mouths that drink wine, the hands that pick grapes, and the fingers that type up the copy for a website may also determine terroir. Terroir is conditional on performance, one that can colonize land relations or propose anticolonial possibilities.

After we finished destemming, juicing, and storing the berries, we cleaned all the equipment. It was late afternoon, and Gomez and Taribo took us to lunch at a local cafe. As I often do of any food or wine professional, artisan, or scholar, I asked, *what do you think of terroir*? Gomez paused and then told a relatively easy story about how their wine is always about place, always in reaction to where they could and would make wine. Of course, this was with a few glasses of wine, and with respect to my own tipsy method that will come later, the practice of terroir is a messy one, one that changes and reacts, survives, and shines. Something is incredibly appealing about the word, as I have illustrated through its continuous appearance in a range of scholarship and media, and something incredibly fraught when focusing on terroir.

To claim that natural wine *cannot* scale to commercial success at all would be a capitalist fantasy that a single commodity can solve our varied issues with food. Natural wine has become a commodity that has been fetishized by urban foodies, and its consumption has increased in scale to the point of causing unease with the larger U.S. wine industry. Slowly, there is an increase in natural wine shops and restaurants purchasing natural wine, and overall production of artisanally produced wine to meet the demand of consumers. However, these scales have limits– including strict allotments from winemakers and distributors. Because of production practices, individual winemakers cannot meet the increased demands of the market; rather, they must

support a growing community of natural winemakers. Even if our wine shop *wanted* more cases of some wine, there was a limit to what we were allotted.

As a semi-professional wine enthusiast, I only speak to U.S. West Coast winemakers and consumers. I do this for a few reasons. First, as a participant observer in the natural wine supply chain (as an employee and consumer), I am drawn to wines where I can meet the winemaker, offer to help them when I can, and prefer wine that does not board a ship or plane. Additionally, wine economies, practices, tastes, and cultural histories vary, especially when examining European markets, which are complex as they serve both foreign markets and domestic–even natural winemakers in Europe will sell exclusively to U.S. or Canadian markets, or conversely, never cross the Atlantic Ocean. This model is significantly different from California, Oregon, and especially Washington, where natural wine made on the West Coast of the United States will *perhaps* make it to New York, Boston, or other East Coast urban centers within the U.S., but for the most part, circulate within the West Coast. This does not limit the reach of the idea or, social media posts, or trends of natural wine, including wines that fall on a spectrum of natural, in other areas globally. As the chapter concludes, I will address the tension of globalizing local food production through the efforts of the Slow Food Movement, and their own applications of *terroir*. Beyond natural wine, an even smaller production process of palm wine gin made in the Niger Delta, but tasted in Los Angeles, reveals a *terroir* that scrambles up commodity and commensality in a performance by Zina Saro-Wiwa. In order to fully contend with the scale and scope of *terroir* in 21st-century performance, I will draw a brief history of the term. Following Tsing, the particularities of a humble commodity matter when understanding life, especially food, in capitalist ruins.

Terroir as Paradox: A History

As the opening of this chapter suggested in my own part-time performance of terroir, the taste of place is always an act of narration. Particularly, terroir narrates a relationship between wine and environment, or drinker and environment, or producer and environment–the importance of each of the players has changed over time and place. *Terroir*'s history reveals its paradoxical nature.

Terroir has changed meaning significantly throughout the last five hundred years. Traversing some of its history crystallizes how the term remains a persistent qualifier in the stickier conversations about the aesthetic, sensory, environmental, and ethical concerns surrounding food. Defining the historically French, now global, term *terroir* is an exercise in ambiguity and imagination. Terroir has resisted any popularized translation into English yet is frequently used by those inclined to the alimentary. It is rarely used without the author including a somewhat elusive definition that either connects soil or the environment more broadly to either taste, quality, and/or ethics of a particular foodstuff and its production history. Within U.S. popular use, it is often connected to wine and the belief that a particular vintage (year of production) will express unique sensory qualities based on environmental and cultural factors. If a grape is picked on a day when the sun has ripened the berry enough, the resultant sugars will affect the fermentation process and, in some ways, taste different than had the grape been picked a week earlier. This phenomenon generates an assumption that certain climates and cultures produce better tastes than others. Terroir has expanded into "foodie" culture more broadly and is imbued with notions of authenticity, ethical consumption, and resistance to industrialized food systems.

However, as French and Francophone Studies scholar Thomas Parker notes in *Tasting French Terroir: The History of an Idea* (2015), "as the layers of terroir's history are peeled back they reveal a longstanding ambivalence toward the concept."[61] Historically, whether a particular food was imbued with a noticeable *terroir* was not always a desirable trait in French culture. Additionally, whether *terroir* would affect expressive qualities of food versus affecting human relationships to land has changed over time. Parker identifies the key shifts in the French history of the idea of *terroir* that not only shape our understanding of the term in France but also how the concept has been transferred globally. Working from 15th and 16th-century French literature, Parker explores how the aesthetics of *terroir* was mediated through language to explain the connection of French identities to particular regions.[62] Parker later identifies Olivier de Serres' *Les Théâtre d'Agriculture et mesnage des champs* (1600) (*The Agricultural Theater and the Management of Fields),* inciting the importance of a farmer's relationship with the land or soil as a way to influence the qualities of the crops grown.[63] *Terroir* for Serres was an agricultural and ethical practice more than an aesthetic one. And yet, as Parker's ambivalent history continues, Enlightenment-era tastes shifted *terroir* from an agricultural practice to a culinary one and from a desirable quality to one that should be avoided. But as Parker usefully reminds us, "still, even as aspects of terroir were held in low regard, the concept was paradoxically reinforced through pejorative uses. Indeed, it gained as much definition from being cast into opprobrium as it did from being held in esteem, and this tension entrenched it all the deeper in the French

[61] Parker, *Tasting French Terroir*, 4.

[62] Parker, 36.

[63] The link between the theatrical conception of agriculture through the title of Serres work further illustrates the linkages between taste, place, and performance.

imagination."[64] Whether desirable or not, *terroir* has always described a sensory relationship to land, soil, or environment.

To nuance "taste of place," I might define terroir as a sensory relationship with place, a place that has continually become an imagined and aestheticized space outside of the global food system.[65] The level at which the parochial utopian fantasy past becomes the backdrop for the story varies depending on the narrator. This is particularly apparent in the Italian Slow Food movement of the late 1980s and its global expansion in what I called *Terroir (Terra)*.[66] American chef and food activist Alice Waters' 2021 *We Are What We Eat: A Slow Food Manifesto* takes up terroir perhaps closer to the 17th-century agricultural approach of terroir – in proper relationships with soil. Following Slow Food movement founder Carlo Petrini (to whom the book is dedicated), Waters emphasizes local knowledge (of an unknown scale) as the source for terroir: "They [farmers and ranchers] have an incredible library of experiential knowledge about the terroir, and we lose this knowledge every time a plant or an animal is displaced by its industrially farmed substitute."[67] For Waters, terroir itself, this particular type of relationship between food, soil, and humans, resists industrial farming. As an extractive relationship with soil, industrial and highly processed food do not express terroir. However, as much as the fantasy of local consumption is tied to resistant food movements in the U.S., Amy Trubek in *The Taste of Place: A Cultural Journey into Terroir* (2009) reminds us that as terroir journeys to the global and U.S. foodways "there remains a paradox in terroir as a practice, for we have the ability to reach across the globe for desirable foods and drinks. Globalization has changed the landscape of food

[64] Parker, *Tasting French Terroir*, 4.

[65] For the remainder of the dissertation, terroir will not be italicized as it is used in an English language context rather than the French.

[66] Petrini, *Slow Food*, 7–8.
[67] Waters, Carrau, and Mueller, *We Are What We Eat*, 112–13.

forever."[68] This 20th-century trend of desire for place is a desire for particularity rather than proximity. Trubek hints at the contemporary complications of global uses of terroir, for the commodification and globalization of the term runs the risk of assuming a clean, linear, or "authentic" relationship with the environment.[69]

We might think of a desire for particularity in terroir as *Terroir 2* (see Table 1), where the fantasy of place, and not molecular or even spatial proximity, dominates conceptions of taste. *Terroir 2* is perhaps the most familiar use of terroir in contemporary food cultures and what dominates popular culture and film's fantasy of taste, as the end of this chapter will illustrate. *Terroir 2* exemplifies "cultural food colonialism," a term by food philosopher Lisa Heldke. In her book *Exotic Appetites: Ruminations of a Food Adventurer* (2003), Heldke theorizes an anticolonial approach to eating while still grounded in curiosity, intercultural respect, and decentering eurocentric food norms in personal consumption. While Heldke does not use the word *terroir*, the proposition that the rise of exoticizing place as a component of food cultures is inherent to the 20th-century usage of terroir. The colonial conceptions of *terroir* may have been solidified in the globalization of food cultures in the late 20th century, turning to early formations of "American" dietary and gastronomic cultures reveal an earlier transformation of the word *terroir*. One of Thomas Jefferson's aims in developing American food cultures included a failed attempt to translate French viticulture to Virginia and the companion regional specificity of alimentary aesthetics. I aim to further draw out Heldke's distinctions between cultural food colonialism and food adventuring through a range of performances that initiate terroir and what I will ultimately argue as terroir 3.

[68] Trubek, *The Taste of Place*, 16.

[69] Trubek, 17–18.

Of these wandering definitions, I argue that molecularly, agriculturally, aesthetically, or culturally, a terroir of the 21st century results in food that is imbued with properties from its particular environment that can be sensed through eating; terroir destabilizes the body's centrality in ecological assemblages while also sensorily positioning the body in an intimate, perhaps pleasurable, perhaps vulnerable relationship with the environment. As new understandings of the environment and human response to it in our extant environmental crises emerge, terroir continues to be useful in exploring human relationships with the environment through food. Rather than using terroir in the Waters/Slow Food approach, I follow Parker's claim to incorporate the historical, and perhaps aesthetic, ambivalence of describing the ways in which humans sense and incorporate the environment through the food we eat through the concept of terroir. This ambivalence works alongside Tsing's patchy methodology - taste and consumption are uneven yet interlinked. To draw taste and consumption as synonymous elides the molecular, microscopic, nonhuman partners, the possibilities for resistance, and the compromises that industrial food production forces on global conceptions of taste. Addressing terroir's ambivalent etymological history can open up new ways in which terroir advances performance studies' attempts to rehearse human relationships to the environment that incorporate ethical responses to nonhuman entities and unsavory environments.

What is there to guide our use of terroir if its history is one of paradox? To return to and complicate Waters' conception of terroir, the locally grown peach she glorifies (and serves at her restaurant) may evoke more desirable qualities for her, putting the eater in relation to an organic Bay area farm. However, with terroir 3, an industrially produced grocery store peach is not *absent* of terroir, but rather its terroir may also incorporate less naturally occurring sugars and acids affecting the flavor on the tongue, or more pesticides on the surface of the skin, or grown

through such violent labor practices that the consumer just can't stomach it, putting the eating body in a much more complex, spatially expansive ecological assemblage. Considering the taste of an industrially produced peach is the result of terroir 3, posing process and environment as critical in conceptions of taste–not resisting fantasy, but considering it as part of taste, not as an impossibility in the senses. In order to best redefine terroir, stepping outside of the restaurant as a performance space and into a slightly more explicitly theatrical space allows for such contradictions to be played out.

Terroir with/in Performance

While the concept of "space" is a keyword that permeates performance studies, whether that is the stage, the city, or ecosystems, the way that food as a performance engages space is still being explored. Is terroir real or imagined? Is it microscopically verifiable or gustatorially sensed? Material or metaphor? These key questions also run through the field of performance studies, where questions of what the performing body *does*, whether it is real, merely fake, or something else, is a central question. I hope to muddle through the strong connections I, and others, are drawing between food, matter, ecology, and performance studies. While I have reviewed the emergence of the term within food studies, and wine history, a more wandering approach in line with Parker's ambivalence is required to consider how the concepts behind terroir are well suited for studies in performance.

Terroir renders food as a spatially entangled commodity, where the environment and space in which it is produced have an effect on the value and sensory experience. For example, a restaurant can sell a plate of green beans for a higher price if the menu hints that it is from a locally sourced organic farm with an italicized farm's name resting beneath the delicately printed

(and shocking) $18 price point for the vegetable side. The social relations between consumer and producer are mediated by terroir, but strangely somewhat disagree with Marx's definition of the commodity, where "the value-relation of the products of labour, within which it appears, have absolutely no connection with the physical nature of the commodity and the material relations arising out of this."[70] In fact, with terroir, the physical nature of the commodity and its material relations is almost (if not fully) conditional on its ability to accrue value. However, where terroir becomes a contested framework is *how* the physical nature and its material relations are conceived by the market. This chapter will continue to grapple with narration, representation, and molecular components of terroir to understand the weight and possibility of terroir.

Then perhaps, to conceptualize how terroir commodifies food is to examine the space in which it is produced. Henri Lefebvre's instrumental contributions to Marxist criticism through his theories of space can illuminate the potential of a more expansive and ambiguous use of terroir. Within a bite of food, does terroir have the capacity to change relation to space? I do not aim to make an argument at such a dramatic scale.[71] Benjamin has articulated that visual representations of food entirely obscure the material relations of production, and we can include the spatial relations to that obfuscation. Considering terroir spatially and sensorily opens up alternative possibilities to consider how the body is an avenue for different spatial relations while simultaneously reinforcing the commodification of space. These differences, points of departure from the obscuring space from food commodities, are also produced by the environment which obscures: the green beans on the plate unveil some, not *all*, of the social and material relations that led to the production of the food. Terroir historically has been a selective process, one that

[70] Marx, "Economic Manuscripts: Capital: Volume One," 165.

[71] As later chapters will cover, this would be a scalar mismatch in terms of environmental activism as defined by Max Liboiron in *Pollution is Colonialism*.

inevitably fails at completely narrating the components of the environment that affect the experience of consumption. Yet even those narrations are incomplete and contradictory, which I might consider emblematic of Tsing's patchy methodology. An incomplete story, failed representation, or unlikely molecular components of terroir all render terroir, or taste of place, as a sense that is not a linear, smooth, direct relationship to a single bound place.

The Place of Performance

Terroir advances contemporary scholarship on performance and ecology through its capacity to spatially reorient the body to the environment and exercise new ethical considerations of human responsibility in an epoch that has been coined the Anthropocene. The decentering of the human and dissolving of subject/object relations runs parallel in New Materialist thought as outlined by Rebecca Schneider. In her 2015 remarks on the intersections of New Materialism and Performance Studies, she articulates the many ways in which performance studies already is in line with New Materialism and prompts scholars to "think about it again, if not anew."[72] This section responds to that call through an examination of the place in performance as it relates to the senses, embodiment, and ecological and new materialist thought in performance studies.

The following section will explore how spatial relations to the environment and the ethical projects that emerge from those relations are extended and challenged through the concept of terroir. I examine four texts that meet at the intersection of performance and ecology (and sometimes environment): Baz Kershaw's *Theatre Ecologies* (2007), Joshua Abram's article "Towards an Ecological Dramaturgy of Dining: Plate as Landscape Device (2020), Peter Eckersall, Helena Grehan, and Edward Scheer's *New Media Dramaturgy: Performance, Media and New-Materialism* (2017), and Una Chaudhuri and Elinor Fuchs *Land/Scape/Theater* (2002).

[72] Schneider, "New Materialisms and Performance Studies."

Each of these texts reconsiders theater and performance scenographies of nature as active, agential, or in relation to humans in order to imagine new possibilities of performing with the environment. Rather than work through them chronologically, I begin with Kershaw, who foregrounds the ecological crises and questions theater and performance's efficacy for ecological action. I then consider Abrams' who most explicitly addresses food's potential and the utility of terroir. I apply the potentials of terroir to posthuman/new-materialist performance in *New Media Dramaturgy*, then close with Chaudhuri and Fuchs, an anthology that works through alternate conceptions of space and place through landscape, a precursor to the immersive and sensory-driven scenographies discussed above.

Terroir, while suggesting an environmental dimension, from soil health to even microbial activity within the soil, does not sit neatly in scientific discourse as it is difficult to scientifically prove an individual's sensory experience with food, let alone the myriad effects of the 'environment' on a given foodstuff. Rather, its aesthetic, imagined, and sensory dimensions ask for alternative theories of the sensing, spectating, and performing body.

In Baz Kershaw's *Theatre Ecologies*, 'assemblages' are used as a model to understand how the human is de-centered and placed in rhizomatic structures of organisms in the study of 'ecologies.' Kershaw's explicit aim is to address the consequences of theoretically and practically distinguishing theater spaces from the natural environment, suggesting theater and performance studies' reinforcement of the objectification, and thus destruction, of nature. Theater then becomes the tin can that Benjamin warns against. Kershaw, while focusing on how theatrical space could possibly invite ecological interdependence, suggests the potency of eating as a relational practice in ecologies, for "theatre and performance in all their manifestations always involve the interrelation interdependence of 'organisms-in-environments'….For example,

as primates perform eating they fundamentally become part of their environment."[73] Kershaw points to a fundamental notion of terroir: that eating makes the body vulnerable to *becoming* part of its environment. While these performance theories do not explicitly use terroir as a frame to consider ecological performance, in practice, Kershaw too asserts the importance of the taste of place.

What relationships are revealed through the act of eating? First, to question these relationships is to ask what ecologies are activated as systems or organisms in relation. While at first glance, the eating body is a spectator to food, the dynamics of performance and ecology change when the spectator consumes and becomes-with the food (and environment) on their plate. Performing eating quickly breaks down any easy nature-culture binary or human-nature binary, even in the performance space. When eating becomes imbricated in performance, an ecological component can be unearthed through the concept of terroir – the role that dinner theaters, intermission concessions, avant-garde alimentary performances, or theatrical culinary experiences can be analyzed ecologically even when traditional depictions of the environment may seem obscure.

As Kershaw noted in *Theatre Ecologies*, incorporating eating in performance can result in the kind of immersive theater that holds potential for new orientations to the environment. Eating is a spatial practice. Joshua Abrams turns to the plate as a representational and material space for the landscape to perform and considers the sensory and ethical responses culinary performances call for. A new attention is paid to the matter animated on the plate by chefs. For example, in analyzing the plating of a dish at the modernist restaurant NOMA, "Blueberries surrounded by their natural environment," Abrams identifies that it is not only in the representation of the environment on the plate but the way in which the diner is sensorily immersed and surprised by

[73] Kershaw, *Theatre Ecology*, 16.

ingesting the food that the landscape is activated. This alimentary naturalism that has emerged from a convergence of modernist cuisine and the farm-to-table movement has dominated not only restaurants, but, as I'll later argue, film and television representations of contemporary dining. Abrams attributes this immersion to "terroir – the French term for the determination of taste through natural location – as a landscape that becomes itself through interaction."[74] The environment in which NOMA chef René Redzepi plates are placed necessitates audience participation in order to fully sense the Danish landscape. While Abrams attributes this intimate participation through the plating of the landscape, which invites "the viewer to consider her place in the environment," the expanded conception of *terroir* also considers how the viewer/diner is also *becoming* with the environment that the blueberries grew in.[75] Beyond reflecting on an environment that is abstracted or imagined in the diner's experience, the body is subjected to the conditions, qualities, *and* imaginings of the environment that produced the blueberries. This use of terroir then expands the space of the plate to include the place(s) of the food.

Abrams additionally contends with the Anthropocene and human responsibility to planetary health. Focusing primarily on modernist and contemporary restaurants that incorporate theatricalized encounters with food, he acknowledges that environmental crises are food crises. For Abrams, the culinary theater is always mediating a relation between body and environment: "anthropocenic impact on climate and resources directly ties to food sources, and chefs, in designing encounters between diners and nature, can choose to play an active role in framing these relationships through narrative and scenographic dramaturgical choices."[76] The scenographic plating choices can emphasize the role of the landscape present in restaurant

[74] Abrams, "Towards an Ecological Dramaturgy of Dining," 497–98.

[75] Abrams, 498.
[76] Abrams, 492.

spaces, heightened by "encounters with carefully crafted miniatures that surprise, delight, and beg close tactile and corporeal engagement, they extend a hand of invitation, reminding us of the need to engage globally through closer sensual engagement and detailed focus."[77] These passages from Abrams usefully identify the complexities of food in the Anthropocene – diners are continually subject to the quality, one type of terroir, of food. As soil becomes less arable, substitutes and additives enhance, compromise, and molecularly alter flavor profiles, and all component parts of food are imbricated in performance. The microscopic then becomes an aspect of alimentary analysis and a process of terroir 3.

We might consider the microscopic as a means of decentering the human in performance studies. Anthropocentrism in Western thought and theater has placed the human center stage continuously, and new projects, particularly in posthumanist theater studies, have offered methodologies emerging from New Materialism. *New Media Dramaturgy: Performance, Media, and New-Materialism* reorients performance to think through posthuman assemblages that emerge through technologies, matters, and media that destabilize the figure of the human that is so central to histories of performance. As Chapter 2 suggests, eating is always a posthuman act, where food expands the limits of the body through the digestion of nonhuman matter. Drawing predominantly from posthumanist Rosi Braidotti and new materialist Jane Bennett, *New Media Dramaturgy* considers the agential role of matter and media in performance. Particularly in the chapter "Theater of Atmospheres," the authors rethink the dominant conceptions of landscape or environment by introducing the term "atmospheres." *New Media Dramaturgy* calls for a "refocusing of built environments to atmospheres [that] can be read as forming a part of the effort in the midst of anthropogenic trauma to resituate the atmosphere at the forefront of

[77] Abrams, 508.

consciousness and action in all fields;"[78] This similarly seeks to disrupt nature-culture divides that much of ecological performance studies, and environmental humanities broadly, works against. However, instead of shifting to ecologies, *New Media Dramaturgy* takes an affective approach to sensing spaces in less visually identifiable relations, exploring key elements of environmental space that are often unconsidered in questions of ecological activism. The assemblages that *New Media Dramaturgy* identifies stem from new materialist thinker Jane Bennett, and in the age of the Anthropocene, where humans are negotiating their varying responsibilities to the decline of planetary health, extend our "ethical responsibility" to nonhuman participants.[79]

The nonhuman participants in the Theater of Atmospheres include the water droplets evaporating and condensing in space, materializing both in the sense of the artists staging clouds, fog, and haze as the primary actors, but also the required change in the material state of the water itself. In the case of some of the performances analyzed, the clouds could be touched, sensed, and interacted with by spectators. The Theater of Atmospheres works as another instance where the spectator becomes a participant in the performance. Applying the concept of terroir could extend the questions of materiality to the qualities, tastes, and feel of the water droplets as they surround the participants. Additionally, if we consider terroir as the taste of place, and spectators are sensing, possibly even tasting, the clouds, then what does transferred, recycled, or chemically enhanced water imbue? Rather than seeking tasting notes for the clouds themselves, terroir asks what larger spatial environment the cloud is performing from. Terroir can resist the notion of abstract space or the glossy 'real' nature (as if water emerges with no assemblages, toxins, or

[78] Eckersall, Grehan, and Scheer, *New Media Dramaturgy*, 98.

[79] Eckersall, Grehan, and Scheer, 84.

microbial life attached) where a cloud can condense and materialize, from no-space but rather incorporate places of performance at the ecological level.[80]

Terroir returns, and even demands, a sense of agency or vibrancy to the environment, seeking the myriad ways in which food, or edible matter, is affected by the environment, and the body is affected by the food it eats. The industrial food system regularly relies on imagined relationships between food and 'natural' environments, even when much is produced in factories that have no resemblance to the pastoral imaginary that continues to circulate around food and agriculture. As we have wandered with the act of eating and how it reorients performance studies' conceptions of space *through* the 'taste of place,' this final section will address two scholars who contributed to discussions of theater's 'spatial turn' through the environment before new materialism and the Anthropocene had emerged as scholarly inquiries.

Place in performance is a complex and vast field of inquiry. Is the represented place, the built theatrical environment, the site-specificity, or the theatrical world the place of performance? And how do these varied conceptions of place reconfigure how theater and performance might intervene in climate issues, centrally of which is reorienting the human as imbricated within our environment, rather than separate from place? Elinor Fuchs and Una Chaudhuris' animating of *landscape* as a mediation between conceptions of space and place follows the "spatial turn" in theater and performance studies in *Land/Scape/Theater*. This anthology seeks to incorporate the aesthetic and cultural history of landscape studies to complicate the ways in which the environment is represented visually. This turn to understanding "real" environmental relations "is intended as a step toward the restoration of the natural and built environment, and of the nonhuman order,"[81] a similar type of animation of ecologies, nonhuman matter, and the

[80] Eckersall, Grehan, and Scheer, 84.
[81] Chaudhuri and Fuchs, *Land/Scape/Theater*, 4.

decentering of the human in the environmental ethical projects in the age of the Anthropocene. The turn to landscape in this 2002 anthology haunts the previously mentioned texts in their conceptualizations of 'environment' outside *and* entangled with theatrical space.

One of the determinants for their use of 'landscape' is that "landscape is more grounded and available to visual experience than space, but more environmental and constitutive of the imaginative order than place."[82] Beginning with the landscape painting tradition, through perspectival drawing and perspective scenography, Fuchs and Chaudhuri find that landscape is animated primarily through visual experiences, even as landscape enters three-dimensionality.[83] Additionally, there is a somewhat vague perception that landscape, although perhaps imaginary, has some sort of visual representation imbricated in its existence. Following this activation of 'landscape', Joshua Abrams seeks the visual representations of landscape on the plate as well, however, hints at the sensory and proximal corporeal engagements food invites. While Abrams notes how terroir, or perhaps really landscape, was visualized on the plate, to return to Chaudhuri and Fuchs can solidify the application of terroir. Space, place, and especially landscape have long inhabited the visual realm, and to destabilize the body's centrality to its relationship to the environment asks for new sensory engagements with landscape.

Landscape complicates clear space/place distinctions, which helps complicate the rigid yet ambivalent definition of terroir. Terroir, in performance, asks: can an immersion of the senses destabilize the (human) body enough to both ask for responsibility and reflexivity to the ecologies it is imbricated in? Through terroir and the study of food and eating, theatrical conceptions of space, place, landscape, and environment both expand to reach "invisible" or non-visual dimensions, incorporating nonhuman participants typically left out of conceptions of

[82] Chaudhuri and Fuchs, 3.

[83] Chaudhuri and Fuchs, 21.

the theatricalized environment. Ultimately, terroir activates additional spatial dimensions in which bodies perform in relation to the environment but do not assume ethically *good* relations, materializing the historical ambivalence Parker identified in the performance of terroir.

So, in order to exercise some of the possibilities of terroir as a framework for performance and other creative uses of food, I discuss terroir in relation to video and performance artist Zina Saro-Wiwa's Illicit Gin Institute and her *Assemblies* performance series that took place in the fall of 2021 in Los Angeles. This performance works *from* contemporary food activists's use of the word terroir but expands the definition beyond a fidelity to an imagined or pure "real" food or "real" place. Terroir instead becomes a conceptual framework in which interrogating material place of production, metaphoric meaning in consumption, and sensorial effect on the body all emerge in alimentary performance. In our dramatically changing food systems, we need companion dramatic terms to narrate the complexity of eating. Terroir is laden with histories and heavy industries. Terroir also holds the possibility of sensing something else– so we move from wine to gin, from the wine shop to a performance installation, and from an assumed pure *taste of nature* to sensing the devastation and possibility in West African ecologies.

Just a Taste: Zina Saro-Wiwa's Silent Gin Tastings

There is a soft crackle as the headset dial swivels to amplify our emcee's voice. Artist and host for the evening, Zina Saro-Wiwa, has a glimmer in her eye as a group of fifty or so audience members stand waiting for instructions. Gathered in a courtyard, we are surrounded by three folding tables bursting with small glasses filled with a quivering clear liquid. We have been told to be silent for the first movement of the assembly. Pre-show chatter, gathering, or socializing

has been removed from the performance, and instead, the audience pays quiet attention to the only thing that could resemble a stage: tables featuring the rows of "illicit gin" Saro-Wiwa produced in a self-created distillery in Port Harcourt, Nigeria.

This was the final event in a three-part series of assemblies that took place on November 20, 2021, at the MAK Center in Los Angeles, California. Commissioned by the Los Angeles arts organization Active Cultures, this was the first time Saro-Wiwa had presented her Illicit Gin Institute Assemblies, which have now performed in London, Aspen, and New York City.

Fig 2.1. A row of shot glasses on display for service. Still from *Illicit Gin Assemblies*. Film credit to Roadwork. Los Angeles, California. November 2021. Still courtesy of Active Cultures. https://vimeo.com/651326536/66d5ea8eda

Zina Saro-Wiwa is a video and performance artist whose work stages tensions of ecological, personal, and economic violence taking place in the Niger Delta region. The Niger Delta is an ecological region on the southern coast of Nigeria. Saro-Wiwa's father, Ken Saro-Wiwa, was a prominent businessperson and activist who was publicly murdered for protesting Nigerian governmental petro-capitalist violence in 1994. Saro-Wiwa's artistic works have surveyed film and performance mediums, often centering her own body. Media scholar Cajetan Iheka importantly positions performance and "the body as a site of healing in the Niger

Delta " through an analysis of Saro-Wiwa's video art piece, *Sarogua Mourning*.[84] Ten years after the production of the film featuring Saro-Wiwa's mourning body, her work made a critical turn in 2021, shifting from visual media that represents the effects of production and consumption in African ecologies to materializing these concerns within a consumable beverage. From *Sarogua Mourning* to Sarogua, an innumerable series of bottled palm wine gins infused with myriad African botanicals. I am indebted to iheka's critical observation that the role of performance in ecomedia and that African visual culture and performance is central to the production and degradation of ecologies globally. In what follows, I closely examine Saro-Wiwa's 2021 alimentary performance *Illicit Gin Assemblies*. In particular, her production and communal consumption of Sarogua, a palm-wine-based gin created in a distillery that Saro-Wiwa built and operates, affirms iheka's claim into the edible realm, where African food production is central to the production, taste, and degradation of ecologies globally. The *Illicit Gin Assemblies* expand terroir to incorporate 'the taste of place' in which 'place' is complicated by environmental destruction. Through production, narration, and sensory entanglement, Saro-Wiwa puts audience members' bodies in an intimate yet distant relation (complicating any assumption that intimacy necessitates physical proximity) with the Niger Delta ecologies and broadly African food production.

On each table, the gin served was accompanied by a display of the botanicals infused into the gin, such as green orange, alligator pepper, or lemongrass. Gin is alcohol that relies on companion flavors. Without an infusion of botanicals–spices, herbs, flowers– it would not be classified as gin (it could instead perhaps be classified as vodka). Most commonly, juniper berries are a marker of traditional gin. Saro-Wiwa's gin, alongside its base made from distilled

[84] Iheka, *African Ecomedia*, 138.

palm wine, is infused with botanicals from West Africa; she has more gin varieties than possible to document.[85]

Palm wine is an alcoholic beverage produced in West Africa. Made from the sap of a palm tree, the harvested liquid ferments independently from human intervention. Upon tapping, the oxygen spurs fermentation in the high-sugar liquid. Similar to the production processes of natural wine, yeasts present in the immediate environment transform the sap into a lightly alcoholic beverage.

The naming of Illicit Gin harkens to the forced emergence of British colonially produced distilled spirits in the Niger Delta. In the late 1920s, West African taste had incorporated the forced colonial importation of distilled spirits, which led to local production of distilled spirits using indigenous agricultural methods, namely palm wine as a base for distillation.[86] This production posed a threat to colonial revenue through the importation of European spirits, so a series of prohibitions, restrictions, and disciplinary structures remained in place, maintaining locally produced gin "illicit." The practice has continued to the present day, often called Kái-kái or Ògógóró. In 2015 a series of deaths emerging from the consumption of a local palm wine gin has led to new regulations and speculation over where the "illicit gin" figures in Niger Delta drinking cultures.[87]

The *Illicit Gin Assemblies* not only transform the audience members through their consumption of the gin (the audience drinks the gin as a central part of the performance) but also transform the gin itself. Saro-Wiwa's work transforms normative modes of gin production at a range of scales, offering a transnational, not global, food product. Particularly, the transnational

[85] Additionally, part of Saro-Wiwa's intervention into food production, as I will argue, is in the gin's illegibility as a categorizable food product. To respect her goals and work as an artist, I do not work against this desire by attempting to archive her catalog of varietals.

[86] Korieh, "Alcohol and Empire."
[87] Olúpàyímọ́, "The Illicit Production and Consumption of Ògógóró in Coastal Yorùbáland and the Niger Delta."

movement of the gin, between Port Harcourt and the gin's performance destination (Los Angeles, in the 2021 series) creates an allegiance between environments. Saro-Wiwa proposes a reflection on the "degraded environment and whose culture has been defined reductively by the excesses of Big Oil" through a performance, a sip of gin, that is served to be pleasurable. Additionally, the gin is not produced at an industrial or extractive scale, rather working with local tappers and a pre-colonial agricultural knowledge of producing palm wine creates a transnational beverage, not a global commodity. Of course, as this layered performance will reveal, the gin cannot fully resist commodification in global food circulation.

Unlike visual media, which often relies dominantly on representation, using edible matter as the media opens up a potential for renegotiating a reliance on modes of production that reproduce harmful relationships to environments. For example, similar to one of Saro-Wiwa's earlier projects, Boys' Quarters Project Space, which transformed her father's office into a gallery in Port Harcourt, the Illicit Gin Institute, the name of the "conceptual think-tank" that runs the distillery produces a new relationship to the environment at the site of accumulation, extending to consumption.[88] Saro-Wiwa directly addresses the space of the place from which taste is produced.

Sarogua, the "illicit gin" made by Saro-Wiwa and the Illicit Gin Institute, produces the palm wine spirit similar to early practices using a simple distillation process of an already fermented liquid. In a departure from earlier methods, which do not include any botanical infusion or some for medicinal purposes, Saro-Wiwa infuses the distilled liquor with a range of African botanicals. One of these botanicals, prekese (*tetrapleura tetraptera*), imparts a warm, nutty, woody flavor. Often found as a dried pod from the flowering tree of the same name,

[88] "THE ILLICIT GIN INSTITUTE — Mangrove Arts Foundation."

prekese is used in soups and medicinally. Saro-Wiwa infuses the botanicals into the gin to "work on the body" of whoever consumes the gin–calling to its local medicinal use while simultaneously creating a transportable product of Niger Delta's ecology.[89] The working of the gin, what it does, and how it transforms, takes an ecological, personal, and even commodified approach to the body.

The infused botanicals are not the only component of the gin that molecularly signifies the ecology in which it was produced. The palm wine liquid calls to one of the major products of Nigerian palm oil, used commonly in West African cooking, as well as a material for a significant number of beauty and food products that circulate globally. The gin also calls to oil production broadly, as both Saro-Wiwa's family lineage and Nigeria's history of oil production and environmental destruction have reshaped the entire Nigerian environment. The terroir of Sarogua cannot be sensed without accounting for the incredible and violent compromises that the Niger Delta ecology has bared.

Sarogua gin works not only as a representation of the environment in which it was produced but also *as* the environment: the convergence point of representation and actual is indistinguishable if we look closely at only the gin. However, when examining the larger performance of the Assemblies, globalization slightly alters this mimetic merging. There are two additional components to the performance of the gin worth exploring: the serving and access to the event (and, therefore, the gin). First, the gin is limited to a single small shot glass of gin per audience member. While the table may resemble catering stations or bars set up to accompany gallery openings, performances, or other contemporary art events, there is no "open bar" or unlimited supply of alcohol. Saro-Wiwa restricts overconsumption by determining the supply and consumption possibilities. Second, access to the event is determined by the location where it

[89] Saro-Wiwa, interview.

is produced, but offering a free event changes how the gin is commodified– the issues of raw materials extracted from Nigeria for the profits of Western companies are obscured.[90]

The sense of place that Sarogua emits works across scales, oceans, and tastes. As Saro-Wiwa notes, many non-West African consumers drinking her gin will gustatorially encounter potentially entirely new flavors and matters. The gut of a given audience member will have to digest something they have never consumed before. Additionally, the taste (as value) of the gin resists (albeit unevenly) commodification. While this exclusive Los Angeles experience certainly highlights particular class differences in terms of access to the gin, the gin is not available for purchase. This may seem like a stretch to claim that there is resistance to commodification simply because of the gin's inability to be purchased in a commercial market. However, I want to stress that very few performances utilizing food, especially in Los Angeles, can circumvent the commercial and commodified food markets. Nearly any food source at a scale that serves even a small audience will likely involve *purchasing* food products. The sourcing and purchase of food can also be an intervention in productions, performances, and artists sourcing foodstuff from local or artisanal producers and farmers. While this can be its own intervention into the industrialized food system, as anthropologist Heather Paxson points out, this approach to food interventions risks glorifying the capitalist system the performance may be attempting to critique.[91] To return to the mushroom anecdote that began this dissertation, the Smallhold farm mushrooms, organically and "ethically" produced, were a product of venture capitalism and many of the same mechanics that perpetuate the industrial agricultural model that has caused such significant planetary damage. The terroir of Sarogua acts in an in-between space, where the commodification of the Nigerian environment haunts the sip audiences take yet

[90] For example, cocoa, one of the largest exports of West Africa, is worth very little in its raw state, but is also fermented, processed, and transformed by large U.S. and British companies, such as Nestle, to gain major profits.
[91] Paxson, "Locating Value in Artisan Cheese."

remains only as a lingering sting in one's throat. The story Zina Saro-Wiwa tells, amplified through a small speaker on her hip, recasts the products of the Nigerian environment and peoples not only as raw materials but rather as complete and transformative, distilled, literally, into Sarogua.

The terroir of Sarogua exemplifies my proposal for terroir in 21st-century performance. The edible product does not flit past the unsavory components of the Niger Delta's environment but rather challenges audience members to fully digest (literally and metaphorically) the realities of global food production, which is so heavily reliant on the destruction of West Africa's environment. This occurs by slipping in and out of commodification and narrating the entire production process of the gin audience members are going to consume. What Saro-Wiwa importantly posits is that a "perfect" or "healthy" ecology is not necessary to produce transformative and resistant tastes.

And yet, food's patchy life cannot but help to slip into a commodity. This happened in Saro-Wiwa's efforts to transport the gin from the distillery in Port Harcourt to Los Angeles. For the 2021 assembly, an early first point of friction was when the gin entered the United States. The gin was shipped in wooden boxes on Turkish Air.[92] To land in San Francisco, Saro-Wiwa had to register the gin with the Alcohol and Tobacco Tax and Trade Bureau (TTB) to be classified as an alcohol product that was not for commercial sale but still legible as alcohol. So not quite a commodity, as its ability to accrue capital in a legible way was compromised by its status as a non-commercial good. However, in the large hangar at the San Francisco airport where customs would accept shipments, the gin was determined unstable, and customs officials would not release the gin to Saro-Wiwa. The boxes were stalled. Standing in the Customs hangar, Saro-Wiwa learned that the boxes could not enter the U.S. (of course, they had already

[92] Saro-Wiwa, interview.

entered), the wood was not fit for U.S. entry, and therefore, the gin inside could not be transported to Los Angeles. The boxes were made by employees of Saro-Wiwa and used wood that was untreated and unrecognizable in varietal, meaning it was not cleaned or sealed against microbial and microscopic life that might be unexpected immigrants into the U.S. Saro-Wiwa and two volunteer friends of friends drove out from the city broke down each wooden pallet into a pile of boards. U.S. customs agents required that boards that made the boxes be sent back to the distiller. The materials imbricated in our global food supply extend beyond edible matter. Packaging, transportation, and even the crude petroleum that fueled the planes that carried the crates of gin to San Francisco all make Sarogua possible, each affecting, at a range of scales, the *taste*.

Illicit Gin Plays Itself

By narrating the travel of Sarogua to Los Angeles, the challenge in "close reading" food is revealed.[93] The nearly microscopic process of examination can be quite expansive, capturing the production components, particular matter, and metaphoric or representational elements in a single bite or sip. Yet, to fully consider the impact of terroir, *the long, close read* is necessary.[94] Otherwise, terroir can perpetuate utopian environments or serve merely as a tool for the fetishization of foodstuffs. Rather, by approaching close-reading food through the body, taste, and eating become critical, intertwined, yet distinct actions that hold the possibility to consider the transformative and commodifying potentials of terroir.

[93] This approach of "close reading" food is similar to Life-cycle Assessments (LCA), which is a methodology in environmental sciences that assesses all environmental impacts along the entire "life" of a commercial good. It is not lost on me that this process is strikingly similar to performing terroir, capturing each environmental input that might affect taste. What LCA illustrates is that there are more convergences between sciences and humanities in our study of food that can sometimes appear at first glance.

[94] This is mitigated with "systems thinking" in environmental and social science approaches to food, which has a fair number of resonances with assemblage thinking.

The Illicit Gin Institute, its assemblies, and particularly Sarogua, the palm wine gin they produce, is therefore challenging to read, as it takes up both production and consumption and to read one without the other would not apply the scales of performance terroir demands. I do continue to wander with my analysis, mirroring some of the tipsy conclusions that occur in the Assemblies, silently tasting bright, alcoholic, overwhelming notes of prekese–rich vanilla bean and caramel and tree bark and syrup crystallized (well, distilled) into a single breath.

Before that first sip, Zina Saro-Wiwa welcomes the audience on her headset, calling to a kind of tourism where a guide orients visitors to a new environment (see fig 2.2). However, after walking past the video art installations depicting Niger Delta landscapes, there is no place in the enclosed courtyard to *look* at the environment from which the gin was produced. Within the *Assemblies* performance, by removing a clear visual focus, the physical act of tasting the gin takes precedence. The tasting is just that: a taste, a quick sip, maybe two, of the distilled liquor. Whether the audience is a trained taster or not, the taste of gin (as action and sensation) becomes the performance. Saro-Wiwa instructs audiences when to sip and what they consume. These instructions are more meditative than taxonomical. There is no mention of traditional wine-tasting techniques, such as sensing alcohol content or following the aroma wheel.[95] Saro-Wiwa transforms the role of a sommelier, shaping the taste of gin through the Niger Delta environment, the practice of the tappers, and the history of illicit gin– the terroir of Sarogua– through her own body and the audience's digestive system.

[95] Noble, "Wine Aroma Wheel."

Fig 2.2. Saro-Wiwa gives a Performance Lecture prior to the Silent Tasting. Still from *Illicit Gin Assemblies*. Film credit to Roadwork. Los Angeles, California. November 2021. Still courtesy of Active Cultures. https://vimeo.com/651326536/66d5ea8eda

There are three gins featured at the Assembly. The food, or gin, in this case, is not embedded into the narrative but rather becomes the narrative. In the first movement of the assembly, in which audience members arrive in silence, changes the alimentary nature of the performance. Absent any verbal audience reactions to the food, Saro-Wiwa's voice and narration determine the audible components, yet the edible one takes up the sensory space. Whether tasting, eating, or feasting, Saro-Wiwa's event exemplifies a food event, which Kirshenblatt-Gimblett articulates that particularly, "food events move towards the theatrical and, more specifically, towards the spectacular. It is here that taste as a sensory experience and taste as an aesthetic faculty converge."[96] While narration, text, and staging have all played a critical role in the theatrical displays that are part of the Assembly, ultimately, the tasting experience spectacularizes food– combining bodily experience and cultural consumption, resisting visual centrality and simultaneously rethinking pleasure as the microscopic, alimentary scale.

[96] Kirshenblatt-Gimblett, "Playing to the Senses: Food as a Performance Medium."

During the silent tasting component of the performance, Saro-Wiwa instructs audiences on the quiet submission of the body to the gin. She narrates the botanicals' long medicinal properties for the Ogoni people through her head-worn microphone and a small speaker attached to her hip, lecturing amongst the audience, acting somewhere between a strange tour guide and a viewpoints instructor. As she tells the audience to take a sip, the act of narration, telling us about the traditions of the tappers in the Niger Delta who have harvested the palm wine long before illicit gin became in fashion, the tenuous connection between taste and place becomes nearly materialized. I hesitate to claim any total transformation that happens, as molecularly, each tasting experience is subjective to the mouth of each audience member, what flavor profiles and structural notes might emerge from the small sips cannot be universally applied.

Instead, we might call it a kind of secular reversal of transubstantiation, the human body sipping on the illicit gin is subjected to the ecology of the Niger Delta. Saro-Wiwa says this compromise is letting the gin “work” on the body - especially in the case of Los Angeles audiences, she notes how our bodies have to adjust, absorb, and negotiate with the medicinal qualities of the herbs and botanicals infused. The mass of bodies shifting around, picking up tiny sips of distilled palm wine, gently and occasionally making eye contact, not only emphasizes taste as a crucial mode in which to experience the performance but puts the body in direct interior contact with the gin. Absenting other objectives, the silent tasting tasks audiences with making meaning through food, no code or tasting notes, and no distinct habitus other than *taste it*.

The transformative power of eating is an emerging inquiry across a range of disciplines; however, in the case of alimentary performance, Anne Anlin Cheng has expanded a critical discourse around the mimetic and material effects of consumption through Kyla Wazana

Tompkins' 'critical eating studies.'[97] Tompkins resists thinking of food as purely a symbol or sign but also not merely a material for nourishment. This area is critical in understanding alimentary performance, the emerging field that considers the role eating has in food in performance. Both Cheng and Tompkins illustrate the entanglement of taste and consumption in the formation of American racial identities:

> "This tension inherent in eating as potentially a base yet transcendent activity haunts not only the history of the philosophy of taste but also what might be called a primal scene in the birth of the American diet."[98]

Not only do I find Cheng's articulation of eating as a multi-layered material and representational action critical for food studies, but her curation of case studies in her single chapter offers a methodology for food studies that I hope not only to emulate but to identify as one of the most important scholarly works in food studies to date. While the bulk of the objects of analysis are literary and visual culture, Cheng opens the article with a tasting of sushi as the fleshy encounter between human and edible matter. This action, eating sushi, lays out her "sushi principle," where she aptly proposes a "speculative meditation through sushi on the twinning demands of aesthetics and corporeality, metaphor and literalness, animality and civilization" and resists a "sociology of the sushi industry" in order to map a broader assemblage, with the human somewhere (sort of) at the center of consumption and the many encounters that tumble out from a single bite of raw, prepared, fish.[99]

Additionally, by beginning with edible matter, Cheng also provides a lens into the phenomenological challenge of food on any given stage. Food on the stage is playing itself twice

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[97] Tompkins, *Racial Indigestion: Eating Bodies in the Nineteenth Century*.

[98] Anlin Cheng, "Sushi, Otters, Mermaids," 2.
[99] Anlin Cheng, 3.

over. For example, the messy performance of the crumbs of the sacrament in Catholic rituals of transubstantiation presents the ambiguous role of food as a prop, active and often uncontrollable in performance, as Andrew Sofer articulates in *The Stage Life of Props*.[100] Food has long haunted theatrical stages, but as Cheng argues, it is the convergence of taste and diet, consumption (in terms of a commodity produced from raw materials), and consumption (in terms of a phenomenological transformation of human corporeality) that converges in contemporary tasting and eating performances.

Perhaps, as sipping Sarogua transforms the body in relation with Niger Delta ecologies, consuming edible matter transforms food into and out of commodity. Simultaneously human and edible matter are put into a vast, likely transnational, assemblage *alongside* the economic realities of food's role as a commodity extracted from particular environment(s). Taste in the *Illicit Gin Assemblies* is required for the performance, neither peripheral nor solely commodity. The performance reflects food's complex role in human life: a caloric requirement, essential energy in human being, yet inextricable from capital and pleasure.

Commodification

Food in performance always moves along a precarious scalability. Placing rows of small glasses full of a small-batch production palm wine gin in a courtyard in Los Angeles certainly risks commodification and a glorification of the artisanal. This is exemplified by the audience questions that whisper around the event, or sometimes pointedly to Saro-Wiwa, asking, "when can I buy this?" Saro-Wiwa grins, and reminds them that the gin is not for sale, maybe someday. By positioning the gin through performance rather than supplemental to performance (a concession), the gin just barely slips around a commodifiable principle of scarcity– the gin isn't

[100] Sofer, *The Stage Life of Props*, 50.

scarce, it is impossible to purchase, never having entered the alcohol market. However, regardless of Saro-Wiwa's intention to build a performance around edible goods produced from a compromised and globally overlooked ecosystem in Nigeria, audiences, nonprofits, and galleries can render food a commodity through their own interactions with food. Whether through government regulations, colonialist raw material extraction, or even just visualizing food, increasing the scale of food production slips foodstuff into a commodity.

The gin reveals the slippery role of food in performance. One potential reading of the assembly could focus on the employment of a "relational aesthetics," exemplified in Rirkrit Tiravanja's *untitled (free/still)* (1992/1995/2007/2011), where the artist staged his own kitchen in the gallery, serving vegetable curry or pad thai for free to gallery visitors. Well critiqued by Claire Bishop, the relational aesthetics, shifting gallery to a type of public social space, also produce antagonisms, the disruption of social space does not inherently produce utopic relations. However, as Bishop mentions in her critique of Tirajvanja's work, "Several critics, and Tiravanija himself, have observed that this involvement of the audience is the main focus of his work: the food is but a means to allow a convivial relationship between audience and artist to develop."[101] However, the Illicit Gin Institute puts gin and its relations into a nearly indistinguishable tension. The performance is both the gin itself and its incorporation (tasting). Perhaps the distinction between commodity and performance in this case is only distinct because, for a segment of the performance, the body is separate from the food. However, this separation is only for a time, as incorporation is inevitable when tasting is central to performance. Tasting, through slow, silent moments of ingestion, is made distinct from eating. The tongue becomes the stage in which the gin performs, alcohol stinging and botanicals fragrantly taking up the nasal passages. Relations are felt, sensed, and tasted on the tongue. The Assemblies are not absent of

[101] Bishop, "Art of the Encounter."

eating, but rather by beginning with tasting, then concluding the event with roast oysters and other food items (talking is not only allowed but encouraged at this point), there are relations built across space and environment rather than only people present. Tasting, then, can be an expansive tool in human-nonhuman and human-space relations–relations that are often obscured when eating food as a commodity. Tasting leads to eating, while relations work across scales. Zina Saro-Wiwa's work continually floats between edible matter, assembling bodies, explicit corporeal incorporation, and illicit food production. Getting into the microscales of temporality, liveness, and subject/object divides with the Illicit Gin Institute may be dizzying, but it is crucial in understanding alimentary performance. For unlike Tiravanja's work, the food in performance is not merely a means to relations but is the medium in which relations occur. Particularly, for the *Assemblies*, the relations *begin* on the tongue– commensality, eating together, is between human, gin, palm wine tappers, distillers, and Zina Saro-Wiwa. Tiravanja's relations work between humans in a shared physical space, the gallery, leading to a much more locally bound, human centered experience. The spatial limitations that produce the relational antagonisms, or the socio-economic and spatial limitations of relational aesthetics, can perhaps be challenged in sensory-based performance practice. Saro-Wiwa's performance transforms toward proximal commensality, but by inciting relations through taste, the relational aesthetics become a microscopically transnational interaction.

Ultimately, this contemporary articulation of terroir seeks a microscopic consideration of what the body goes through in edible engagements, particularly in performance. This microscopic consideration, however, begins to ask new questions about liveness in performance: Is the food edible? Where is it produced? What ecologies are implicated in the food, and how is the body affected? The *long close read* of food is made possible through terroir. And yes, I do

think this asks us to consider the aesthetics and ethics of frozen alcoholic slushies sold in Broadway theater concession stands.

Fig 2.3. “Sarogua Spirit, Akogbara (Oil Bean),” Montague Contemporary. New York. March, 2022. Image Courtesy of Montague Contemporary. https://www.montaguecontemporary.com/exhibitions/29-illicit-gin-institute-zina-saro-wiwa/overview/

However, the potent figure of food remains an icon that is abstracted from the unpleasant realities of ecological destruction, violence, or compromise, whether that is through celebrity chefs, globalized food trends, still images of active matter, or the dominance of shelf-stable foods available in most food markets. The gin performance has transformed since the initial assemblies that Saro-Wiwa has hosted. In a solo exhibition at Montague Contemporary in February 2022, Saro-Wiwa introduced the first version of gin that could be purchased, twelve bottles for sale that would come with a companion NFT (non-fungible token) that included a digital video of the bottle of gin rotating over a landscape shot of the Niger Delta. While the Assemblies remain focused on silent tastings with restrictive consumption for guests and the transformative work of the gin, these events are costly, creating little to no revenue for Saro-Wiwa.[102] This wandering

[102] Saro-Wiwa, interview.

role of food in performance through Saro-Wiwa's Illicit Gin Institute offers insights into the complexities of performing with food: the assemblies, largely free events with high overhead costs of gin, specialty food items like locally sourced oysters or handmade avocado cremas and cassava chips make these experiences resemble more of a theatrical production than singular artwork. However, if Saro-Wiwa "re-materializes" the prop through performance, staging the single bottle on a rotating platform (see fig. 2.3), the gin is re-commodified as both edible matter and an art piece circulating in 2022 art markets. An expansion of terroir to incorporate environmental destruction and a taste for imperfect ecologies will be compromised in this stage of capitalist global food production. As the following section expands, the microscopic points of resistance through terroir are still worth noting and are critical in considering the role of taste in performance.

Simultaneous tastes: Terroir Twice over

"The story of landscapes is both easy and hard to tell."[103]

As suggested, terroir as a quality of agricultural production *and* consumption has changed throughout time, applying to different alimentary, agricultural, and ecological concerns. Terroir has remained across epochs, albeit differently. To review how I historicize the different temporalities of terroir, I begin with *terroir 1*, wherein the quality of agricultural production is contingent on good relations with the land it is produced on (ecology), *terroir 2*, which is a process of the fetishization of food commodities (capital), and finally, *terroir 3*, which is the simultaneous taste of product (commodity) and place (ecology). Each of these movements and definitions has a counter movement, reinforcing the definition rather than altering it. This categorization of what remains of *terroir* in 21st-century food performance follows

[103] Tsing, *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins*, 168.

anthropologist Anna Tsing's proposition of "third nature," which, through an ethnography of matsutake mushroom production (and consumption), theorizes "what manages to live despite capitalism."[104] In the ruins of capitalism, Tsing argues for patchy analysis, where surprising, humble, and storied encounters open up narratives for survival (both human and nonhuman) in the ecological and social destruction of life. I argue that in addressing contemporary food performance, *terroir* functions in simultaneous temporalities: both in an Anthropocentric time and in a Capitalist time, resulting in a third temporality–for, to articulate a "third nature" is to theorize a *third taste* (*terroir 3)*.

As a frame for contemporary food habits, relationships, and tastes, terroir demands a stretching temporal view: it cannot function without raw materials, animals, humans, bacteria, life, and things that existed long before capitalism. However, it would be a significant elision only to consider the taste of food as separate and outside of capital. As Tsing posits, contemporary capitalism relies on "salvage accumulation," where value is made not only through marketplaces but also through humans, nonhumans, and ecological acts outside of capitalism. Pacific Northwest Matsutake mushroom production is exemplary of a 'pericapitalist' site for salvage, where the salvaging, the making of value, happens simultaneously inside and outside capitalism.[105] With the patchy approach, there are pockets of supply chains and pockets of the transformation of the commodity. This also applies to *terroir 3*, where there are tastes that are informed by fetishization and those that are informed by ecology–sometimes indistinguishable (at least in the visual sense). As illustrated in Zina Saro-Wiwa's use of terroir in performance, her contemporary food performance stages both the ecological story of food (through narration) alongside food's life as a commodity (through physical staging and performance).

[104] Tsing, viii.
[105] Tsing, 63.

Terroir, as a *quality* of food, is impossible to be a commodity on its own, it must be attached to an edible object. You cannot eat terroir, it is not a discrete matter. However, one can sense the terroir in something edible–or at least narrate a sense. Distinguishing between narration and sense in taste is critical and provides a possible key to further conceptualizing terroir 3. For example, consider Waters' peach: if the server or the menu did not label the origin of the peach, explaining its provenance, how would one know it *had* terroir 2? It would be otherwise sensed through increased sugars, flavor complexity, and imperfect shape. I am not proposing the removal of the citational practice of food sourcing that has become increasingly popular, but rather aim to emphasize the role of narration - a subjective, often performance-based practice. The narration can be selective, removing key details or rendering certain aspects important (the farmer) or not (microplastics?). Narrating a sense of terroir is a tactic through which sommeliers developed the glorified, codified, and commodified impact of terroir. This section will review how it makes value and its application within capitalist frameworks.

Primarily, anthropologists have examined global contemporary food systems wherein artisanal food producers tied to a region and specific foodstuff rely on terroir as both an ethos for production and also a quality of the commodity they produce. Heather Paxson, who I will revisit in the chapter on microbes, is an anthropologist who has long worked with small-scale artisanal cheese producers and farmers in the U.S. to explore alternative food production processes and practices outside of industrial food production. She aptly addresses the contradiction present in what I have identified as *terroir 2*:

> "The tension produced by cheesemakers' calling attention to the social-material conditions of a cheese's production to enlist terroir in defetishizing a food

commodity while simultaneously capitalizing, however modestly, on that attention is at the heart of U.S. terroir talk."[106]

While an inedible object, little stretching has to be done to claim that contemporary uses of terroir are employed to increase the value of a food commodity. Where Saro-Wiwa's performance de-alienated taste from place, terroir has become (as the chapter opened with) an indicator of a type of elite taste reserved for foodies, hipsters, and the wealthy. The key to Paxson's evaluation is the issue of scale. "However modestly" implies a spectrum of capitalization, one of survival in a market where commercial cheese production will always outperform the artisanal if we are discussing volume and capital accrual. Similar to Alicia Kennedy's notes on natural wine and veganism, scale is critical when considering terroir. *Terroir 3* has the capacity to both de-alienate a food commodity and also intricately further alienation. *Terroir 3* is risky. In both directions, there are minor, patchy, strange shifts that can imbue a dish or foodstuff with market value and increase eaters' relations to ecologies. As argued earlier, Saro-Wiwa's narration of the taste and place of the production of Niger delta produced palm wine gin de-alienates the labor of the production of gin: audiences members sip and swallow the Niger Delta landscape, including the ecological devastation wrought by extractive oil, coffee, palm oil, chocolate, and other raw material production. But take, for instance, Alice Waters' peach. In an 'excerpt' written by Waters in Vanity Fair in 2017, she exalts the peaches from a few California farms.

"There's a terroir for peaches, where if the right varietals are planted in the right spots, they can be the greatest peaches of all—like a Suncrest peach in August

[106] Paxson, "Locating Value in Artisan Cheese," 446.

from **Mas Masumoto's** farm in the foothills of the Central Valley, or an O'Henry peach from Frog Hollow Farm in Brentwood."[107]

This story of the peach was one of Waters' key interventions in her restaurant *Chez Panisse* which opened in 1971 in Berkeley, California. Waters often served a single fruit as part of dessert, with no preparation but the name of the farmer located on the menu.[108] This was, as has been noted by many food critics, a major shift and an early instance of the "farm-to-table" movement in restaurant and food cultures in the U.S.[109] This movement, which attempts to lessen the spaces between production and consumption in a restaurant, has continued to dominate restaurant aesthetics in the U.S. to this day. However, what I hope to complicate in the following pages of this dissertation is that imbuing foodstuff with place does not inherently create an ethics with the environment or social relations. While many articulate the importance of knowing where one's food comes from, and I do not disagree with the urgency, what I aim to stress in *terroir 3* is that food and space are linked in a spectrum of sensory outputs.

The Chez Panisse kitchen exemplifies the shift in what Joshua Abrams calls the open-format kitchen, changing the dramaturgy of dining from one that separates the consumer from the chef, such as 19th-century Russian dining experiences (then exported to France and dominated 20th-century restaurant practices) that hid the food preparation, kitchen staff, and even head chefs behind the scenes, to open-format plans where the oven, stove, and prep tables were all visible to diners.[110] This is important because it marks Chez Panisse as a part of the food movement that attempted to bring diners into closer relationships with the chefs who created

[107] Waters, "Alice Waters on the Persuasive Power of the Peach."

[108] Pollan, "Ripeness Is All."

[109] Freedman, "Fifty Years Ago, Berkeley Restaurant Chez Panisse Launched the Farm-to-Table Movement"; Kamp, "Cooking Up a Storm."

[110] Abrams, "*Mise En Plate*."

their food. However, what Waters does through certain dishes is draw the diner into a closer relationship with the farms that produce the food. This new staging of the restaurant is also connected to Alice Waters' own food ethos of preparing locally sourced ingredients with minimal additions, sauces, or "distractions" from what California produce could offer. To return to the peach: the genius of the fine-dining chef transformed from one who could either replicate a traditional haute-cuisine technique or present an inventive, new, complicated dish, to the chef as curator. A chef did not have to master a technique but instead have superior relations with farms in order to secure produce that could be served without manipulation.

How has the story of *terroir* come to be *so* contradictory across disciplines, professionals, scholars, artists, chefs, and farmers? Two stories illustrate the unease surrounding *terroir 2* in U.S. culture: a comedy and a horror. Two genres that point out absurdities in social life, these stories of *terroir 2* capture the emptiness of the fetishization of terroir and reveal anxieties about terroir's colonial and imperial effects. Portlandia, a sketch-style comedy series produced by IFC starring Fred Armisen and Carrie Brownstein, explores the social absurdities of liberal urban life in Portland, Oregon. The pilot episode, "Farm", released January 21st, 2011, begins with a nameless couple attending a local restaurant. While ordering the chicken, the server begins a process of narration of the life of the chicken. The couple, exemplary liberal foodies, begin inquiring more and more about the farming practices, personal life, and living conditions of the specific chicken they are going to eat and end up at the farm itself in search of the most ethical consumption possible. So terroir goes beyond narration and actually changes their environment, leaving the restaurant to go to the farm. The farm, run by a polygamist cult leader played by Jason Sudeikis, hypnotizes the two lead characters. Both nearly fall in love with the leader, terroir is positioned as a dangerous inquiry, which can lead to relations that go "too far."

In 2022, *The Menu* was released by Searchlight Pictures, a dark satirical horror-comedy set on a private island host to a fine-dining restaurant called Hawthorn, echoing real-life restaurants Noma or Willows Inn, where hyper-local foods are displayed with modernist culinary techniques (e.g. foam, emulsions, or spherified manipulations). A select group of upper-class elite diners are brought to the island to experience a meal that turns into a horror experiment where they are ultimately lit on fire as s'mores along with the head chef and all the kitchen staff. Disembarking the small ferry bringing them to the island, the diners are toured around the local ecology, walking along the shore and viewing a restaurant staff member harvesting shellfish for that evening's dinner. Over the course of the film, each of the guest's desire for the taste of Hawthorn is revealed to be empty of a "true" appreciation for alimentary aesthetics, but rather solely for social, cultural, or capital gain. The diners' interest in terroir reveals their vapid upper-class interest in a trendy taste. Perhaps more crucially, the chef and staff at Hawthorn's devotion to restaurant labor and aesthetic commitments lead to its demise. Where the tastes and dishes they produce (for example, the human s'mores that burn the entire restaurant down) are one of destruction.

Both of these films have an underlying narrative warning that terroir and inquiry into production by middle to upper-class white people is a dangerous, even deadly one. Terroir will reveal the elitist failures of foodies and ultimately destroy one's ability to taste, and, at worst, reproduce the colonial and imperial violence of American culture. To repeat, terroir is risky. A chef, artist, or restaurant claiming to produce *terroir* may perhaps be producing imperial violence masked by a green garden, local foods, and a fantasy of ethical consumption.

What are the challenges and limits in exercising the simultaneity of terroir? Historically, terroir has been a paradox: its meanings over time contradict each other. This lack of clarity in its

contradiction is uncomfortable. Taking terroir as a framework to understand two temporalities simultaneously, a more geologic time and a capitalist time, is critical in understanding our current food system. Terroir takes the sensory and material qualities of food together. Methodologically it requires an unlikely theoretical pairing. While much of the 2010s debated whether New Materialism was a useful, fraught, eliding, concerning, or groundbreaking theory, it has proven particularly useful in conceptualizing nonhuman performance practices. Rather than assert its utility, what *terroir 3* asserts is that the sensory dimension of matter cannot be divorced from its fetishizable properties. Old and New Materialism have trajectories that sometimes overlap and sometimes have not yet converged, but in the case of food and taste, happen simultaneously.[111] The myriad crises humans face call for myriad methodologies, interventions, and analyses - and require careful untangling of assumptions and critical engagement with theoretical biases that limit our ability to imagine and critique possible futures.

Untangling the knot of Terroir and Slow Food:

As I have argued, performance with food demands dual modalities in conceptualizing terroir as a framework for 21st-century edible matter. Zina Saro-Wiwa's gin performance illustrated that the two methodologies, a sensory relation to food, and a commodified one, are simultaneously required for conceptualizing the immensely complex reality of studying food and eating in the 21st century. Taste twice over. This is a shift from current discussions of food interventions, where for some food aesthetes and activists, and, as this section will argue, scholars, the terroir of a food object is only sensible, only animated, within a hierarchy. This hierarchy is presumed to have *both* an animacy *and* a speed. The clearest example of this conflation of agency with animacy with speed is the Slow Food Movement.

[111] Roudeau, "How the Earth Feels."

This section will present some knots in food theory and propose some adaptations to account for the need to understand food in 21st-century alimentary performance. First, addressing the impact of the Slow Food Movement on conceptions of food and terroir broadly, I'll incorporate how slowness (as defined through Slow Food) has permeated performance studies theoretically. Then I will analyze Alice Waters' performance in *Werner Herzog Eats His Shoe*, a documentary by Les Blank that contradicts Waters' own arguments stemming from the Slow Food movement's ethos. Finally, I unknot new materialism and slow food, reframing new materialism's role in food studies and offering new potentials for *terroir* as an analytic. There is lengthy attention given to the Slow Food movement, but its pervasiveness in both food cultures and scholarship warrants the time spent.

As introduced at the beginning of the chapter, the Slow Food Movement emerged out of Italy in the 1980s, featuring a manifesto for a new culture of eating, cooking, consumption, and production, all revolving around an ethos of slowness with an attention to localized production. This is what Slow Food founder Carlo Petrini identified as *territory*:

> "*Territory*"--a word I will use throughout this book in exactly the same sense as the French word *terroir*: the combination of natural factors (soil, water, slope, height above sea level, vegetation, microclimate) and human ones (tradition and practice of cultivation) that gives a unique character to each small agricultural locality and the food grown, raised, made, and cooked there."[112]

Petrini initially mirrors many common translations of terroir, as outlined in the opening of this chapter, where a range of parameters determine the characteristics of food produced in a particular place. However, there is an elision that Petrini hints at, which is later expanded by

[112] Petrini, *Slow Food*, 7–8.

Alice Waters. For Petrini, smallness is a determinant of producing a territory. What Saro-Wiwa's terroir counters to this understanding is that a combination of localities—taste connected to place*s* complicates *terroir* as a fixed single relationship to a determined, 'small' locale. But finally, and most crucially, is the elision that Petrini makes within the definition of terroir, or territory: the ability to sense place is only possible through slowness.

Locality = small = slow = "long-lasting enjoyment"[113]

The movement has been critiqued by Alison Leitch for its conflation of aesthetics and politics, its limits in scalability, and its contradictory values surrounding the localization of production and consumption while operating at a global scale.[114] These are critical interrogations on the efficacy of an NGO with the goal of specific political and social interventions. What I aim to show in this section is how the Slow Food movement's conflation between speed and animacy has affected broader scholarship, specifically in new materialism, and its resonant effects in performance and food studies. Additionally, I illustrate a bias that has emerged in a select conversation of influential white U.S. food thinkers that has permeated these fields.

The Slow Food Manifesto remains a key document that linked the political power of sensory engagement with food as a counter to industrialized and globalized food systems. This is a prime example of how terroir has adapted into the 20th-century, carrying with it the nationalism identified by Parker and others, and is a critical point to begin my own departure into an expanded definition of terroir for the 21st century.

The expansion and collision of academic writing and popular criticism in the late 20th century has led to the reliance on food studies, as an academic discipline, on (and rightly so) the knowledge of food activists, writers, chefs, and thinkers who might not be found on a university

[113] Petrini, xxii. Xxiii

[114] Leitch, "Slow Food and the Politics of 'Virtuous Globalization'*."

campus. However, by revisiting terroir as a frame for conceptions of food, I aim to critically engage with these terms as ideas, to pull apart these terms that have been primarily mobilized for capital gain and/or political action. Additionally, specifically in *terroir*'s utilization by food justice movements, I aim to consider how they are deployed now and what other ways they might be useful in seeking a just food system at the global level. Terroir is a historically malleable term, and as Zina Saro-Wiwa's assembly has shown, is changing once again to accommodate for the transnational, fetishized, ecologized, theatricalized consumption and production of gin.

The Slow Food movement applies speed to the production and consumption of food as a way to resist the globalization of what is commonly called fast food, a category of commercial food producers that industrialize food production, franchise dining spaces, and disproportionately shaped myriad global food cultures and target populations for profit. This concept of slow as resistant has resonances in other critical activist and nonprofit organizations, such as the Slow Factory.[115] Ultimately, this is not an argument against the efficaciousness of 'slow' as a strategy for justice movements–rather an unknotting of the braid of an ability to "really taste" something, the *terroir*, to a sensory realm determined through slowness.

The concept of slowness as resistant to the harmful effects of capitalist commercial production has also expanded into other aesthetic realms, such as Slow Dramaturgy, a term coined by Peter Eckersall and Eddie Paterson in the Journal of Australasian Drama Studies. Eckersall and Paterson "argue here for the evolution of the slow and particular - terminology we take from the slow food phenomenon and apply to fresh contexts for dramaturgy,"[116] explicitly drawing speed as a frame for conceptualizing "slow theatre" which "draws our attention to the

[115] "Slow Factory."
[116] Eckersall and Paterson, "Slow Dramaturgy: Renegotiating Politics and Staging the Everyday," 178.

local."[117] The slow propositions emerge from "the efficient, individualized, fast processes associated with global capitalism."[118] I am in agreement with Eckersall and Paterson's assertion of a need to emphasize the material elements of theater, renewing an attention to space and ecology.[119] In order to emphasize the material of theater, a scholar, an analytic, needs to take a certain pace, perhaps a slow one, to identify, narrate, and theorize the vast range of matter that participates in a given performance, from the plastic shrink wrap encasing packages delivered to a performance space to water flowing through the pipes of the lobby bathroom to the cans of paint that coats set pieces to the droplets exerted from performers lungs–to return to the long close read. Where Eckersall and Paterson offer a critical category of dramaturgical engagement with theater, my own argument revisits Slow Food critically as a sensory argument and considers terroir centrally rather than slowly. The space of food dominates my inquiry rather than time. Where Eckersall and Paterson link slowness to interconnection, which I agree with, I argue that in the case of food and performance, a more potent framework would be taste produces interconnectedness, and that connection does not always imply positive attachments.[120]The equivalency (terroir = slow) is found in terroir 2 and Terra, but as we consider planetary and microscopic health and diversity, this conflation must be dissolved. Instead, interconnectedness is a more suitable frame for the variant speeds that eating incorporates.

[117] Eckersall and Paterson, 179.

[118] Eckersall and Paterson, 188.

[119] Eckersall and Paterson, 180.

[120] Eckersall and Paterson, 179.

Foolish Approaches to Food

"And therefore to eat a shoe is a foolish signal but it was worthwhile…we should be foolish enough to do things like that. More shoes. More boots. More garlic."

- Werner Herzog in *Werner Herzog Eats His Shoe*[121]

In order to better dissolve the firm entanglement of *terroir* and slowness, I return to one of the most significant contemporary chefs and food culture contributors whose work has contributed to adapting and furthering Slow Food International. Alice Waters has long supported the Slow Food USA chapter, serving as the Vice President of Slow Food International since 2002. While prevailing media coverage and scholarship examine Waters's contributions to sustainable food movements, often through the dish of the peach previously mentioned, Waters once cooked something much less edible: a shoe. Waters' performance in a 1980 experimental documentary contradicts her more contemporary definition of terroir, found in her own published works and popular magazines. The twenty-one-minute Les Blank film, *Werner Herzog Eats His Shoe,* centers around a bet between Herzog and Errol Morris, in which Herzog would eat his shoe if Morris finished his first documentary. The resulting debt lands Herzog in the Chez Panisse kitchen, discussing the best cooking technique to make a leather boot edible. There is certainly an element of satire or exercised idiom, but throughout the film, the real consideration for making something edible, even if for a drawn-out joke, performs the importance of embracing *terroir* as an open framework.

Waters betrays her own logic of prioritizing "real" and "whole" foods, bypassing her Bay area produce providers for a filmmaker's shoe flown in via plane. I don't mean to be flippant:

[121] *Werner Herzog Eats His Shoe*, pt. 19:09.

terroir expands not only our understanding of what food aesthetics emits but also what food as performance can be - the creative application of cooking to something seemingly inedible transforms an item, even for just a few bites, into something new. Anything made to be eaten can express terroir.

The central premise of cooking a boot is treated both as a comedy and a real alimentary concern: what would it take to make the boot edible? There is a doubling of performance with food, where the cooking of a shoe acts as a sign of the absurdity of filmmaking, but it is also a real material problem if Herzog actually attempts to eat a shoe. However, in the case of Waters, who is not a filmmaker but rather a chef, her performance grapples with concerns of taste: should they add an acid, duck fat to break down the tough leather, or certain combinations of side dishes to enhance what this dish could do sensorily.

Fig 2.6. Alice Waters prepares shoe at Chez Panisse. Still from *Werner Herzog Eats His Shoe.* Directed by Les Blank. Les Blank. 1980.

Waters' care for a commercially produced leather boot, tenderly removing the laces and stuffing the toes with whole heads of garlic, onion, and parsley, show Waters' capacity to

transform an ingredient of unsavory origin into something edible. Waters betrays her own logic of alimentary and agricultural purity through performance. Waters' performance in *Werner Herzog Eats His Shoe* proposes the possibilities of *terroir 3*, where the microscopic performance of edible materials, not the linear narration of food sourcing, makes a theatrical, sensory, and waffling definition of the taste of place. Ultimately, it is through food performance, embodied, practice-based, limited, and perhaps foolish, that a more expansive and microscopically attuned definition of terroir emerges.

As Herzog asserts in his closing reflections, which this section opened with, foolishness and absurdity are central to the film, and what I might extend to food and performance. Herzog continues to cut small bits of the braised leather boot and determinedly masticate in front of an audience. He really does eat the shoe. Waters performs the foolishness as the host and chef of this eating and cooking performance, where something so inedible as a shoe is playfully made edible, even if never quite becoming "good." Food in performance works across anthropocentric and capitalist conceptions of taste and nearly collapses the line between metaphoric and material representations.

Slow Food and New Materialism

Rather than discarding previous explanations and definitions of terroir, what Waters and her fellow Slow Food activists reveal is that returning, microscopically, to the applications and understandings of the term reveals possible breaks and new understandings of terroir in relation to food. Jane Bennett, an early new materialist scholar, asserted commercially processed food matter as lacking in vitality. While Bennett herself does not utilize the sensory-driven term *terroir*, she does highlight the Slow Food movement as a critical organization and ethos to counteract the harmful qualities of the 21st-century global food system effects on the human

body. In what follows, New Materialism will be critically examined in its applicability to edible matter, some of its theoretical resonances, and what limits should be considered when it particularly comes to food. *Vibrant Matter: A Political Ecology of Things* (2010) haunts (and is entangled with) both Rosi Braidotti, Donna Haraway, and other feminist-materialist scholars of the 90s and early 2000s. While Haraway and Braidotti consider vitalism through decentering the figure of the human to explore its relations and responsibilities to nonhuman beings, Bennett directly takes up the agency of 'things.' Her particular goal is "to highlight the active role of *nonhuman* materials in public life."[122] Bennett achieves this through adapting Bruno Latour's Actor-Network-Theory to articulate 'assemblages.' In understanding Bennett, it is useful to note how vibrant matter can slip between a material thing and its representations, all circulating in assemblages. For example, in her chapter "Edible Matter," Bennett addresses "nonhuman fat" as a particularly vibrant actor in the assemblage of "American consumption." However, while she claims the affective abilities of fat on human health and mood, through emerging studies around omega-3 fatty acids, she expands 'edible matter' to include dietary/morality writings of Nietszche and Thoreau, and finally the Slow Food Movement to argue that "a program of artful eating" is a resistant and active potential for "American obesity crisis." Ultimately, Bennett examines how both literature and scientific studies, together, can render food's agential potentials. However, more so than an explicit definition of animacy, we might consider the hierarchy implied by placing certain kinds of edible matter (such as "wild" berries) above others (such as berry-flavored pop-tarts). Through these case studies, Bennett makes unclear the spectrum of animacy that edible matter encompasses.

The spectrum is best articulated through Mel Chen's hierarchy of animacy. This tool for new materialism allows a critical engagement with how media, and what I would add, new

[122] Bennett, *Vibrant Matter: A Political Ecology of Things*, 2.

materialism itself, can imbue liveliness (or absent it) in edible matter. In *Animacies: Biopolitics, Racial Mattering, and Queer Affect,* Mel Chen extends the project of New Materialism by considering not just the agency of particular objects, matter, or things, but *how* and *to what extent* things are rendered animate. By identifying a linguistic hierarchy of animacy, Chen introduces the ways in which vitality is not merely a question of theorizing agency in things, but also the ways language imbues scales of animacy into things. For Chen, "stones and other inanimates definitively occupy a scalar position (near zero) on the animacy hierarchy and that they are not excluded from it altogether and are not only treated as animacy's binary opposite," and therefore are also subject to biopolitical structures, revealing racialized, engendered, and sexualized matter.[123]

While lead may not immediately seem applicable to "edible matter," what shifting spectrum of edibility invites is a consideration of those matters that might be rendered "less vital," by Bennett. For example, while not explicitly argued in *Vibrant Matter*, there flows an undercurrent of "good" and "bad" matter in Bennett's edible assemblages. In responding to the written descriptions of Thoreau's vital and "wild" food, Bennett notes how different foods act different: "We would say that the berries in Pop-Tarts do not act the way their wild counterparts do, or that processed cheeses and sterile-filtered wine are rendered more passive, less vital, and more predictable than their unpasteurized and unfiltered counterparts."[124] Bennett kindly returns us to our opening case study: the case of natural wine. Bennett's elisions assume that highly filtered or processed wines are absent of vitality, that the fake or transformed reduces a thing's capacity to exert agency. This claim is one that I believe most performance studies theorists invested in the possibilities of the representational and mimetic might bristle at. What and how is

[123] Chen, *Animacies*, 5.

[124] Bennett, 47.

influenced in the consumption of a processed food is certainly open for discussion, but to render certain foods absent of liveliness falls into the problem of Waters' peach–in which food studies, and perhaps new materialism at large, risks not only glorifying the artisanal, but reproducing a binary in food practice that does not fully address the sensory and commodity complexity that the study of food, wine, or gin invites.

As Chapter 2 will suggest, microbial life adds another dimension to the vitality of unfiltered wine, the microplastics incorporated and acting within the Pop-Tarts prove a challenge to Bennett's claims on the vitality of certain edible matter, as Chapter 4 will conclude. Critiques of New Materialism have pointed out two critical issues with the emergent field. One such critique stems from Kyla Wazana Tompkins, resonant with Mel Chen's concern regarding the flattening capacities of object-oriented ontologies.[125] There is a risk of eliding human-subject issues, particularly in critical understandings of race and gender, that emerges when considering the life of things. Additionally, as Jamie Lorimer has pointed out in *The Probiotic Turn*, New Materialism continually relies on scientific knowledge to affirm the life of nonhumans, especially in microbial life, which can verge on an overreliance on the assumed objectivity of scientific knowledge.[126] Perhaps Haraway's activation, or animation of matter is best captured here:

> "It matters what matters we use to think other matters with; it matters what stories we tell to tell other stories with; it matters what knots knot knots, what thoughts think thoughts, what descriptions describe descriptions, what ties tie ties. It matters what stories make worlds, what worlds make stories."[127]

[125] Tompkins, "On the Limits and Promise of New Materialist Philosophy."

[126] Lorimer, *The Probiotic Planet*, 59.

[127] Haraway, *Staying with the Trouble: Making Kin in the Chthulucene*, 12.

This sentiment remains applicable for scholars within new materialism as well. As Chapter 3 will argue, there are great implications for rendering plastic, and even microplastics as disposable and unincorporated in human life (another type of animacy). What Haraway argues here is that this is true for all matter–a far reaching claim, but one I think is crucial for immersing in the study of edible matter. Even as scholars, our individual taste for particular food items may creep its way into our own hierarchies of animacy when it comes to case studies, references, and examples of matter worth eating.

Terroir is not a Neologism

Terroir is a word with a lot of baggage. In interviews with chefs, artists, and scholars, I often ask, "What do you think of terroir?" and I can honestly say I never quite know what to expect. Sometimes, it is met with a sigh, an eye roll; perhaps terroir is an overused word that is too much of a catch-all, and locally produced goods are placed on a pedestal. Or, quite opposingly, a sparkle in someone's eye appears: the imaginative and intimate possibilities that can emerge when a single bite of food can connect an eater to an environment, which asserts the importance of sensory experiences. It is precisely because of terroir's ambivalence (in the sense that it holds dual meanings simultaneously) it also proposes a useful conundrum: terroir as a process of fetishization can also, and does also, molecularly entangle eaters with eaten. The following chapters then take terroir, and ambivalence, as a method to explore a range of performance works that rely on food matter.

One of the most important questions I was asked in my doctoral work was why I did not make my ideas surrounding terroir a neologism. I make no claims that I will *never* do that, but for the purposes of interdisciplinary methodologies, and also practicing the ambivalence, outrage, and exaltation that terroir invites, sticking with this troubling word has proven grounds

for dynamic conversations, uneasy tastes, and animated auras of the range of foods surveyed in this project.

Chapter 2
Microbes[128]

In 2013, Christina Agapakis, a UCLA postdoctoral fellow in molecular biology, swabbed celebrities' armpits, belly buttons, and feet for microbial samples to make cheese. The "human-made" cheese resulted in the art exhibition *Selfmade*, a sensory installation inviting audience members to confront intimate and smelly relationships between humans and microbes, all through fermented edible matter. Artist Olafur Eliasson, food journalist Michael Pollan, and baker and writer Ruby Tandoh offered up their bodies as cultivators for cheese production. The prominent figures and their companion bacteria validate and complicate the relations that *Selfmade* claims to produce. At first glance, the installation invites a sensory entanglement with nonhuman matter. There is, of course, more than meets the human eye. Hunger, eating, and even cooking are not exclusive to humans but perhaps intrinsic to planetary life. Human, celebrity, and microbial actors blur across the many mediums materialized in the food performance. As much as *Selfmade* is a nonhuman performance, it is also because of its very humanness, celebrity, and theatricality that we find an entanglement in food and performance studies: a nearly imperceptible (or non-sensible) proximity of human and nonhuman, at the microscopic scale.[129]

Agapakis is not alone in attuning to the microbial. There has been a recent turn in popular food culture, nutrition studies, microbiology and science and technology studies to understand the microbiome in the human body. Whether in public discourse or scholarly inquiry, introductions to microbes often begin with food; think of cheese, kimchi, yogurt, kefir, and other

[128] An earlier version of this chapter appeared in *Global Performance Studies*. See Schiffler, "Microbial Theatricality."

[129] Now, one might suggest that if I am to ask for the microscopic scale, why am I not considering the pixels in the television screen that is mounted over the cheese installation or the plywood or plastic that make the boxes that hold the cheese in the gallery in "Selfmade". This of course extends beyond my microbial and edible parameters of this chapter –which is why we don't find it here. However, this question is precisely the question that considering the *terroir* of performance invites. And I suppose, what I am suggesting with this approach of scale in performance is that we *should* analyze and engage with performance at the scale of pixels and plywood. Matter is not off the table, it is the table.

fermented foodstuffs proposed as mediators in bodily and microbial compositions. These multispecies studies reveal the human body to be a less bounded, singular figure than much of Western scientific knowledge has previously narrated. As the body yearns for food, the hungry gut reveals the complexities of those bodies entangled in the act of eating. Food scholars and artists affirm the claims posited by countless probiotic supplements: our gut is full of trillions of microbial consumers, and eating food is not a unilateral act. Our companion eaters, those microbes waiting in our digestive tract to eat alongside us, fundamentally put the human–and, as *Selfmade* illustrates, celebrity–into question. Jamie Lorimer identifies the attention to microbial effects on conceptions, both theoretical and public, of the human as "The Probiotic Turn." Lorimer specifies the role microbes play in the larger Ontological Turn and understanding the human-in-ecologies.[130] While the nonhuman turn in performance has incorporated a host of new actors, actants, and agents, "the probiotic turn" poses the need for an expanded scalar analysis in nonhuman performance.

The microbial opens up a range of material questions about performance, as microbes are a relatively large category of nonhuman organisms often defined to encompass bacteria, viruses, fungi, and other "living things that are found all around us and are too small to be seen by the naked eye."[131] Etymologically, microbe is composed of the Greek *mikros,* small, and *bios*, life. Small life. A name defined in relation to the scale of human life. Similar to performance studies' questioning of the historical, political, and social forces that have shaped the definition of who is (or who is not) a human, defining the life of something so small we cannot see it has a varied, contextual history. The above categorization from the Institute for Quality and Efficiency in Health Care is meant to serve as a launch point for a definition of the *mostly* invisible nonhuman

[130] Lorimer, *The Probiotic Planet*.

[131] "What Are Microbes?"

partners in performance. Rather than hold the Institute's definition to an end, this chapter invites performance scholars to consider why and how variations in microscopic life influence conceptions of what has been a human-dominated form. Scientific definitions may likely change in their own development and are not to be taken a priori in determining the life of nonhuman partners in performance. In order to explore lively variations in nonhuman performance, this chapter explores two companion yet distinct microbes: bacteria and viruses.

This chapter considers the emerging hunger to consume microbes in performance (both theoretically and practically) as an alimentary act. Hunger occurs on a broad spectrum of scales, with a range of ethical complications. Viral performance will playfully grapple with a sense for invisible partners in performance. Pei-Ying Lin's *Virophilia* (2018-2020), a cookbook, dinner performance, and video series plates recipes that incorporate viruses. For example, in her dish "Influenza Egg on Rice," Lin tells audiences that a strain of influenza is inoculated in a foam sandwiched between rice and a fried egg. Both viruses and bacteria are often transmitted on and with food, touchpoints where humans and microbes meet. Eating is always a site of nonhuman-human interaction. These alimentary points of encounter shape this chapter but are not an endpoint of microbial performance: the air we breathe, the water we swim in, and other points of human contact can serve as sites where humans meet small life.

Small life, however, does not only have small impacts. *Selfmade*, in performing across mediums and bodies, materially links the "zoomed-in" microscopic life of microbes and the exaggerated "blown up" human celebrity. What will emerge is a proposal for a scaled-down analytic to consider a taste for human and nonhuman celebrity as separate, yet at times indistinguishable in the visible realm.

Scale is often associated with increased volume, mass, and effect. But as "Selfmade" reveals, scale is best understood as a tool to put things, even unlikely things, in relation. These works include popular science and food writer Michael Pollan and his narration of microbes in *Cooked: A Natural History of Transformation* (2013),and a person Pollan narrates across mediums, Sister Noella Marcellino (popularly known as The Cheese Nun). The connecting points drawn between these mediums are not only in representation but rather material, microbial relations. To consider the microscopic aspect of food performance, scale is rendered a crucial quality that perhaps unexpectedly decenters *and* re-centers the human; a quality of performance articulated as *microbial theatricality*.

This chapter considers, carefully, the role of microbiology in food-based theater and performance and, in turn, how an attention to theatricality shifts our understanding of the study of microbes in contemporary performance. Jens Hauser and Lucie Streker articulate the shift towards nonhuman life in performance through the emergence of microperformativity:

> "a current trend in theories of performativity and performative artistic practices to destabilize human scales (both spatial and temporal) as the dominant plane of reference and to emphasize biological and technological microagencies that, beyond the mesoscopic human body, relate the invisibility of the microscopic to the incomprehensibility of the macroscopic."[132]

Performing with microbes materializes micro and macro relations. While invisible and perhaps incomprehensible, this exploration of microbial life, and in a similar register, fermentation as a process, provides a theoretical framing for the complexity of destabilizing human-centered performance. I aim to show that both historically and aesthetically, microscopic life appears, if not always visibly, throughout science and performance. To consider its potent presence also

[132] Hauser and Strecker, "On Microperformativity," 1.

reshapes how performance scholars might *locate* performance. Cheese, whether in a dedicated gallery space or a deli counter, is always produced via microbial life, but "Selfmade" theatricalizes the process. The installation stages the cheese as an art piece and uses bacteria from human bodies inviting the audience to consider how we already are in multispecies relationships with microbes. *Virophilia* materially and microscopically entangles a clear divide between theater and performance: daily iterations of viral presence in human life, whether the artist staged them or not, not only shrink mimesis, the distance between representer and represented but render mimesis unintelligible.

A microbial entanglement of theater and performance also renegotiates long-held binaries within the nebulous field of food studies. As the conclusion of this chapter will illustrate, "Selfmade" microscopically works beyond fantasies of "authentic" or artisanal food production that assumes a fantasy of "raw" or "natural" processes to return to the introduction of the dissertation. A reassertion of theatricality in performance studies reveals the importance of critically engaging with the term within food studies. The microscopic connections link a relatively small-scale installation and food performance to widely circulated popular food writing and television. Fermentation, as this chapter will argue, works both theoretically and materially to construct interventions across fields. *Microbial theatricality*, a frame that can shift understandings of the role of theatricality in food and performance, extends into the broader study of food.

"Smaller than the smallest ones I have ever yet seen, upon the rind of cheese:" A Brief History of Microbial Anxieties

Microbial life long precedes human life in terms of species history. In a more human-centric history, the emergence of our awareness of microbes as beings is debated. 6th-century Jain scripture proposed "nigodas" as small things that live everywhere, and 14th-century Turkish scientist Akshamsaddin theorized invisible lively "seeds."[133] Humans have been fermenting beer, which requires microbial participation, for over 5,000 years. These points of evidence do not *visualize* microbial life but reveal how humans have been sensing microbes long before we saw them. However, in spite of this global and sensory trajectory, much food scholarship orients the emergence of human conceptions of bacteria, and the advent of microbiology as a field, to the first *sighting* of bacteria.

Robert Hooke and Antonie van Leeuwenhoek, two Fellows of the Royal Society, were the first recorded humans to visualize bacteria. Notably, this visual encounter also took place between humans and cheese, mediated by the introduction of simple microscopes between 1665 and 1683.[134] In a 1674 letter from van Leeuwenhoek, he recounts:

> "examining this water…I found floating there-in divers earthy particles, and some green streaks, spirally wound serpent-wise…and I judge that some of these little creatures were above a thousand times smaller than the smallest ones I have ever yet seen, upon the rind of cheese, in wheaten flour, mould, and the like."[135]

[133] Haavisto, "Suddenly I See."

[134] Gest, "The Discovery of Microorganisms by Robert Hooke and Antoni van Leeuwenhoek, Fellows of The Royal Society."

[135] Donnelly, "12. Towards an Ecosystem Approach to Cheese Microbiology," 2.

The exciting image of small serpents, particles of the earth, were not yet the threatening matter that much of Pasteurian anxieties have led us to imagine. Hooke and van Leeuwenhoek *saw* bacteria, but where they came from and what they did–their behaviors as living things–were not yet known. Bacterial anxiety did not emerge until Louis Pasteur's 1859 experiment proving that microbes were present in the air around us, even if we cannot see them. Pasteur's experiment that disproved spontaneous germination used broth to prove that all the organisms in the liquid would be killed after boiling. Wine, beer, and milk were also favored matter for the scientist.[136] Proof of microbial life is often found in food, reaffirming this dissertation's aim to consider food as a key material in understanding human relationships with the environment. Using food as a medium and a lens into microbial life is critical to trace through the emergence of the Probiotic Turn. These early instances of sensing, making small life visible, have shaped food and agricultural practices that have determined much of human and planetary health.

Since Western scientific definitions of bacteria were crystallized, these partners in human life have become an essential, anxiety-inducing part of food production and consumption. *E. coli* and *Listeria monocytogenes* are two particularly dramatic bacteria, causing harm to human health if consumed. Turn of the century outbreaks in food products have remained ever-present in the United States industrialized food model, creating reactions, illnesses, and deaths from humans that reinforce regulations that are often rooted in sterilization processes. The sterilization, also called Pasteurization, repeats Pasteur's initial experiment: heat up food material to a temperature that would kill all living organisms present.

In the case of the cheese, as *Selfmade* takes up, milk has been subject to sterilization for over a century in America. In *Nature's Perfect Food: How Milk Became America's Drink*, E. Melanie DuPuis details the rise of milk as a perceived pure and American foodstuff, especially

[136] Ligon, "Biography"; Latour, *The Pasteurization of France*.

after pasteurization was adopted as the standard model for controlling safe milk consumption at the turn of the century. New processing standards were debated at The Conference on Milk Problems in 1910, and although history shows that pasteurization was the clear winner in American food practice, there was a contingency of pediatricians who argued for raw or unpasteurized milk with detailed certification practices. For "raw milk supporters argued that heating destroyed many of the nutritious properties of milk, as well as the beneficial bacteria."[137] However, pasteurization not only had the benefits of controlling harmful bacterial growth and ensuring safe public use, but it also permitted a shelf-stability of milk that would enable longer transportation, increased size of manufacturing plants, and the homogenization of taste, which in turn furthered the aims of major food corporations to consolidate wealth.

Cheesemaking in the United States follows a similar story to milk in terms of pasteurization. As Catherine Donnelly, a food safety specialist, microbiologist, and artisan cheese convert, notes in *Cheese and Microbes*, "while pasteurization of milk intended for cheesemaking has also been applied to protect public health, pasteurization of cheese milk has been done largely for reasons other than safety, mainly to ensure consistency and quality of produced products."[138] Pasteurization in contemporary American foodways signifies safety and stability in food products. Pasteurization also produces sensory homogenization. By heating the milk, bacteria are eradicated in the name of human health safety. As the industrial food system has removed these lively things from food, it has created homogenous foodstuffs that produce uniform tastes. One of the consequences of Pasteur's process is the "McDonaldization" of tastes, which has globalized tastes for food not only through the franchisement of restaurant space but also the circulation of shelf-stable foods that maintain uniform flavor and quality. This alarming

[137] DuPuis, *Nature's Perfect Food: How Milk Became America's Drink*, 77.

[138] Donnelly, "12. Towards an Ecosystem Approach to Cheese Microbiology," 8.

and widespread eradication of bacteria has been covered by science and technology studies scholars, who now see a critical need to rethink human-nonhuman relationships as interdependent rather than hierarchical.

Artisanal cheese production is one practice that rethinks, if unevenly, the importance of microbial life in food. Heather Paxson, anthropologist, and ethnographer, narrates the 2000s increase in artisanally produced cheese as Post-Pasteurianism– practitioners who use raw milk in cheese production and broadly resist the widespread sterilization of food. Paxson articulates microbiopolitics, alongside Foucault's biopolitics, to describe the emergence of widespread governing of human-bacteria relationships since Pasteur's substantial influence.[139] Can a post-Pasteurian politics ease some of the anxieties around bacterial life?

The resistance to McDonald-like global food aesthetics and practices was also the impetus for the Slow Food movement, which was formed in the wake of protests of the first McDonald's franchise to be built in Italy. Microbial life, however, was not part of the mission of Slow Food. At the time, as Chapter 1 illustrated, Slow Food's attention to *terroir* focused on a national and spatial proximity to food production, not a microscopic one. However, in terroir's more commonly known disciplinary home, the global wine industry and viticulture scientists (who are sometimes, but not always, distinct industries) have begun to explore the impact and presence of microbes in particular winemaking regions and what tastes might emerge from microbial differences. Termed "microbial terroir," the process begins similarly to Hooke and van Leeuwenhoek's approach: what microbes are present in specific wine-growing regions? Microbial terroir prioritizes visual verification of bacteria as a potential tool in understanding

[139] Paxson, "Post-Pasteurian Cultures: The Microbiopolitics of Raw-Milk Cheese in the United States."

wine.[140] However, as the recent collapse in microbial life of Camembert proves, such microscopic attention to taste risks microscopic commodification and collapse.[141] The performances that follow propose a similar kind of microbial terroir. Through creative practice, alternative sensory modes can emerge as a method for seeking microbial life rather than an overreliance on visual proof.

While the 18th-century Enlightenment-era scientific approaches sought to visualize microbes, the 19th and early 20th-century Pasteurian ethos sought to eradicate them, it seems 21st-century theatricalizes microbial life. As Lorimer distinguishes, "going probiotic goes well beyond a preference for live yogurt; it links a range of efforts that aim to change the composition of biophysical systems to modulate the rhythms and intensities of their ecological interactions."[142] In reaction to the proliferation of anxiety and possibility around microbes, the artists included in this chapter, for the most part, challenge instrumentalization by playfully theatricalizing microbial life. Imagining and articulating the possibilities of thinking about multispecies assemblages–a concept that the human species is not a singularly bound subject but instead reliant on many partnerships with other species, has appeared in feminist science and technology scholars and Indigenous scholars who conceptualize humans as apart of ecologies, rather than distinct from the natural world.

How does performance practice figure into the food and wine industries, microbiologists, and bacterial life? Resistance to the dogmatic ideology of Pasteurianism is not exclusive to U.S.

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[140] Gilbert, van der Lelie, and Zarraonaindia, "Microbial Terroir for Wine Grapes"; Gobbi et al., "A Global Microbiome Survey of Vineyard Soils Highlights the Microbial Dimension of Viticultural Terroirs"; "Understanding Microbial Terroir in Wine."

[141] Harmi, "French Cheese under Threat."

[142] Lorimer, *The Probiotic Planet*, 2.

artisanal cheese producers. Performance artists and scholars who utilize performance in their research also create theatrical and intimate relationships with microbes.

The Human at Scale

Antonie van Leeuwenhoek's observation that the bacteria on the rind of the cheese were "a thousand times smaller than the smallest ones I have ever yet seen" mirrors microbes' etymological assertion of their size in relation to human scale. By determining it a living being, bacteria are rendered in relation to the human as *small*, which proves an accurate account if considering bacteria as individualized subjects relative to an individual human. However, in conceptualizing the trillion microbes that are in a single human digestive system, *small* seems nearly oxymoronic when paired with such a vast number. The question of being is often a question of scale, creating an ontological question of not only nonhumans but also humans.

Alimentary performance similarly grapples with a question of scale: both actors and impact shift when addressing more-than-human ecologies. Max Liboiron's *Pollution is Colonialism* proposes a theory of scale, especially to understand the "scalar mismatches" of Western colonialist environmental activisms and policies. Expanding on the ethical projects of Indigenous and feminist science and technology scholars, Liboiron argues that "scale is not about relative size. Scale is about what relationships matter within a particular context."[143] Liboiron's book specifically introduces an anticolonial scientific approach that incorporates Indigenous knowledge and works to set up scale as a theory to understanding how their work can be both useful to academia but also specific for the communities in Newfoundland in which Liboiron and the CLEAR lab works. I've included here what I understood as the theoretical frameworks that were offered to extend beyond the scope of CLEAR lab, and not those that are specifically

[143] Liboiron, *Pollution Is Colonialism*, 84.

articulated for practice within Indigenous science and knowledge systems. As Liboiron notes, care does not always mean good relations, it can often mean selective relations. In the case of Liboiron, they are pointing out that the control of plastic wastes led to "curbside collection of trash and recyclables… the cultivation of a containment system based on assumed ontologies of separation."[144] Regarding environmental activists, Liboiron identifies how the common call-to-action, "consumer avoidance," such as recycling, is additionally a relation that reproduces uneven, colonial relations with matter (and, therefore, in Liboiron's case, Land). "Avoidance, based on the concept of the possibility of separating human (body) and (polluted) Nature, is a scalar mismatch where problems and their proposed solutions occur at different scales and do not affect the relationships that matter. Purity relations based in discreteness and separation do not scale for plastics."[145] Simply because performance scholars identify microbes, or any nonhuman, in performance, the relations made *visible* should not be assumed to be either ethically good or scalable. Microbial performance does not inherently include a symmetrical or ethical relationship between humans and microbes, but rather human-made power structures emerge even in multispecies performance.

An examination of scale in nonhuman performance affirms the possibility of perpetuating utopian colonial environmentalist attitudes. *Virophilia* and *Selfmade* do not pose interventions for the food industry. Working at the microbial scale cannot, and perhaps should not, scale to the planetary–at least not easily. For example, envisioning human-cheese at a global scale of production is not a useful solution to our probiotic problems. Perhaps the proliferation of marketing around probiotic health solutions has reached a celebrity status–a more abstracted human cheese– dragging, or fermenting, those celebrity performances along with the newest

[144] Liboiron, 75.

[145] Liboiron, 101.

supplement to a global scale. An application of Liboiron's theory of scale to performance studies must be carefully considered.

This chapter highlights humans and nonhumans on a range of scales. In order to do this, celebrity and human are not synonymous, but rather pose an opportunity to consider how humans and nonhumans change in scale in performance. Postcolonial theorist Dipesh Chakrabarty has argued for a multi-scalar approach to human and nonhuman ontologies, particularly to address the shift in scale of the human to a non-ontological status.[146] In Chakrabarty's case, the massive, geologic effect that humans have made on planetary health is so significant that humans have ascended ontological action. Chakrabarty extends the 2006 assertion from geologist Paul Crutzen that humans have made such a marked impact on geologic matter that a new epoch, the Anthropocene, is a more apt name for our times.[147] Humans, as a vast category, exert a force so great, so large in scale, that the idea of *being*, discrete and bounded, becomes obscured in the Anthropocene. But what about human entanglement with small life? How do we grapple with non-ontological human and multi-ontological beings (human-microbe) simultaneously? As human-bacteria relations show, there is a need to consider the microscopic and microbial along with the human. What does an attention to the small-scale forces that produce the human reveal? By attending to the scale of aesthetics, spectacle, and everyday theatricality of the microbiome, a new understanding of theatricality in alimentary performance materializes.

In shifting focus to the microbial, this chapter also emphasizes the blurry lines between new materialism, multispecies studies, and environmental humanities and what performance studies offer and complicates in those fields. While the Anthropocene may mark a vast

[146] Chakrabarty, "Postcolonial Studies and the Challenge of Climate Change," 1.

[147] Crutzen, "The 'Anthropocene.'"

human-planetary history, reshaping our conception of the human on a large scale, the microscopic produces new conceptions of the human as a multispecies assemblage and, perhaps, performer. Donna Haraway's speculative epoch, the Chthulucene, is a helpful framework to think through multispecies relations, particularly human-microbe, and their possibilities, especially through her concept of "play." In her 2016 text *Staying with the Trouble*, Haraway narrates multiple temporalities to think alongside the Anthropocene. She proposes a future-thinking epoch, what *could* come, that is not marked by anthropos, but rather "chthonic beings." Posthumanists, new materialists, and multispecies scholars have continually argued that the singular, bounded figure of the human is a lingering post-Enlightenment fantasy. To recast that image of *Man*, Haraway proposes a new figure: bodies as always-in-relation with multiple species, ideas, and ways of being. The tentacular, fuzzy, monstrous beings share an aesthetic similar to van Leeuwenhoek's "spirally wound serpent-wise" bacteria sighted long before Pasteurian anxieties cast microbes as villains.

The Anthropocene is a story about a figure of the human, often a reductive or incomplete one, but nevertheless places the fantasy of the singular "human" center-stage. Rather than reject Crutzen's casting of "the human" as a geologic force, Haraway claims that "the charismatic quality of the figure is worth staying-still with. There's a need for a word to highlight the urgency of human impact on this planet, such that the effects of our species are literally written into the rocks."[148] So perhaps the human has become non-ontological–a fixed matter to be dealt with head-on. There are other figures (post-, multi-, -with) who will perform. The heightened and scaled-up character of the human, the theatricality of The Anthropocene, has an urgent and appealing role in inciting possible actions. While the human may sit as fixed, like a

[148] Haraway, "Anthropocene, Capitalocene, Chthulucene. Donna Haraway in Conversation with Martha Kenney," 258–59.

well-pasteurized carton of milk on the unrefrigerated grocery store aisle shelf, Haraway urges everything else in motion. Pushing Deleuze and Guattari's conception of 'becoming-with' into a speculative yet material realm, Haraway asserts that "play makes possible futures out of joyful but dangerous presents."[149] Play, as the key verb in the Chthulucene, incorporates a levity in determining what exactly a "chthonic being" *is*. The works that follow, play, and performance are somewhat distinct actions– iterations and repetitions inform the performance, yet the resultant assemblages produce playful qualities. As this chapter will illustrate, the two key case studies play with microorganisms and humans *and* perform with them–each with a range of consequences.

As Haraway, Crutzen, and Chakrabarty all propose: the human has dramatic geologic effects on the environment, including nonhuman microorganisms. However, the transformative potential of a more responsive relationship with microbes, bacteria, or viruses risks a scalar mismatch. Without the incorporation of the dramatic scale of the human bodies that negotiate microbial life, including, for example, the body of Michael Pollan, an influential public figure in food, an environmental intervention would reproduce the very issues that Liboiron identifies in environmental discourse. While much of environmental humanities have scaled the human to a force beyond, perhaps, our imagination, theater, and performance studies can grapple with the ways in which bodies perform across and at multiple scales, in this case, the microscopic. The perplexing and pervasive fascination and fantasy of celebrity is not left behind in *Selfmade* but instead lingers on the edges of the smelly cheese. Celebrity addresses how theater and performance studies can complicate the "chthonic beings" of Haraway's world, the shifting and contradictory status of the human, and also the trend towards glorifying the "authentic" and "local" in food studies interventions.

[149] Haraway, 260.

The figures performing across the case studies in this chapter emit a microbial theatricality alongside the drama of climate change. Rather than position theatricality as a negative, or in opposition to the natural world in need of saving, theatricality is a device to examine how the scales of performance emerge from the many iterations of the human: as celebrity, as microbe, multi- and non-ontological, as eater and edible in our contemporary crisis.[150]

There is an urgency in refiguring human scales. Scholars narrate the human as a force that affects change at the planetary scale *and* as a being alway-in-relation with endless nonhuman participants. This attention to scale is critical, for while there emerges a desire and need for more flourishing interconnected relations between humans and microbes, so too does a desire for the commodification and celebrification of microbes. I do not assume that all the interactions in the following case studies promote solely ethically good relationships with microbial partners in performance. Simply because microbes are *present* or *made visible* in performance does not imply entirely renegotiated relationships. Traces of human interest, taste, and drama will emerge.

Microbial Scales of Performance

The two main performances examined in this chapter, *Virophilia,* and *Selfmade*, each use food as a central medium to stage multispecies interaction and microbial performance. *Virophilia* does this through play, for the audience does not know if the virus is present or how active it is in performance. Viral life is invisible. However, *Selfmade* renegotiates invisibility through the transformative properties of bacterial life and the process of fermentation–a transformation that makes microbes visible.

[150] Haraway uses the word urgencies, and indigenous thinkers like Kyle Powys White address the ways in which for many Indigenous communities, the apocalypse or crisis already happened. This is another challenge of narration and naming in Anthropocene studies.

These edible performances invite spectators to simultaneously imagine and enact intimate material encounters with microorganisms. The imagining and enacting are distinct: bacteria and viruses are materially present in both performances *and* are theatrically represented. Viruses appear mimetically through spices and alimentary techniques, and bacteria appear through the process of fermentation. For both performances, food is particularly potent in proposing sensory encounters: taste, touch, smell, digestion, and *incorporation* all shape how the human body becomes-with bacteria and viruses. Both bacteria and viruses in these performances are materially present and represented– but because of their specific differences as microscopic participants, their roles in performance are distinct from each other. Take, for instance, *Virophilia*, a performance dinner that stages dishes inoculated with a range of viruses, served to audience members to eat. Viruses teeter on the edge of living and nonliving, challenging how we might conceptualize their performance.

Virophilia

Viruses are considered non-living organisms by some scholars; however, they are also sometimes classified as microorganisms, like bacteria and fungi, by others. One reason they are considered "non-living" is because they require a host to survive and cannot "act" without another cluster of cells that can grow and produce energy independently. Viruses' inability to replicate, or lack of iterative qualities without a partner, is a classification unique to the sciences. One of the promises of performance studies in theorizing nonhuman action is the ability to interrogate what participation, performance, and a microscopic scale can encompass beyond rigid scientific definitions of life. In fact, this tension between the classification of living and non-living, and perhaps performative and non-performative, is of critical interest to both new materialists and

performance studies scholars. A careful assertion of the interdependence and liveliness of a particular matter is a central inquiry in Pei-Ying Lin's performance *Virophilia,* a multimedia piece that incorporates a seated communal meal with viral dishes. Lin has worked with both bacteria and viruses in performance, and her awareness of distinguishing how the microscopic partners in performance *act* also shifts how the humans interact with small life in her performance.

The attention to material distinctions, the variations in names and categories, and shifting conceptions of microscopic partners over time are important for contemplating microscopic performance. Lorimer warns of the risks of ignoring distinctions and changes of nonhuman participants. He suggests that new materialism, an emerging field that seeks to decenter subject-object relations often through close attention to *objects*, or material, can swing alarmingly close to scientism, in which subjective theory is developed on universal applications of scientific knowledge. Instead, Lorimer asserts that "paying close attention to the practices of probiotic science" is one avenue to resist reinforcing an overreliance on the varied, contested, and ever-changing system of scientific knowledge.[151] Much of the dissertation wanders along those lines, where scientific knowledge shapes *some* of the understandings of microscopic partners in performance and terroir. How would I know if bacteria were present in performance without Hook and van Leeuwenhoek's sighting? Rather than take their visual verification as an end, perhaps instead, we see it as partial sense and a provocation for performance scholars to chew on.

Through mimetic viral performance and viral material presence, *Virophilia* crafts viral partners in performance in resistance to scientism, instead provoking intimate, if alarming, human-nonhuman encounters. Spectators sit at dinner tables, set for a meal cooked by chefs from

[151] Lorimer, *The Probiotic Planet*, 16.

the city in which the performance dinner occurs. At one of these dinners taking place in Amsterdam in 2018, audiences were presented with rice, egg, scallion, and foam. Lin narrates the meal for her audience, explaining that the dish has been inoculated with IF04, a "*fourth-generation influenza food technology which combines seasonal influenza vaccinations along with dining pleasure."*[152] The presence of IF04 is made apparent through a spice blend which incites a small amount of heat and crunch into the umami-forward flavor from the yolk of the egg. She prompts, as guests chew:

> "*Try to feel the foam inside your mouth. IF04 is spreading mainly in the foam part of the dish, which is originally egg white. There are billions of them, spread on the surface of the foam. Can you feel it?"*[153]

Lin has not inoculated the eggs with influenza. However, in an interview, she remarks that the narrative and alimentary effect of the performances induced a placebo effect within some audience members.[154] Diners would alert Lin of feeling feverish or even stop consumption of their dish due to symptoms arising from the encounter. While the likelihood that the egg dish induced flu-like symptoms was low, Lin's ultimate aim in the performance was to stage viral presence. Lin did not intentionally inoculate eggs with influenza, but as Eben Kirksey asserts in the introduction to "Viral Theory," a special issue in *e-flux*, "Viruses enter your body each time you take a bite of food or a drink of water. Of the billion or so viral particles you encounter each day, some are capable of infecting human cells, while others belong to the insects, fungi,

[152] Lin, "Virophilia - How We Use Viruses in Cuisines."

[153] Lin, "Virophilia."

[154] Schiffler, "Proximity, Precarity, and Microscopic Distinctions in Nonhuman Performance."

animals, and bacteria living within us, or near us."[155] So, in one bite, spectators imagined their encounter with viruses in *Virophilia*; simultaneously, they consumed (at least) thousands.

Lin does not disclose to the audiences, at least not always, that she did not intentionally inoculate the food with viruses. She leaves the ending of the performance somewhat ambiguous, explaining to audiences that there is always viral life in our food and our bodies. Resisting a bold, clear ending, instead, we might consider Lin's dinner performance as one that plays, in Haraway's sense, with viral matter. Oscillating from presence to absence, Lin obstructs material verification in order to affirm the invisible viruses. At first bite, audiences may think they can taste the virus through Lin's narration of chewing techniques, such as *feeling the foam*, but at the conclusion of the dinner, audiences are prompted to embrace an imperceptible sense of the scale of viral life as part of human life. *Virophilia* centers play over efficacy.

The diners are not immediately visually altered–the food they eat simply disappears into their mouths–but their porous edges are sensed, tasted. We might think of, for example, the viral life that flows in and out of "human" bodies as a site that rehearses the monstrous possibilities of the human body to *refigure* it into something much less human. With each bite of Lin's recipes, spectators imagine *and* become transformed into chthonic beings through an awareness of viral participation in human life. Rather than dwell too much on whether or not viral life is represented or actual, *Virophilia* produces chthonic actors and audiences, exemplifying Haraway's determination that "material play builds caring publics."[156] Care through taste is not about a clear identification of companions but rather a sense for nonhuman participants. Playing with viral life theatricalizes an existing human-viral interaction that is happening simultaneously–we might consider these parallel performances rather than iterations.

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[155] Kirksey, "Editorial."

[156] Haraway, *Staying with the Trouble: Making Kin in the Chthulucene*, 79.

To conclude that microscopic life is incapable of iterative qualities glosses over the transformative properties of other microorganisms that have the capacity to transform and act of their own accord. In the case of *Virophilia*, human or other lively hosts are required for perceiving viral performance. But in *Selfmade*, the cheese-installation that opened this chapter, bacterial life can transform and perform with a different dependence on human interaction. Microscopic variations matter. For Haraway, matter is always situated in its relations. Assemblage-thinking, in line with actor-network-theories, is a potent but deceptively complicated theoretical approach for performance.[157] Already a collaborative form, these conceptions of nonhuman participants push performance methods to new matter: what isn't involved in a performance? What emerges are massive, messy, interconnected assemblages: props, stages, stories, spaces, bodies, other bodies, all work together at a range of scales. *Selfmade*, as a strange cheese-performance, becomes a kind of chthonic being itself, where microscopic theatrical forms emerge between bodies, microbes, smells, edible matter, screens, celebrities, space, and time.

Selfmade

Selfmade was first presented at Trinity College Dublin in an exhibit titled "Grow Your Own." Four cheeses, enclosed in clear containers, sat on view for spectators. Occasionally, the audience held the cheese for olfactory engagement.[158] The cheese was not immediately consumable to human spectators. However, as media coverage of the installation continually narrated, Agapakis

[157] See Bruno Latour's *Reassembling the Social: An Introduction to Actor-Network-Theory* (2005), and Leo Cabranes-Grant's *From Scenarios to Networks: Performing the Intercultural in Colonial Mexico* (2016)

[158] "SELFMADE."

ate the cheese she produced in collaboration with human bacteria.[159] Reviews and articles covering the installation glorified eating "human cheese," such as the 2013 Wired article titled "Hungry? Try Some Cheese Made of Michael Pollan's Belly-Button Germs," suggesting at the liveliness that the cheese was inviting for humans even without consumption.[160]

At one scale, the cheese in *Selfmade* is static. A fixed material sitting in a box. On another, the microbes perform otherwise: the rind of the cheese was alive with consumption as the microbes digested the proteins in the milk. Fermentation is a critical methodological intersection of food and performance.

Fermentation can dispute stubborn binaries that appear across foundational performance and food scholarship. For example, Richard Schechner who wrote the foundational performance studies text, *Performance Theory*, uses concepts of "raw" and "cooked" in distinguishing ritual and theater. These distinctions are theorized as well in Claude Levi-Strauss' culinary triangle which defines cooking practices and cultural development through techniques– cooked as literally and metaphorically *culture*, where raw assumes *nature*.[161] But as many of the feminist, indigenous, and queer of color scholars this dissertation has cited: Western thought is long past due to rid any clear distinction between nature and culture. Fermentation proves an incredibly potent, stinky, fragrant, and delicious method in which to muddle this persistent distinction. Perhaps fermentation too can muddle Schechner's boundaries between ritual and theater– fermentation slips nonhuman transformations to human theatricality. Both performance and food

[159] As noted in a news article on the 2013 installation, "Agapakis, however, admits to tasting some herself, among them, Christina, a cheese that she cultured with bacteria from her own mouth and which is included in the exhibit. "It had just been strained and pressed and was very fresh. It didn't have a very strong flavor, but it was fine. It just tasted like cheese." Lin, "Stinky Cheese Offers Us a Whiff of Knowledge about Our Body's Bacteria."

[160] Stinson, "Hungry? Try Some Cheese Made of Michael Pollan's Belly-Button Germs."

[161] Lévi-Strauss and Lévi-Strauss, *The Raw and the Cooked. Introduction to a Science of Mythology / Claude Lévi-Strauss, v. 1*; Schechner, *Performance Theory*.

studies theorize processes of transformation, Levi-Strauss and Schechner are both interested in defining "the real" in complex and contradictory ways. But as microbial theatricality asserts, whether through playfully obscured viral life or nearly human cheese, "the real" is undefinable, or at least insensible. The multiple scales of performance result in a doubling of performance, both human and nonhuman, that occurs simultaneously.

The microperformance of the liveliness of cheese occurs alongside, albeit at a much different scale, the dramatic claim of eating human cheese. These opposing scales invite contradictions. The installation and performance presented contradicting goals regarding nonhuman ethics emerging from human-bacteria relations. In an interview regarding the installation, Agapakis urges, "We want people to be more accepting of bacteria in our bodies, have a better relationship with our bodies and the environment."[162] On one scale, this "better" relationship seems clear: an invitation to sense those messy, uneasy feelings that our food is alive with things we cannot see. Human spectators reflect on the materially present (a phrase I use in an attempt to avoid the ever-persistent "real") yet often hidden interconnections between human bodies and microbial life. To conclude at this scale would be an omission, however. A deeper, gustatorial interrogation positions theatricality as centrally figured into the food performance.[163]

Sensing Selfmade

There is no human body present in *Selfmade*. The human figure remains sensible, however. Video documentation narrates Agapakis' cheese-making process, where the spectator can watch her cook, manipulating matter into cheese. But perhaps more relevant is the human's trace

[162] Lin, "Stinky Cheese Offers Us a Whiff of Knowledge about Our Body's Bacteria."

[163] The claim of theatricality as central to food performance is well illustrated by scholars who have addressed the emergence of spectacular foodstuffs, from medieval feasts to modernist cuisine to contemporary social media food displays. What the incorporation of the microbial shifts in these claims of theatricality is the material, nonhuman, and microscopic components that produce theatricality as well.

presence within the cheese. Agapakis added the cultivated bacteria to cow's milk, then rennet to coagulate the liquid, forming curds. The cheese was then aged and put on display. The display of food exemplifies Barbara Kirshenblatt-Gimblett's third point in her foundational work "Playing to the Senses: Food as a Performance Medium," where food and performance have three key connection points: "to-do," "to-behave," and "to-show."[164] Each of these points emphasizes how food itself invites audiences in through its edibility, where the cheese on display acts as a medium for performance: "to-do" encompasses the procedures and actions leading to cheese, the installation challenges how audiences "behave" with microbes, and the staging of the cheese, presented somewhere between an art gallery and a scientific laboratory "shows" cheese as an artwork itself. But perhaps more importantly, each of these connection points centers on human participation in food performance.

The trace of humanness within the cheese is paired with the microbial presence. Cheese is nearly always a human-bacteria collaboration.[165] Alimentary transformations have many overlaps with the transformations that performance can initiate. Fermented foodstuffs challenge anthropocentrism in performance, as they are also indicative of nonhuman participation. While much scholarship on food and performance takes eating, hunger, or digestion into consideration, *Selfmade*, by using bacteria, invites nonhuman actors to perform through eating. Microbes, searching for food on the rind of the cheese, eat and transform proteins. Perhaps we can nuance what van Leewenhoek first observed: eating was the central avenue in which we understand microbes. These transformations, often invisible, are otherwise sensed.

[164] Kirshenblatt-Gimblett, "Playing to the Senses: Food as a Performance Medium."

[165] This claim could invite inquiry as to how and when fermentation occurs without the human. (See Michael Pollan's *Cooked* page 348).

As Kirshenblatt-Gimblett reminds us, "food, like performance, is alive, fugitive and sensory."[166] Liveliness in food becomes particularly potent in cheese performance. Active bacteria cultures transform the milk, and the aging process transforms the cheese to produce a kind of fermented "photocopy" of the human bacteria samples used in the art piece. The iterative behavior of fermentation works as a representation, albeit through edible matter. In some versions of *Selfmade*, the cheese is labeled a "portrait," referencing the representation of the human and the bacteria present, as transformed into the cheese. However, as the film playing above installation illuminates, staging fermentation as a performance demands more explanation.

Above the four cheeses on display sits a small screen. Playing is a companion short film to the installation. The narration educates viewers on the production process and displays the liveliness of bacterial activity. The camera shows Agapakis's hand pouring a stream of milk into a large pot. One minute in, she pulls a petri dish, mixes the cultured bacteria into a small bowl, and adds it to the milk. Fermentation acts as microbial representation, a theatricalization of the original milk, bacteria, and time that produces a transformed food substance. The fermented quality of "Selfmade" is echoed again with the repetitions in the staging: the cheese performs within the clear boxes and on the screen. Science and technology studies scholars such as Maya Hey have considered fermented food's performativity.[167] While the cheese itself may contain iterative qualities, the entirety of the installation hosts many fermentations, expressing a type of theatricality. The exaggeration of microbial life through fermentation occurs through microbes digesting the proteins present in pressed coagulated milk (soft cheese), simultaneously on the screen and the display box.

[166] Kirshenblatt-Gimblett, "Playing to the Senses: Food as a Performance Medium," 1.

[167] Hey, "Fermenting Communications."

Critically examining fermented food has a fermented effect on the theoretical lenses required for analysis: microbes consuming proteins and humans consuming cheese bridge together critical eating studies, multispecies theory, and performance studies. While sensing the microbes might present a sort of utopian multispecies harmony emerging from the *Selfmade*, theatricality, and exaggeration within the installation, between the cheese and the film reveals a less straightforward ethics for the implications of microbes in performance.

Eating Theatricality

Selfmade produces a kind of theatricality, one that materializes the human at microbial scales. Spectators and performers participate through non-ocular sensory modes. In order to better chew on microbial theatricality, Tracy Davis and Thomas Postlewait's edited volume, *Theatricality* from 2003, articulates the materiality inherent to this keyword in performance studies. They identify theatricality as an aesthetic and an idea pertaining *to theater* or a quality *of exaggeration*. Theatricality, often a pejorative, is pinned against an imagined morally superior "real" or "authentic."[168] Revisiting the dichotomy of theatricality versus the real is particularly useful in understanding the overlaps between performance and food studies. Theatricality becomes a potent keyword not only within performance studies but also as a term applicable to food studies' debates of authenticity, biomimetic foods, and the aestheticization of local foods as the "real" solution to contemporary food system crises. This scalar approach to theatricality is resonant with Kristin Hunt's concept of "culinary mimeticism," where multi-sensory experiences demand a theatricality "at close range and in detail rather than willing suspension of disbelief at a distance," shifting the scale of representation to shrink in distance.[169] *Selfmade* scales down

[168] Davis and Postlewait, *Theatricality*, 17.

[169] Hunt, *Alimentary Performances*, 10.

representation further, where transformation becomes a microbiological act. Theatricality becomes a means of exaggeration across micro and macro scales rather than a means of artifice or representation (as separate from matter). These changes in scales of performance additionally invite new players into culinary performance, where microbes encounter body, tongue, and gut. In crafting artisan-style cheese but staging it as a performance and art installation, Agapakis shifts fermentation away from a "natural" or pastoral food practice and instead imagines human-bacteria relationships as theatrical, exaggerated, and imaginative.

The cheese performs as itself. The piece dramatizes an aliveness in the food through the use of bacteria cultivated from humans, adding humanness to cheese. Literal human cheese. The human is decentered and then recentered in microbial performance. The blurry lines between human, food, and bacteria in this performance do not result in a violent or dramatic narrative, such as those that Pasteur and his followers (including the Food and Drug Administration) might have told, but rather something much more banal and messy. *Selfmade* is not fighting bacteria but collaborating with them. The spectator confronts a seemingly edible, everyday object that comes alive through its staging and aging, resulting in a theatrical production of food.

Fig. 3.1. *Selfmade* installation. *Christina Agapakis*, Image courtesy of Christina Agapkais. https://www.agapakis.com/work/selfmade.

Nonhuman Hunger

What are the risks of inserting theatricality as an approach to nonhuman life in both performance and theory? Narrating the performance of nonhumans risks anthropomorphization, thus affirming the importance of incorporating the theoretical and practical failures of human-nonhuman performance. However, cheese complicates conceptions of representation. The microbes anthropomorphize the cheese via fermentation. Enzo Cozzi's 1999 argument in "Hunger and the Future of Performance" is another instance of critically considering the failures, specifically the representation of hunger, which Cozzi defines as "the pressing presence to an organism of the absence of sustenance (of whatever kind)."[170] Cozzi suggests, through "organism," the application of hunger to nonhuman organisms. *Pressing*, however, becomes a particularly sticky adjective to identify in nonhuman performance. While the time between cotton swab and coagulation could be articulated as an absence of sustenance for the bacteria in *Selfmade*, at what

[170] Cozzi, "Hunger and the Future of Performance," 121.

temporal scale is a *pressing presence* felt by the bacteria? Is proof of microbial hunger only found in microbial consumption of lactose? Is hunger for microbes inherently food for humans? In Cozzi's argument, hunger additionally resists representation by its presentation, or failed attempt at representation, of absence. Fermentation, however, muddles this representational failure, where fermented foodstuffs are perhaps always indexical of nonhuman labor, nearly always a version of hunger.

How cheese fails at representing hunger is a material limitation rather than a representational one. Acting of their own accord, this transformation process only somewhat involves the human. The hunger of microbes results in the materially actual fermentation of other matter: milk, cabbage, cacao, grapes, and myriad other foods are transformed, made edible, and visible.[171] This representational possibility, as microbial theatricality stresses, is only made possible at microscopic scales. To "scale up" these assertions around hunger risk Liboiron's "scalar mismatches." However, scaling to the micro- in performance opens up new considerations for sensing, if not representing, nonhuman matter.

Revisiting a Taste of Celebrity

The microscopic activity taking place in cheese overwhelms my analysis thus far. Yet *Selfmade* is not only a product of microbial life. To dwell in the nonhuman potential of fermentation may have great appeal, but the theatrical force of the humans in this performance should not be skimmed over.

The use of theatricality is not to imply artifice in staging cheese. Instead, theatricality notes the exaggeration and representational strategy employed to materialize human-bacteria relations as vital, entangled, and scalable. In each iteration of the installation, the cheese

[171] Milk becomes cheese or kefir, cabbage to sauerkraut or kimchi, grapes to wine, etc.

presented was not made from the bacteria of *just any* humans but from celebrities in the popular world of microbial studies. Admittedly, the celebrity utilized is rather niche: food writers, bakers, artists, and even scientists who regularly appear in documentaries telling the story of microbes. Nevertheless, to ignore the entanglement with celebrity in *Selfmade* would be an elision. Celebrity appears in "Selfmade" through the swabbed bacteria of significant humans, the appearance of food professionals in the short film as part of the installation, and finally, through the celebrity status granted to microbes in The Probiotic Turn. Microbial theatricality inserts human drama into the mess of multispecies performance, an appropriate reflection on the weight of human impact on multispecies worlds.

Popular food and science writer Michael Pollan's belly button's bacteria feast in one cheese, and the tears of environmental artist Olafur Eliasson cultivate another. Samples from Heather Paxson and Ben Wolfe, scholars who work, both publicly and in scholarly fields, on the "culture of cultures" also fueled the lively activity in cheese production. There is a fermented effect of celebrity. The elusive "it" factor of celebrity emerges in the performance through repeated, multiple, layered sensory modes.

Selfmade is not "not real" because of its theatricality, but rather imagines, materially, new relations between humans and bacteria. Hey's chapter "On Performative Food Acts and the Human-Microbe Relationship" articulates the performative instantiation where "fermentation as a performative food act can help unpack the ethical and political relations of living with (and eating) other species" while also addressing the real concern that "recent interventions seem to point to the invisible labor of microbial life as the answer to contemporary problems."[172] Hey's analysis addresses localized and intimate relations with microbes, resulting in new hierarchized

[172] Hey, "On Performative Food Acts and the Human-Microbe Relationship," 170.

relationships with microbes. I assert that celebrity is key in conceptualizing how those hierarchies play out in contemporary food performances.

The short film that sits atop the cheese installation reinforces the role of celebrity in microbial performance. Created by Agapakis, the film features interviews with a raw-milk cheesemaker, Heather Paxson, and Michael Pollan. Each human brings a layer of authority, perhaps a type of food safety, in narrating human curiosity and disgust with bacteria. Looming over the small boxes of cheese, Michael Pollan sits casually on a sofa and suggests that within the cheese, "there are reminders of the body, obviously, of body odor, and various parts of the body, and I think that we are both attracted and repulsed at the same time."[173] Pollan's presence validates the experimental art piece, providing authentication through celebrity-scientific status. Our hunger for microbes teeters on the line of desire and disgust, not unlike our appetite for celebrity.

The small screen above the cheeses keeps the celebrity figures askew, not quite at eye line. These humans, many of whom appear in Netflix documentaries with glossy, seamless production techniques, take a new, strange role in this nearly home-movie-style film, with crunchy audio and uneven lighting. The prominent role of the cheese and the amateur camera work skews the smoothness and grandness of celebrity.

Acknowledging celebrity in microbial performance reinforces the tension between zooming in and exaggerating out. Celebrity cheese broadens and narrows the scope of analysis, bound by the cheese matter. Yet, to examine microbes in performance, and the performance of microbes, requires less metaphoric or representational analysis, but a meta-analysis of the performances. Considering instead how the actors, mediums, and matter have doubled up, or fermented, over time. Cheese transformed to lectures transformed to books transformed to

[173] *Selfmade*.

documentaries transformed to installation transformed to celebrity transformed to film transformed to cheese. Fermentation, adaptation, and transformation are all resonant processes that emerge in the study of microbial theatricality.

Fig. 3.2. Heather Paxson swabs toes for bacterial sample. Still from video installation in *Selfmade*. Directed by Christina Agapakis. October 28, 2013. Still courtesy of Christina Agapkais.

Fig. 3.3. Michael Pollan discusses microbes. Still from video installation in *Selfmade*. Directed by Christina Agapakis. October 28, 2013. Still courtesy of Christina Agapkais.

And the microbes, grandly performing in the installation, are they too now celebrities? While microbial theatricality can perform multiscalar and multispecies assemblages, the relationship between humans and bacteria is not a symmetrical one. Microbial performance should not imply a predetermined utopia, where human performance with microbes assumes an

ethically *good* relationship. Rather, the consideration of celebrity as a quality that emerges in both humans and nonhumans critically recenters the role of the human in understanding the dramatic effects that humans have on planetary health. To consider and sense theatricality in alimentary performance is to reject the clear, teleological purity of "authentic" or "real" food production. In the introduction to "Celebrity Ecologies," a special issue in *Celebrity Studies* journal, editors Michael K Goodman and Jo Littler poignantly remind us that "just as non-humans have agency, so too can they sometimes have a kind of celebrity that elevates some 'things,' places or entities above others in environmental and ecological politics."[174] What are the stakes of theatricalizing microbes, and how is celebrity lingering at the edges of alimentary performance? Microbes, alive in fermented foodstuffs and probiotic supplements, are suggested by food and health writers such as Sandor Katz as holding the potential for significant health and planetary interventions, where food habits, behaviors, and productions take a greater account for the life of microbes.[175] Do we risk offsetting extractive labor to nonhumans in our quest to ease our human-centered guilt from the dramatic environmental and dietary effects of human industrial food processing and microbial eradication in the past?

The microbiological art experiment does not produce a clear morality to artisanal cheese production. The video set above the cheeses narrates, "Microbes do not come attached with the labels good and bad."[176] Rather than reinforce a nature/culture moral equivalency, the performance invites spectators to consider the contradictory ethics of consumption in our current food system. Under the looming eye of Michael Pollan, next to the fermented tears of Eliasson,

[174] Goodman and Littler, "Celebrity Ecologies: Introduction," 272.

[175] Katz, *Fermentation as Metaphor*.

[176] *Selfmade*.

the moral pressure does not appear visually spectacular but microbially presses throughout the installation.

The perplexing and pervasive fascination and fantasy of celebrity is not left behind in *Selfmade*, but instead lingers on the edges of the smelly cheese. Rather than being visually clear to locate, celebrity takes a new corporeal position from that of Joseph Roach's *It*. Not only found in the "accessories, clothes, hair, skin, and flesh," the "it" factor of microbes materializes in the nonvisual: in taste, food, and guts.[177] The celebrity is not only the human body nor the microbes swabbed from it but also the new celebrity status of microbes. As Ann Folino White addresses in "Tasting Celebrity," through the analysis of an early 20th-century celebrity cookbook, "taste's claim to authentic knowledge may risk celebrity as much as celebrity is dependent upon letting the public taste the 'favorite foods of famous players.'"[178] As alimentary performance scales the distance between performer and spectator, and human and food, to microscopic distinctions, the nature of theatricality also scales. Working from the edible fermented matter itself, rather than its iterations, alimentary performance has the potential to shrink the distance between everyday person and celebrity through human-microbe relationships.

As the chapter opened, media coverage of the 2013 installation revealed much about the visceral and gustatory impact of the cheese. For example, this event appeared in many popular news sources, with catchy titles inciting a visceral response, such as: "Cheese Made From Celebrity Belly Button and Armpit Bacteria Goes on Display" or "Ruby Tandoh: how I was turned into a human cheese."[179] These headlines reveal the messy and transformative role of both humans and microbes. Tandoh, a British baker, writer, and *The Great British Bake Off* contestant,

[177] Roach, *It*, 44.

[178] White, "Tasting Celebrity," 69.

[179] Daley, "Cheese Made From Celebrity Belly Button and Armpit Bacteria Goes on Display"; Tandoh, "Ruby Tandoh."

becomes cheese, while simultaneously cheese is made from a food-celebrity. Celebrity and theatricality are not unilateral exaggerations. Neither is conditional on "scaling up," but instead, they work as tools for relation. Can a microscopic attention to celebrity allow new relations within performance studies to understand the field's proximity to theatricality?

Celebrity Figures: What on Earth to do with Humans, OR Loopily Re-centering the Human

The microscopic connections drawn between performance and food can extend beyond nonhuman matter. What I propose is a tenuous link between the advancements made in celebrity studies, Haraway's concept of "the figure," and theatricality as a critical tool in contemporary food performance, for what is celebrity if not an exaggerated human, something that has exceeded the daily expression of the body but has become something else. Having "it," in Roach's sense, mirrors the non-ontological qualities of Chakrabarty's human. This force of a human appears once again in Haraway's tender recentering of the human, if only as a figure that needs critical present attention.[180] For Haraway, figuring is inescapable. Figures are not only present in the Anthropocene but for Haraway, "figures help us avoid the fantasy of "the one true meaning."[181] For performance studies, could this be read as a call to examine what figures remain dominant in the world of performance despite scholarship's best attempts to highlight the transformative and resistant impacts of actors who do otherwise? I return to scale: the celebrities performing bacterially in *Selfmade* model a usefully odd position. Tandoh, Pollan, and others' presence in the performance muddle any *one true fantasy* of pastoral cheese production.

[180] See Robyn Woolston's *Habitus*, a sculpture that plays with the Welcome to Las Vegas sign and welcomes the viewer to the Anthropocene. Las Vegas, a site seemingly built exclusively for human life, is entangled with the effects and possibilities of the Anthropocene.

[181] Haraway, "Anthropocene, Capitalocene, Chthulucene. Donna Haraway in Conversation with Martha Kenney," 257.

Celebrities, like *Man*, are worth staying with. They amass unique amounts of planetary impact through their life and industry.[182] Celebrities even shape tastes for fermentation: in the age of influencing, personal branding, and celebrity-corporate partnerships, there have been an influx of celebrity alcohol brands. For example, Kendall Jenner's tequila brand 818 with questionably sourced agave, or, to recall the dissertation's opening chapter, comedian Eric Wareheim's Las Jaras, a natural wine company based in Los Angeles are not only gimmicks, but commodities that circulate widely. Celebrity is interlinked with taste, even at the microbial scale. They too have scalar effects, with impact on the planet being unequal–I only mean to somewhat conflict Kardashian tequila production with Las Jaras wines.

Incorporating celebrity into microbial multispecies performance is meant to both broaden and narrow the scope of analysis when considering microbial performance. This chapter examines microbes in performance and the performance of microbes, which includes less metaphoric or representational analysis but a kind of meta-analysis, asking how the performances have doubled up and what ideas, bodies, and stories have fermented over time. We might think of the staying power of Michael Pollan's performance in *Selfmade* as indicative of his continual force in both academic thought around food and public conceptions of dietary health. Pollan is not the only human figure who produces a kind of public scholarship that relies on theatricality. What does it mean when scholarship itself becomes theatrical? Can considering the theatricality of scholarship create a distinction from Anna Tsing's insightful reflections on the neoliberal transformation of capitalizing on scholarship in the university? Tsing identifies how "scholars are asked to become entrepreneurs, producing ourselves as brands and seeking stardom from the very first days of our studies, when we know nothing."[183] As syllabi incorporate

[182] "Just Plane Wrong."

[183] Tsing, *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins*, 285.

podcasts, films, and alternative media, how does scholarship bend and change to expand where and what knowledge production incorporates? One way to consider how this question might be answered is by dwelling on the figuring, performing, and storying that is part of Donna Haraway's larger impact as a scholar.

Donna Haraway's performance, a type of self-figuring, is a prime case study to expand on the role celebrity takes in microbial theatricality. Haraway's work as a feminist thinker has always inserted her own positionality, her body, into her frameworks. Her relationship with her dog Cayenne in *When Species Meet* (2008) marked one foundational method that inserted her own body into a multispecies relationship. By turning to her relationship with her dogs, Haraway specifically seeks those "mundane" and quotidian relations with species that go unnoticed in the scientific and STS realm. Also called 'messmates,' Haraway destabilizes the human while simultaneously rejecting (perhaps re-figuring rather than outright rejection) posthumanism in order to call attention to the urgent needs and responsibilities that humans have to nonhumans. However, in 2016, Harway's performance of self in *Donna Haraway: Storytelling for Earthly Survival* extends this type of figuring beyond a self-reflexive feminist practice and into a theatrical extension of the body. The documentary renders Haraway a chthonic being herself–the editing and special effects double her body in a single frame, overlaying alternative species and changing environments as she works through her theoretical offering.

Haraway is extended in multiple cases: first, the narrative of the documentary is predominantly a lecture-style performance of Haraway at her desk in her Santa Cruz home. And while performing a lecture is not entirely a doubling of performance, the single voice of the author is complicated throughout the one hour and twenty-one minute film by the extensive use of green screen effects to insert multiple Haraway bodies, jellyfish bodies, and shifting

landscapes. For example, there are multiple shots where Haraway is both foregrounded and made into the backdrop. Sitting in center frame explaining her use of storytelling *as* theory (what she calls thinking), Haraway asserts, "thinking is what we are about, and thinking is a materialist practice with other thinkers. And some of the best thinking is done *as* storytelling." While in the text she is referencing Isabelle Stengers, Bruno Latour, Ursula Leguin, and a mix of science fiction writers and STS philosophers, the materialist practice that emerges in the composition is one in which Haraway is in dialogue with herself. Haraway has practically recentered herself as a figure worth staying with as well.

Haraway's performance-scholarship reaffirms this chapter's assertion that in order to decenter the human, it is often a matter of recentering the human when discussing ethics and responsibilities to nonhuman others. The utility of the word celebrity, concerning to the "figure" is such that we are reminded of the precarity of refiguring and its proximity to celebrity.

Fig 3.4. Donna Haraway lectures to the camera while Donna Haraway reads in the background. Still from *Donna Haraway: Story Telling for Earthly Survival*. Film by Fabrizio Terranova. Distributed by Icarus Films. 2017. Still courtesy Icarus Films.

The fermentation style of analysis reflects the celebrity and theatricality of Donna Haraway's work, which extends feminist new materialist and posthuman epistemological interventions, particularly within the university. Two critical works in feminist science and

technology studies have suggested that *if* the human is to be redefined, then so to must the humanities. For Haraway, this results in her interest in the *humusities*. Using humus, an organic matter found in soil due to human and animal material decay (another form of fermentation), the prefix of human- is replaced with a less bound, more material matter. The soil that all humans will ultimately become. Haraway is responding to calls from posthumanists such as Rosi Braidotti, who have proposed the limits of humanities-scholarship in their reinforcement of subject-object divides through a privileging of what we now might call the figure of the human.

For Rosi Braidotti, there is an ethical responsibility that emerges from her conception of vitality, however *The Posthuman* (2013), rather than begin with a speculative project like Haraway, argues that the posthuman subject is the current condition. The Posthuman subject does imply a new ethical paradigm, which Braidotti calls "*zoe*", which both destabilizes life-death continuum of individual beings but also the responsibilities posthuman subjects have to nonhuman beings and what she calls "'matter-realist' vitalism."[184] The new subjectivity Braidotti proposes/identifies *already is* imbricated in nonhuman assemblages, and it is those series of relations that render the subject posthuman, where "the common denominator for the posthuman condition is an assumption about the vital, self-organizing and yet non-naturalistic structure of living matter itself."[185] Going beyond the common denominator that is vital matter, Braidotti works through different conceptions of the posthuman condition, which examines renegotiating politics of death, interaction with nonhuman matter, and ultimately, a consideration of generative (and hopeful) life in the Anthropocene. One of the ways in which Braidotti finds generative future possibility is through art:

[184] Braidotti, *The Posthuman*, 110.

[185] Braidotti, 2.

> "By transposing us beyond the confines of bound identities, art becomes necessarily inhuman in the sense of non-human in that it connects to the animal, the vegetable, earthy and planetary forces that surround us. Art is also, moreover, cosmic in its resonance and hence posthuman by structure, as it carries us to the limits of what our embodied selves can do or endure."[186]

Art, literature, theater, and performance are nonhuman. Performance studies has begun to conceptualize how performance is already nonhuman, posthuman, or even humus. This can have dramatic effects on the entire field of performance studies, however, as it reshapes the entire centrality of the human as part of performance.

Take, for instance, a closer examination of Liboiron's epistemologies, which stems from practical scientific research. As a scholar who produces much of their knowledge from a laboratory, their work is often teetering practice-based interventions alongside theoretical propositions. For example, Liboiron discusses how their research goals change because they will not study bivalves in their lab due to their ethical responsibilities.[187] This very tangible material change to practice is something theater departments should seriously consider. How would performance practice change if microbial partners were cast in performance rather than instrumentalized or ignored? Renegotiating the humanities incites material change. Returning to performance studies, that field that borders humanities and arts, practice and research: can microbial and microscopic connections further link theater and performance, where theoretical concerns of nonhuman life might incite practical production interventions to recenter nonhuman partners in performance practice?

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[186] Braidotti, 107.

[187] Liboiron, *Pollution Is Colonialism*, 66 n94., n 94.

Application of Microbial Theatricality

If celebrity and figuring are unavoidable in the probiotic turn, then let them serve as a lens for contemporary food issues. Rather than take the contradictions of contemporary consumption as an end, Davis and Postelwait offer a gentle observation: "perhaps failure, like theatricality, is inescapable."[188] To consider theatricality is to embrace contradiction. Perhaps more importantly, a material approach to theatricality resists a single narrative for ecological futurity. In the case of *Selfmade*, the spectator is not literally *eating Michael Pollan*, but rather sensing the bacteria growth from Pollan's belly button through cheese (which to say is not entirely metaphoric consumption, but something else).[189] The utility of this endless conceptual and material flipping from celebrity to real to theatrical to daily to human to microbial is not to *get somewhere* but to *sense something* else about foodways and alimentary performance. Microbial theatricality resists a clear "one true meaning" and instead poses the need to consider simultaneity, celebrity, scale, and species. Ultimately, braiding theatricality with microbes, but also failure, is crucial in avoiding the trap that a singular food aesthetic will emerge (avoiding the farmer's market utopia) as the solution to our failing global food system.

Selfmade has complicated the utility of theatricalizing the human, particularly in regards to both scale and celebrity. Performance studies has long grappled with representations of humans, and have much to offer both multispecies and food studies. Refiguring cross-disciplinary scholarship offers a new approach to engaging with the complex impact of Michael Pollan, a food and environment writer who rose to popularity through works such as *The Omnivore's Dilemma* (2006). Pollan's own voice is a personal, journalistic, yet scientifically

[188] Davis and Postlewait, *Theatricality*, 11.

[189] However, smelling is not a passive sense, the spectator and Pollan (or any of the cheese-figures), do become microbially entangled during the performance.

informed speaker, which reinforces the individualism that dominates many food and nutrition discourses. However, Pollan's work continues to appear on university syllabi as a foundational work in food studies. His ability to shape narratives surrounding popular understandings of diet and agricultural interventions in food systems insists a need to critically engage with his impact as a celebrity and author.[190]

Pollan's 2013 book *Cooked: A Natural History of Transformation*, blankets thousands of years of cooking techniques, organized through fire, water, air, and earth, connecting both general understandings of the development of cooking in human history to contemporary case studies that reinforce the chemical and historical transformations he writes about.[191] In his chapter titled "Earth," Pollan tells the story of Sister Noella Marcellino, a nun and microbiologist who studies the bacteria cultures on the rinds of the cheeses she makes. I do not attempt to untangle Pollan's narrative of Sister Noella from her own quotidian performance–for they, too, are microbially and materially entangled. Perhaps it is an odd act of curation to make a case study of someone else's case study. This chapter's investment in the Cheese Nun is not quite a meta-analysis, but perhaps falls in line with fermentation as a rhetorical and theoretical strategy that pairs with microbial performances. Popularly called the "Cheese Nun," Sister Noella Marcellino also regularly performs her work, from public lectures to documentaries. Pollan and Marcellino's scholarship relies on the theatricality of cheese and microbes to propose microbes as critical participants in human life. Emphasizing the role of the milk, cows, and bacteria living in the walls of the wooden barrel and paddle that Sister Noela Marcellino used in production, all echo the food performance that Agapakis stages in *Selfmade*. There are only so many ways to make cheese. Additionally, Agapakis and Sister Noella Marcellino are microbiologists who

[190] Michael Pollan was, in fact, my pathway into the field of food studies as well.

[191] Carruth, "Michael Pollan's Dilemma."

practice human-microbial relationships mediated through cheese. Agapakis, Marcellino, and Pollan all figure the microbe as a character with theatrical potential and use celebrity as a mediator in their performances.

Take, for instance, Sister Noella Marcellino's bacteria-laden wooden barrel. In the chapter and episode *Earth* from *Cooked* (which was adapted into a *Netflix* mini-series in 2016), Pollan narrates his visit to Sister Noella Marcellino at the Abbey Regina Laudis in Bethlehem, Connecticut and explores her microbial research. The chapter extols the wooden barrel she used for transforming milk into cheese. Pollan livens up the already lively vessel, where the "cheese-making barrel wears a permanent cloak of white," rendering the microbiological activity an adornment as well as a critical participant in cheese production.[192] However, the microbial-filled barrel also serves as a case study for Sister Noella Marcellino's research that proves a wooden barrel used in cheese production can lower risk for food-borne illnesses than in a stainless steel receptacle. A provocative study ended up changing FDA regulation for artisanal cheese production.[193] The policy shift that Sister Noella Marcellino was able to incite through an intimate, theatrical, microscopic relationship with microbial life served as a justification for Pollan in imagining a future of food where eating considers the hunger of nonhumans alongside the health concerns of industrialized food production. Fermentation and theatricality act across scholarly and artistic disciplines.

Michael Pollan is rightly critiqued for presenting impossible and unscalable interventions to the food system. As Julie Guthman aptly points out in response to his earlier work, *The Omnivore's Dilemma*, "In describing his ability to overcome King Corn, to conceive, procure, prepare, and (perhaps) serve his version of the perfect meal, Pollan affirms himself as a

[192] Pollan, *Cooked: A Natural History of Transformation*, 342.

[193] O.S.B., Noëlla, and Benson, "The Good, the Bad, and the Ugly: Tales of Mold-Ripened Cheese."

super-subject while relegating others to objects of education, intervention, or just plain scorn."[194] This "super-subject" mirrors the exceptionalism of celebrity. But Pollan does not only dramatize his own subjecthood but that of microbes. What Pollan's doubling of celebrity reveals is that farmer's market aesthetics are not the antithesis of theatrical, celebrity, or the fake, but rather constantly tangled up in scales. Instead, microbial theatricality takes seriously the cheese made from the bacteria in Michael Pollan's belly button more than his human celebrity. In regards to teaching Michael Pollan in the university, perhaps considering his celebrity status as a scholar is as important as his accessible ideas about the nature of microbial life in the history of food.

The contradictory nature of microbes takes shape in intimate human-nonhuman interactions, large-scale food interventions, and riddled through performance, installation, and documentary. As Maya Hey aptly articulates, scholars should be wary: instrumentalizing microbial life to enact utopian food futures is as prevalent as their transformative potential. From shifting our understanding of performance as entirely human or microbes as entirely "natural," cheese has presented myriad transformations. Fermentation is a particularly salient cooking act for consideration because of its iterative qualities and material implications.

Theatricality at Scale, or Running Around a Small Island

In August of 2022, I found myself squatting amongst, and inadvertently smelling, rotten plums. Rotten is just another word for decomposing which is just a slightly less controlled process of fermentation. I was on Shaw Island, the only island in the San Juans in the Pacific Northwest where there are no hotels or rental homes. To visit, one has to own property or be invited by a friend. Unless you send an email to Sister Hildegaard at Our Lady of the Rock Monastery, a benedictine priory, inquiring about a stay.

[194] Guthman, "Can't Stomach It," 78.

The Mother Prioress of Our Lady of the Rock is Noella Marcellino. Marcellino was appointed in 2020, relocating from Bethlehem, Connecticut, where she began her life as the Cheese Nun. I wanted to witness her work myself, consider what Michael Pollan was drawn to, what he might have missed or gotten wrong, and find my own view on the Cheese Nun. What happens when one is made a figure? This is perhaps an attempt at reflecting on the dissertation process as whole–bringing people, things, performances, into assemblages and then into "arguments" and attempting to understand what purpose and point there is, and what the effects might be by writing this all. Reflecting the propositions of this chapter, rethinking theatricality at microscopic scales, there were no dramatic conclusions on my visit.

I visited the small, privately operated Shaw Island library and museum. A log cabin presented artifacts donated by local residents. The priory was built on donated land in the 1970s from Henry Ellis, a landowner, and environmentalist on Shaw–similar to the colonizers on the island–mostly academics from the University of Washington building summer cabins. The priory set up a functioning dairy farm, which for years provided dairy to all of the San Juans and some towns in the Northwest part of Washington State. This past story of the monastery seems more in line with Pollan's vision–a localized food system with regenerative methods, an easy marriage between nature and culture. However, as the sisters at The Rock aged, with fewer and fewer postulants, the intense physical labor of running a dairy farm posed a significant challenge. The COVID-19 pandemic cemented the end of the dairy farm: cows were sold off, and milk was now brought in by ferry boats along with other bulk grocery orders from the wholesale grocer Costco.

My time on Shaw Island was quiet. The farm was not operating at full capacity; the dairy farm was not used at all, and the trees in the overgrown orchard were heavy with unpicked fruit. Most of my days were spent going on runs in a loop around the island, taking me past the

University of Washington's ecology lab, a large house with well-groomed apple trees, and out to a bluff past teenagers precariously traversing rocks along the coast where the Lummi Nation retains sole fishing rights due to an 1855 treaty. I did not interview Mother Noella, for she was extremely busy in her relatively new position. I considered myself a guest, observing how life worked here. The priory as a space gave plenty for me to ponder. While Pollan's narration of the vibrant life at Abbey Regina Laudis dreamed up an agricultural utopia, Shaw Island offered a much different landscape. Upon arrival, an intern, Mary, toured me through the kitchen; bulk items, stacks of plastic Tupperware, and freezers full of chicken filled the farm. Chickens were one of the few remaining monastery-produced food sources alongside mustard and hot sauce. When I asked Mary about the changing foodscape and if she had considered taking over some of the tasks of localizing food production again, she remarked that cooking still gave the nuns the most comfort of their activities and dinner duty would always fall to the nuns, not the interns. There was not much work for me to help with, but on the last day, a visiting Sister from Bethlehem invited me to trudge into the orchard to pick the overgrown fruit trees. As we waded through brambles, we bit into bold, sweet, and decadent figs. I asked what the plums would become, and it was a simple offering to the Sisters as an afternoon activity–maybe becoming a dessert or a jam. I was told not to pick too many, the Sisters would not eat them all, and other animals would.

Fermentation and theatricality are companion concepts. Exercising the conceptual and material overlaps in food and performance studies opens new avenues for interdisciplinary scholarship. This chapter explores theatricality as a key term in alimentary performance in attempts to think beyond the artisanal (often conflated with the real) in foodways, emphasizing

scale itself as theatrical and relational. Alimentary multispecies performance disputes the assumption that theatricality is inherently excessive.

Our global food system requires many interventions to address the urgencies identified by food justice activists, scholars, artists, and communities. Microbial theatricality is a key quality when analyzing the aesthetic components of food interventions, particularly in imagining or performing new relationships between humans and nonhumans as a method for change. Can scale, in the theatrical sense, be a critical tool to understand not only efficacy in performance, but also relations? Which nonhuman matter gains celebrity status, and how? Can the role of the celebrity and the quality of theatricality have real material impact but also grapple carefully with scale? Microbes as celebrities may appear contradictory. Something so small and nonhuman figured into the exaggerated human-made star. However, this scalar tension in matter and representation is precisely the careful analysis that performance studies can offer food studies.

The scales of small life in the monastery reveal more contradictions than clear solutions. Food interventions can quickly fall into the fantasy of a pure pastoral landscape when it is more often riddled with contradictions and peculiarities. As Chapter Four will further examine, these built agricultural environments entangled with theatricality complicate efficacy in eco-performance.

Chapter 3
Microplastics

Her experiment failed. There were no microplastics. After following the recommendation of the authors of "A Small-scale, Portable Method for Extracting Microplastics from Marine Sediments," in *Environmental Pollution*, bio and food artist-scholar Allie Wist was not able to extract any microplastics from a pureed apple.[195] While the article reports "high, reproducible recovery rates - 95.8%," through their economically accessible option to test microplastic levels in ocean sediments, in practice, Wist failed to find any. Even in one of the foodstuffs that report consistently high levels of microplastics.[196] The tension of ubiquity on one scale and absence on the other is the malleable yet fixed quality of microplastics we currently face. No longer a quality of plasticity, *microplasticity* better suits these contradictory qualities of matter everywhere, yet nowhere. At the time of writing, Wist has not yet made an edible piece with microplastics, as they seem to remain just out of reach.

Plastics, however, are more visible. In her sculpture "Re/Making Plastiglomerates," Wist suspends table salt in plastic, where salt crystals emerge from a large chunk of clear plastic, a reinterpretation of the naturally forming plastiglomerate (see fig. 3.1). Reinserting food into plastic, rather than extracting plastic from food, proved a less resistant and more graspable method. This chapter follows the latter approach, attempting to draw microplastics, a ubiquitous, microscopic, remaining, and anxiety-inducing matter, from food systems and alimentary performance.

[195] Wist, November 29, 2022.

[196] Coppock et al., "A Small-Scale, Portable Method for Extracting Microplastics from Marine Sediments."

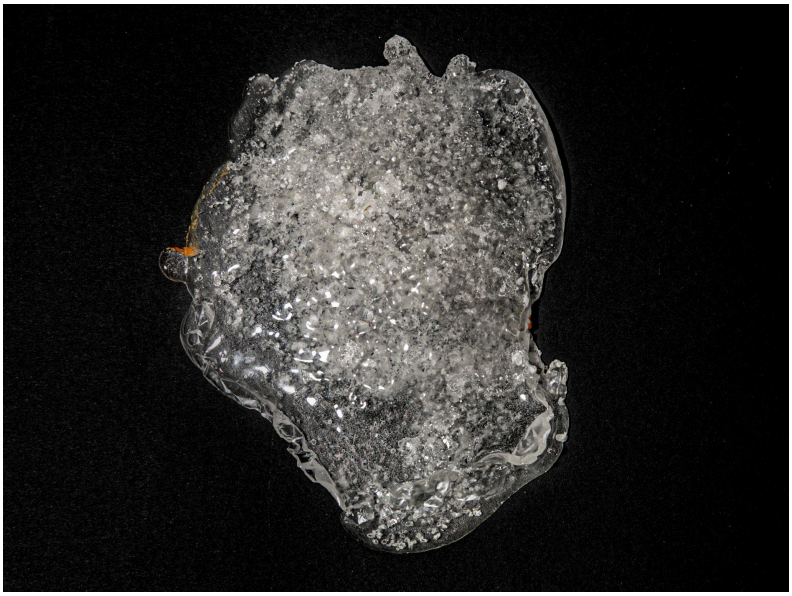

Fig 3.1. Wist, Allie, "Re/Making Plastiglomerates," Table Salt, Clear Plastic. Image Courtesy of Allie Wist.

Microplastics sit on the edge of edible. Unlike microbes' necessary partnership in human digestion, microplastics, while admittedly less understood, are not a biological given as partners in human digestive systems. And yet, as continuous scientific reports seem to suggest, microplastics are endlessly entering human and nonhuman food systems. Microplastics *are* food. Yet, how they affect conceptions of taste and food aesthetics remains to be explored.

The space sensed, tasted from microplastics, is fluid and obscured. Even if one can identify and visualize microplastics, finding the place of production is not yet possible. My allegiance to *the taste of place* has no ground. To move laterally from microbes in performance to microplastics, so too does the framework. Similar (but never equivalent) in scale, this final chapter shifts *terroir* to *mer*roir[197], where oceanic flows, seascapes, and other liquid pathways influence what and how we eat, including the consumption of microplastics.

[197]Merroir is most commonly attributed to seafood, specifically oysters, on the basis that "Pacific oysters reflect the taste of the waters in which they are grown." The word is attributed to Pacific Northwest Chef Greg Atkinson in a 2003 Seattle Times article. Atkinson, "Treasures of the Tide Flats: On a Beach or at a Bash, Oysters Are Worthy of Celebration."

As my research turned from microbial life to microplastic worlds, inquiries to chefs, artists, and theater makers working in and with food came up dry.[198] While microbial alimentary performance has built a firm foundation in multispecies, bio art, and food performance, aestheticizing microplastics in our food has yet to find its footing. Perhaps it is just *too* real? Too anxiety-inducing? Too invisible to be represented? Yet, none of the performances in this dissertation are likely without microplastics as participants. As this chapter will illustrate, the ubiquity and fluidity of microplastics, working *nearly* invisibly across scales, challenges the desired efficacy of theater ecology and ecological food interventions. *Merroir* as a methodology will guide performance studies to microscopic margins, where distinctions between authentic and fake food production, theatrical and immersive space, eco-theater, and non-ecological performance wash together.

To immerse ourselves within the mess of microplastics, I propose two distinct spaces riddled with microplastics: the ocean and Disneyworld. Specifically, I begin with oysters as a bivalve and foodstuff, studied for their own consumption of microplastics (and subsequent anxiety-inducing human consumption). I then examine a space already theorized as metaphorically plastic, Disneyworld, to reconsider both contemporary applications of plastic cultural studies and how immersive environments may add critical nuance to our understanding of microplastics in performance broadly. This chapter is less about plastic eco-nihilism than it is about resisting an ethical binarization of intimacy with good relations and theatricality with an absence of moral responsibility when staging our ecological futures. A sense for microplastics may carve a path for such resistance.

[198] In some cases, this was surprising, in others, such as an interview with one of Disney parks Sustainability team members, less so.

Microplasticity & Merroir in Considering Oysters

Learning from Wist, this chapter is not about *finding* (locating) microplastics in performance. Beginning with most of microplastic's earlier state, plastic, I will work from the cultural and material history of plastic and its effects on performance to grapple with emerging concerns of microplastics and how it might affect broader understandings of performance. This method is as true for scientists as humanities scholars; attention to plastic often leads to the smaller matter, microplastics. Like microbes, using food, taste, and agriculture as a lens into performance allows for non-visual sensing of the pervasive and nearly ubiquitous microscopic shreds, beads, pellets, and other nano- and microscopic plastic particles, particularly as they enter the body through ingestion. This chapter seeks to answer the question: how does the planetary presence of microplastics affect our conceptions of performance?

To answer this question, it is crucial to determine what I mean by microplastics and *microplasticity*. I define microplasticity as the quality of plasticity, liquidity, and malleability at microscopic scales, yet at the macro, perceived as a fixed, ubiquitous matter. Microplasticity is expressed in Allie Wist's food performance experiment, where microscopically, microplastics slip out of grasp, undetectable in the apple-y liquid sludge. Yet, at the macro level of planetary food systems, the likelihood of microplastic presence is nearly guaranteed in all apples produced globally. Rather than the important etymological distinction between plasticity (a quality of malleability) and plastics (ecologically fixed in terms of non-compostability), microplasticity embraces both: a dual tension of matter as pliable yet perpetual.

In an interview with Jamie Leonard, a Ph.D. candidate in Civil and Environmental Engineering at the University of California Los Angeles who studies microplastics, I asked if we could test some of the performance venues discussed in this chapter for microplastics. With a

quick "yes," she confirmed they would likely be present, but that scientists' real challenge is: what do we do once we know they are present? One of the ways environmental scientists and civil engineers work to answer this question is to identify sites of contamination. *Where* microplastics enter human bodies, oceans, fetuses, or animals can open new strategies for mitigation (even if the scientific community is largely unsure of the health effects). Two avenues, human ingestion and particular environments, mark scientific inquiries into microplastic entanglement. Taste and place again determine our sense of the components of our food. However, these places are obscured beyond current identification. Microplastic space may be ungraspable, but this type of fluid method is what the humanities are well positioned for and perhaps a key avenue in interdisciplinary approaches to the study of microplastics. This question of *where* our entanglement with microplastics occurs is a question that also can be useful for theater and performance studies in expanding our conceptions of *where* performance occurs, what scale it happens at, and how performance is already ecological *and* laden with microplastics.

While the introduction and first two chapters of this dissertation resisted a neologism and remained with terroir (1, 2, and 3) as a term and new framework for performance, this chapter bends to the liquid qualities of microplastics and plastics. Microplastics illuminate watery space when considering the edible. In 2003, Pacific Northwest Chef Greg Atkinson imagined up *merroir* while slurping down briny bivalves– raw oysters from the Puget Sound. He claims that one can distinctly taste the qualities of the "waters in which they are grown" within the slurp of the oyster.[199] The oyster has long been a creature and foodstuff for theatrical consumption: M.F.K. Fisher's *Consider the Oyster* narrates the intimate relationship between human, bivalve,

[199] Atkinson, "Treasures of the Tide Flats: On a Beach or at a Bash, Oysters Are Worthy of Celebration."

and ocean.[200] Anthony Bourdain's first memory of *really* tasting was off the coast of Brittany, being utterly transformed by a raw oyster pulled from the ocean.[201] Archaeological digs at the Rose and Globe Theaters in London have revealed oyster shells peppering the audience areas, materializing the briny snack's proximity to performance.[202] Eating an oyster is our second foray into microplastic performance. While Wist's failed experiment sets out failure and the limits of representation as a condition for microplasticity, oysters will serve as a model for a performance studies approach to microplastics that works with scientific studies. I begin with oysters mainly because numerous reports have emerged claiming that microplastics have been found in nearly all oysters.[203]

To conclude the previous paragraph with such a dramatic claim was intentional. The theatricality of eating requires dramatic statements to conceptualize its intense effects on the body and the planet. I won't conclude this section by saying we should never eat oysters again (~~I most likely will~~ I already have). However, oysters serve as a helpful lens for understanding how we humans have learned about microplastic consumption for nonhumans (oysters) *and* humans (as consumers of oysters). The study cited in the final sentence of the previous paragraph, "Microplastic in oysters: A review of global trends and comparison to southern Australia," is a "global" literature review of 29 other studies of microplastic presence in oysters. So, is it really *all* oysters? Or is it merely an observation from a number of scientists in a couple of geographic regions about the presence of microplastics in a sample study of oysters? Such long sentences do

[200] Fisher, *Consider the Oyster*.

[201] Bourdain, *Kitchen Confidential*.

[202] Bramley, "Snacking In Shakespeare's Time"; "Shakespeare's Theater."

[203] Wootton et al., "Microplastic in Oysters."

not make for nice headlines but are crucial for performance scholars who draw on scientific evidence for humanities-based inquiries.

There are historiographic challenges in scientific research. To situate scientific studies historically and materially is the task of Science and Technology Studies, particularly queer of color, indigenous, and feminist approaches to STS. I hope this brief aside points out that in humanities writing about science, it is also one's responsibility to convey the limitations of the information we find, or at least the subjective spots in a scientific study. To write with scientific methods is to practice with scientific methods. In other words, scientists have found microplastics in a lot of oysters on a global scale. I could have quite easily and may have done this elsewhere, cited the study by stating: *Now microplastics have been found in nearly all oysters*, (insert a footnote to a rather lengthy scientific article and little negotiation on my part as to what claiming that totality that all means). Instead, I try to work with the embodied knowledge produced by scientists who tested bivalves for the presence of microplastics while contextualizing its universalizing rhetoric published in scientific literature.[204]

To return to the complications of using *merroir*: what is the merroir of an oyster with microplastics? Does the presence of a polyethylene plastic microbead change the oyster's relationship to the ocean or the eater's relationship to the ocean?[205] Does the new spatial relationship displace the oyster's locality if it contains a shred of plastic with an indecipherable origin as one slurps it down? Even if the microplastic is invisible and indistinguishable in a particular instance, its presence is so likely that to ignore it falls into the selective terroir of the Slow Food movement that terroir 3 works against. Microplastics are local and global, visible and

[204] Liboiron, *Pollution Is Colonialism*, chap. An Anticolonial Pollution Science.

[205] There are also studies that examine microplastics' effect on oysters' feeding ability suggesting that nonhuman eating is also compromised.

invisible. Because of its mostly invisible, highly ubiquitous qualities, microplastics in food open up new possibilities for the aesthetics of waterways and liquidity in the study of food. Beyond connecting the oyster to the ocean, microplastics embed themselves in bodies (human and nonhuman), inviting a non-visual engagement with plastics, consumption, theatricality, and the ocean.

In the performances I'll explore, I will fail at narrating every instance of microplastics and even plastic present in each experience. Instead, I will analyze these already immersive theatrical experiences as immersed with and in microplastics based on planetary understandings of plastic as a defining ecological and cultural matter. *Microplasticity* incorporates the overwhelming and far-reaching presence of 'plastic matter,' a term from Heather Davis that describes how Western thought has determined how "matter is understood to be plastic, in both the metaphorical and material senses," with a call to grapple with plastic's remaining and non-disposable qualities.[206] Yet, while plastic remains ecologically fixed in the very bedrock of our planet, at the microscopic level, microplastics will flow in and out of spectators' bodies, especially at the site of alimentary performance. For example, each plastic water bottle Disneyworld sells to its guests becomes a site for intimate microplastic relations with a human, but the bottle will remain long past that initial encounter. Some of these flows are imagined, some could be scientifically verified, and all will reshape scales of performance analysis to consider the microscopic as a key element in understanding the theatrical matter of planetary performance.

In what follows, I will identify liquid forms of plastic, food, and performance. Plastic will sometimes serve as an index of microplastics, if only in the metaphoric capacity of plastic. A new consideration of theatrical matter emerges at a microscopic scale, asserting that resin, vinyl,

[206] Davis, *Plastic Matter*, 9.

water bottles, slides, boats, and many other plastic materials produce theatrical space. This chapter stretches and scales (as the polymers of plastics extend and linger on) immersive alimentary performance as a site of *microplasticity*, a quality of performance that is less visual than sensible, something more easily found in the *merroir* of a theatrical work, space, or dish. In particular, I consider Baudrillard's disdain for immersive environments through the metaphor of plastic life by returning to one of his favored case studies: Disney theme parks (Biosphere 2 in the following chapter). In particular, I begin with "Living with the Land," a boat ride in a greenhouse alongside the food systems present in theme parks. I end with a wash: the swirl of microplastics breaks into fragments for the conclusion. As the beginning of this chapter suggested, this microplastic method is predicated on large scales and methodological failures. Hence, the conclusion of the chapter expands on the fluid forms that microplastics move through.

On the microscale, microplastics run amok, uncatchable yet haunting. At the macro scale, shreds of plastic enter our bodies so rapidly that catchy headlines never seem to end. This wavering tension is best captured in *microplasticity*, perhaps a defining quality of 21st-century performance.

Living with the Land/Living with Disneyland, OR Sensing Plastic Animacy in Disneyland~~and~~World

"It is Disneyland that is authentic here!"[207]

"Disneyland is presented as imaginary in order to make us believe that the rest is real."[208]
- Baudrillard, *America* & *Simulations*

This chapter was largely born from a fantasy, a wandering daydream as I ruminated on Jean Baudrillard's conception of a maleficent ecology in *The Illusion of the End* as a potential counter

[207] Baudrillard, *America*, 104.

[208] Baudrillard, *Simulations*, 23.

to a globalized, commercialized culture of waste. One of Baudrillard's repeated case studies, Disneyland, serves as key evidence for the simulacra, for Baudrillard, a place so fake, so empty of meaning that the non-referential world is perceived as real. And I wondered, as a performance scholar with a bit of an imagination, if Baudrillard actually went to Disneyland (or Disneyworld? Did the difference between the California and Florida theme parks affect his conception of fakery and falseness, or did it all dissolve into simulated space?) on his cross country trip that led to his 1988 book *America.*[209]

Baudrillard's reflections on the United States as a "microcosm of the West" by scaling "the whole of America in California, and California in MGM and Disneyland" was full of thick descriptions familiar to performance studies scholars, however, when it came to Disneyland, it was surprisingly lacking.[210] Did he go on a roller coaster? Or get hungry walking past people and buy a hot dog from a cart? As much as Baudrillard painted many scaling landscapes and spaces regarding Disneyland, it felt flat compared to the sensory overload of immersive theme park entertainment I had experienced. The assumption that the simulacra is empty of meaning, plastic space, a mirror with no material mass, elides the real, thick, global material weight and waste produced by large-scale entertainment venues.

Plastic's effects on American culture have been well taken up, including a shift into its metaphoric capacity in describing the fake, the unreal, or the disposable. In *American Plastic: A Cultural History* (1995), Jeffrey Meikle weaves together the chemical history of plastic and its emergence as a cultural phenomenon, a quality applied to those things that are fake, fast, cheap, unoriginal, malleable, and imitative. Particularly, Meikle suggests shifting from design or landscape as plastic, to people as plastic. Meikle references the cultural critiques that Baudrillard

[209] I'm still trying to figure out if Baudrillard ever went into the theme park, and if that even matters.

[210] Baudrillard, *America*, 55.

and Umberto Eco made, specifically utilizing Disney theme parks as a spatial mirror for America more broadly.[211] This shift, Meikle suggests, is where plastic as a material and metaphor in 1990s cultural critique was headed towards– entirely virtual realities absent of space.[212] However, as we continue into the age of microplastics, new cultural understandings of our relationship to plastic matter change, moving to *microscopic space* rather than becoming entirely absent.[213] Single-use plastics shape our food systems: via the global transportation of food matter, bags, bottles, and other items are amassed in the ocean, then break into smaller and smaller particles by sun and water, entangled in marine life. In response, media coverage and scientific researchers are studying and speculating how these particles enter and affect the body.[214] To consider microplastics asks for new cultural frameworks to understand both the body and space in relation to plastic.

While many rides or experiences within the park might serve as a case study into the absurdity of contemporary theme park encounters, we will board a small boat to carry us through a greenhouse. The simulated and yet actual ecology within Orlando's Experimental Prototype Community of Tomorrow (EPCOT)'s Living with the Land ride relies on waterways for its aesthetic and ecological performance. While the entire park incorporates many water systems that host microplastic movements, beginning with a ride captures an explicit consideration of binaries of authenticity and theatricality and its connection to ethics and relations produced in theme parks. Through the intimate relationships with food presented and performed on the ride,

[211] Meikle, *American Plastic*, 288.

[212] Meikle, 288.

[213] Additionally, Meikle's suggestion that the Disney company would become obsolete was a premonition that as of 2024, has not yet materialized.

[214] Cox et al., "Human Consumption of Microplastics"; Armstrong, "Chart: How We Eat, Drink and Breathe Microplastics"; Consumer Reports, "You're Literally Eating Microplastics. How You Can Cut down Exposure to Them."; Imbler, "In the Ocean, It's Snowing Microplastics."

Living with the Land inadvertently produces intimacy with microplastics, serving as a key model for the merroir and microplasticity of contemporary performance space.

Disneyland, Disneyworld, and the global reach of its companion theme parks, as a type of immersive performance space, produces tons of food waste while also feeding (for high prices) tens of thousands of people daily. Large-scale global entertainment venues such as theme parks and stadiums hold much potential for closer examination of the simulations and material effects of food performance as thick, enduring, and materially dense. Many scholars who have written on the emergence of theme parks in the 20th century cite the relevance of studying these spaces due to the high volume of yearly attendees. For Disney Entertainment, with over fifty million attendees globally, the scale these parks affect is worth greater analysis, especially regarding climate and food interventions. Theme parks serve as a large-scale case study of intimate relations with plastic and microplastics. Their production of commodities, theatricality, entertainment, and utopian futures work tightly together. Rather than letting the theme park homogenize, merroir finds particularities, tastes, and interaction points with microplastic. Plastic will lead to some fakery, but microscopic distinctions will locate and obfuscate *where* the unreal and immaterial occur–perhaps not so inherent to theatricality.

1982 The Walt Disney Company opened the Experimental Prototype Community of Tomorrow (EPCOT) to the public. On paper, EPCOT was a city of the future, but in producing entertainment venues, The Disney Company matter, resources, and theatricality bend to present constraints. Through the design process and after the death of Walt Disney, the originally intended experimental urban design was turned into a ticketed theme park experience focused on presenting technologies of the future through a series of corporate sponsorships.[215] In "The Land"

[215] As I will expand later, these corporate sponsorships were always central to the production of Disney theme parks, modeled after World's Fair sponsored exhibits.

pavilion, Kraft, Inc. initially sponsored the ride "Listen to the Land". Throughout its 40 years of operating, the ride has had slight amendments to both the narrative and the ride sponsors (Nestlé and Chiquita Brands International).[216] However, the main design, a boat ride traveling through a history of agriculture, ending in an "actual" greenhouse that claims to grow produce served in the theme park, remains.

The spectator boards a small boat floating on a built waterway to enter the ride. Here is one of the first major encounters with plastic within the ride. Since the 1960s, boats have been largely reliant on plastics. As plastic studies scholars have pointed out, "plastic" appears by many names: epoxies, resins, and vinyl, all of which are reformulations of plastic polymers. Fiberglass, a commonly used material in shaping the hull of a boat, is a misnomer, or at least renders the presence of plastic invisible: the microscopic shreds of glass that form fiberglass are only as strong as the resin (plastics) layers surrounding the glass. Not to mention the plastic-molded seats or the vinyl cover on the boat, the human spectators' relationship to the theatrical space is mediated by plastic. Could this mediation also serve as a space for human encounters with microplastics, if an invisible one?

As I noted earlier, plastic will sometimes necessarily be indexical for microplastics, for performance scholars. While there has not yet been a scientific study for microplastic presence in theme park rides (and it seems unlikely that Disney would be interested in allowing those measurements to take place), Jamie Leonard and fellow scientists' recent publication "Children's playgrounds contain more microplastics than other areas in urban parks" suggests that the "built-in plastic structures might be a source of microplastics in the playground," which offers a

[216]Disney Entertainment has always been entangled with corporate food and technology sponsors, such as Coca-Cola, Monsanto, and Chiquita International. Beyond funding for rides within the park, the partnerships are reciprocal, for example, Disney animation was hired by United Fruit Company (later Chiquita) to produce animated shorts promoting bananas to American consumers in the 1940s.

possible site of microplastic encounter for someone whooshing down a slide.[217] As Leonard explained in an interview, these are *possible* sites–suggestions of potential spaces with heightened microplastic encounters. This research connects plastic structures and microplastic ingestion molecularly but not explicitly. However, working with scientific uncertainty may prove more productive for performance scholars than merely relying on a headline translating a study into an imagined, if strongly desired, universal truth. To return to the plastic boat, a possibility:

> As a Disneyland tourist's hand lingers on the edge of the green rounded plastic seat, a weary sigh as they inhale the cool air-conditioned environment, their hand wiping the sweat from their upper lip, the body opens up to not only a world of plastic but an immersion of microplastics.

Could we have a merroir for microplastics? Conditional on a boat, a hot day, and a small gesture. The porous potential of plastic and microplastic relations, as argued by Davis and then Katie Schaag, mimics those liquid flows of sweat and water.[218] Unlike terroir, the *place* that this spectator is tasting is obscured. One of the key challenges many microplastic labs face is the inability to identify *where* the microplastics were produced. This alienation limits the possibility of individual or corporate responsibility. Obscured plastic origins also render tasting the ocean and tasting plastic as a universalized, boundless issue. The issue of universalization in the oceanic is articulated through post-colonial scholar Elizabeth DeLoughrey. In *Allegories of the Anthropocene,* DeLoughrey identifies three figures: the boat, the shore, and the body that "allow the spatial telescoping of allegorical narratives between local and global, place and space,"[219] which are vital for specifying the universalized narratives of the Anthropocene. The spatial

[217] Koutnik et al., "Children's Playgrounds Contain More Microplastics than Other Areas in Urban Parks."

[218] Schaag, "Plastiglomerates, Microplastics, Nanoplastics."

[219] DeLoughrey, *Allegories of the Anthropocene*, 135.

telescoping DeLoughrey seeks is central to the framing of t/merroir, where the micro and macro are sensed simultaneously (but not completely) in contemporary food issues, which consider both Anthropocentric and capitalist time simultaneously. To return to the boat again, within Living with the Land, these figures of boat, shore, and body are materialized. I add the mouth as an additional site for oceanic relations to extend the analytic through merroir.

The possible intimate oral encounter with microplastics on the boat in Living with the Land extends one of an earlier practice and resulting social anxieties of boat rides in theme parks. Living with the Land is modeled on the late 19th-century theme park ride form of an "old mill" ride, which was later termed a "tunnel of love" ride, where a boat gently moves through a dark enclosed space.[220] In the 1950s, the Tunnel of Love ride was a popular ride in the U.S., particularly for young couples who were limited in terms of public places for romantic entanglements.[221] The dark ride allowed for an intimacy that was not allowed otherwise.

As conceptions of human and nonhuman intimacy have changed through the work of feminist new materialist thinkers, intimacy in theatrical space has also changed. To follow Schaag's suggestion that the incorporation of microplastics into the human body "might cultivate a sense of curiosity and perhaps even pleasure, becoming intrigued and perhaps even enchanted by this queer plasticization of our interiority," Living with the Land and immersive theme park rides produce an intimate and theatrical entanglement between human and microplastics.[222] Can a nearly unknowing entanglement with microplastics lead to enchantment? Or does the enchantment and pleasure produced by Disney theme park Imagineers obscure our potential to find a queer enchantment with microplastics?

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[220] Zika, "The Dawn of the Dark Ride at the Amusement Park."

[221] Underhill, *Tunnels of Love, Coney Island*.

[222] Schaag, "Plastiglomerates, Microplastics, Nanoplastics," 19.

The queering of the body through human ingestion of microplastics is made possible through liquidity and oceanic forms. As Schaag elaborates, "An ecological awareness of our bodies becoming-plastic may allow us to relinquish our illusions of individual sovereignty, and let ourselves slip into the ebb and flow of the sea of actants within us," calling to larger queer and feminist posthumanist arguments about reconceptualizing the body in relation to water.[223] Can this type of decentering of the anthropos occur in one of the most highly constructed immersive human-entertainment environments like Disney World? What are the implications of assuming new conceptions of the posthuman body within a theatrical space that, at first glance, serves as a "microcosm" of Western humanity, waste, consumption, globalization, and fakery? I argue that to understand the ubiquity of microplastics, it is *precisely* the large-scale entertainment venues, those places so decidedly "human," or as I will later show some theater scholars identify as non-ecological, that we seek queer plastic encounters.

To apply microplasticity, one must consider matter that seems fixed but cautiously consider how it is a porous, even agential actant, upon closer examination. In performance space, how matter is rendered agential, active, or "alive" is of critical examination. For example, one *could* read Living with the Land as a ride that instills agency to plant and agricultural life - through staged atmospheric change or backlighting to create a plant as a central character in the ride. This kind of analysis, seeking the representations of matter (performance of plants), risks reproducing a hierarchy of animacies that would place organic plant life above, more efficacious, or even more ecological, than plastics. But by the doubling of material representation in the space, where plastic performs as plant and plastic plant as plant, I urge environmental humanities and performance ecologists to resist reinforcing organic-inorganic binaries as a solution to ecological space. Microplasticity considers the plants (plastic and organic) as producing

[223] Neimanis, *Bodies of Water*.

microplastics, but at different scales. Representation can animate, and give life to inorganic and organic simultaneously. As Rebecca Schneider has articulated, theatrical representations have long held the capacity to animate and give life to nonhuman actants, revealing theater and performance studies and New Materialisms many crossing points.[224] Yet in our current conditions of performance, which so heavily rely on intense material manipulations, many of them conditional on plastic (and therefore produce microplastics), perhaps more intricate matrices would be useful in considering the animacy of matter in theatrical works. Microplasticity puts organic-inorganic binaries in question, where, in terms of theatrical representation, a value system to determine the "real" is perhaps less useful than mapping the interlinked material qualities in ecological performance space. To think interdisciplinarily, as the bounds of performance, theatrical space, and matter move into more porous modes, the companion theoretical frameworks must move malleably but with attention to scale and relation.

The scalar method of microplasticity, scoping from micro to macro, must also work alongside a spectrum of animacy to avoid scalar hierarchy. The risk of hierarchizing matter, objects, or nonhuman things, is central to Mel Chen's critique and furthering of New Materialism in *Animacies: Biopolitics, Racial Mattering, and Queer Affect* (2012).[225] Through Chen's concept of "queer licking," the intimate and racialized agency imbued in lead outbreaks in U.S. children's toys reveals that matter is rendered animate within a hierarchy and that racialized bodies are considered less porous than those of U.S. white children. Agential hierarchies are also efficacious, where matter is rendered active through its ability to perform on the human body, often marked by scientific studies of health effects. These scientific studies are also selective,

[224] Schneider, "New Materialisms and Performance Studies."

[225] Chen, *Animacies*.

particular, and, in the case of microplastics, largely unknown in who and how they affect the body.

Microplasticity may work best with matrices rather than a linear spectrum. Micro and macro run on an x-axis and animacy runs on a y-axis. The lines are wiggling and liquid and may twist up later on. Still, for the sake of considering the stakes and complications of studying microplastics in performance, which traverse matter and representation, effect and affect, and relative size, this plot point serves as a complication in considering matter on, and matter as, theatrical space. The animacy-scalar matrix reflects a need in the performance and new materialism intersection: animacy can also render matter unreal or unmatteratable. Ultimately, in line with Chen's conclusion and Puig de Bellacasa, considering the agency of any nonhuman matter invites a consideration of human-nonhuman ethics and what an attention and responsibility to nonhuman performers might mean in performance– even if those actants are invisible, intangible, or ineffective. For as much as microplastic performance is *present* in a theme park, it evades *visual and narrative* representation.

The initial plastic encounter with the boat guides the floating audience to an interior world entirely made of plastic: floating through a closed set of artificial foliage, special effect lightning strikes, and a constructed landscape situate the spectator in an artificial "environment." The vinyl leaves and paint-coated faux house in a corn field construct different climates and conditions for agricultural development. But more than the plastic nature built within the first half of the ride, the spectator's transition into the 'functional' greenhouse exemplifies microplasticity.

As the boat ride continues, the spectator seemingly moves farther away from a plastic environment into the "Sustainable Agriculture: Production and Research Center." The change

appears on a likely polymer-based backlit sign, and sunlight leaks into view as the edges of the water path, exit signs, and safety doors transition from the dark "theatrical" space into the "real" research center.

Fig 3.2. The transition space between the interior ride and the functioning greenhouse on Living with the Land. Still from "EPCOT Living with the Land FULL Ride Experience in 4K"[226] 4KWDW. May 2022.

While the sign tells the spectator the research center is around the corner, other sensory elements are engaged, drawing the spectator into the theatricalized greenhouse environment. As natural light leaks in, the water reflects what is to come: sunlight, plants, and *real food*. The ride asserts an agency on edible matter: by concluding with produce grown for human consumption, the ride produces a gustatory catharsis that the story, drama, and theater of food will result in something materially real, releasing the anxiety of our food system problems that can be solved if only we eat the lettuce grown right here, in front of me, that I can see. While narratively, the ride emphasizes a fantasy "real" food echoing that of farmer's market aesthetics in the introduction, the merroir of this performance– and a taste for plastics, creates a theater of food and science, contingent on animacy rendered to organic matter and a visual expulsion of plastic.

[226] *EPCOT Living with the Land Ride POV at Night in 4K | Walt Disney World Orlando Florida May 2022*.

While the taste for plastics may never be narrated or visualized in the ride, the physical experience of floating on a waterway with air-conditioned relief in a resin-based vinyl-lined boat drives many audience members to the ride. Current understandings of microplastic movement and presence mean that as the ride moves spectators closer to edible food, it also moves the spectator closer to an immersion of microplastics. The immersion is not visible. Instead, it happens at the site of the mouth.

Microplasticity telescopes between fixed and liquid, but these scalar movements are not linked to an inherent theatricality. Instead, taking theatricality as a relational quality provides another layer to incorporate into this mess of a matrix when considering matter in performance. Theatricality is not the antithesis of intimacy. Intimacy, as Chen articulated, is not conditional on ethics but can also serve as an entangled site of toxicity, queering, or racialization on the animacy hierarchy. This ambiguity is neither morally good nor bad. To return to the initial proposition of this chapter, theatricality does not inherently mean an absence of material relations, effect, or intimacy but rather introduces scale as a critical metric in conceptualizing the use, performance, and sense of matter. For example, the "real" edible plants in the greenhouse are additionally theatrically manipulated to produce a sense of vitality through edibility: plants are molded and shaped. On the most extreme, some trees are pruned to have the iconic shape of Mickey Mouse. On a smaller scale, a banana tree has a cluster of ripe yellow bananas twisted around a leaf held by plastic zip-ties so that the edible part of the banana tree is visible from the boat.

Microplastics are not visually staged in Disney's food future, yet by relying on water and plastic for the performance of the future of food, microplastics are sensed through other nonvisual means in the immersive performance.[227] For large-scale global entertainment venues,

[227] New Materialist thinking and performance studies have a few convergence points that will be further elaborated as this project develops. For example, Scheer, Grehan and Eckersall's *New Media Dramaturgy* (2017) take up Bennett's assertions on the agential properties of matter in a "theatre of atmospheres", which "holds the material

their fantasies of sustainability and ecoperformativity are conditional on microplastic immersion. The spectators' movement from the staged to the "real" food is predicated on a plastic boat and a waterway. While the ride immerses the spectator into a utopian food future through gentle waterways, microplastics immerse themselves in the spectator's body through ingestion and liquidity.[228] Microplasticity inverts immersive performance when it comes to alimentary performances: the surrounding environment the spectator is immersed in becomes internalized into the spectator's body. In its intimate, scalable, theatrical assertions, microplasticity complicates previous understandings of plastic as fixed, fake, or culturally abhorrent.

Space, Land, World: On Disney Theme Parks as a Theatrical Space

Baudrillard's use of plastic as a metaphor for the simulacra treats plastic as a fixed and fake force. But Baudrillard elides crucial categories of matter that do not scale well. One issue, for example, is that plastic is not a monolithic matter but many types of matter. In *Pollution is Colonialism* (2021), Max Liboiron points out these universalizing concepts about plastic as a material in much of Western thought, particularly in environmental activism, as a scalar mismatch.[229] This scalar mismatch is not only a concern for scientific and activist interventions but also for cultural and theatrical ones. While plastic may be a ubiquitous force on human life, media, and larger ecologies, as Heather Davis argues in *Plastic Matter* (2022), it exerts its

evidence of its existence in a tenuous relation to the production of its effects that, together, are a form of new ecological assemblage" (102). In extending the matters at play to microplastics, the atmospheric elements become embodied ones as a major source of microplastic consumption in bodies is via inhalation.

[228] While there is not actual eating within the ride, the adjacent restaurant, as I will suggest in the final chapter, foregrounds edible food as apart of the contemporary theme park experience which necessarily invites microplastics as actants.

[229] Liboiron, *Pollution Is Colonialism*, 101.

force(s) at a range of functions, relations, and scales.[230] To attend to some metaphoric microplastics in Baudrillard's reflections on Disneyland: he writes about both the theme park and the animation studios as if they were synonymous and adjacent, and for anyone who has driven from Anaheim to Glendale, this conflation seems to gloss over rather than consider the fragments of Disney's extensive reach.[231]

This scaling problem in Baudrillard's critique is worth closer examination. As The Walt Disney Company has remained on, expanded, and globalized since Baudrillard's reflections on America, the matter that produced and produces the theme park's spaces has as well. Rather than following his disregard for theme parks as fake and empty of meaning, performance scholars must seriously consider how and why such a place has continued not only economically or culturally but also materially and aesthetically. The very infrastructure of the parks has remained, and to ignore the aesthetic effects of a theme park that seems to resist decomposition through a lack of engagement with the material world may risk ignoring how plastic, and now microplastics, have remained environmentally and aesthetically.

In his work *Simulations*, where Baudrillard lays out his concept of hyperreality, he collapses certain large-scale spaces into risky equivalencies. This shows up in two comparisons he draws to Disneyland: prisons and concentration camps. First, he explains that Disneyland is meant to produce the illusion that the rest of Los Angeles and, by extension, America, is "real," "just as prisons are there to conceal the fact that it is the social in its entirety, in its banal

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[230] Davis, *Plastic Matter*.

[231] Baudrillard predominantly references Disneyland, to encompass some if not all of The Walt Disney Company. In this chapter I'll reference distinctions between Disneyland (an Anaheim theme park and resort), and Disneyworld (an Orlando theme park and resort). As my own scale changes, Disney parks in Hong Kong, Shanghai, Paris, Tokyo, and cruise ships that move across Oceans may further complicate the scale I attend to. My own scalar mismatches may also need adjustments.

omnipresence, which is carceral."[232] He affirms this sweeping category of hyperreality by additionally metaphorically linking the Disneyland parking lot to concentration camps.[233] The metaphorical connection has a certain appeal and ease of flow between these spaces, but by creating such a thin line between a theme park parking lot and a concentration camp, Baudrillard's method flattens space. This flattening makes scale too simple, too linear, resulting in a scalar mismatch of space, allowing theme parks and concentration camps to enter a simultaneous space rather than thick, strange similarities but material distinctions. In determining interventions, changes, and possibilities in theatrical space, scale is a key determinant in how we might conceive of ecological impact. For while Disneyland may produce glossy aesthetics that glorify and simultaneously obscure plastic matter, I urge theater ecologists to consider plastic manufacturers and corporate sponsorships of food and environment before scenic designers in spatial analysis. Whether Disneyland is used as a metaphor for larger structures of hegemonic control and the subjugation of bodies or is *actually* one of those spaces–I would still urge performance studies to dwell in the space where we consider the material effects of theme parks and entertainment spaces as immersive spaces. This is why I turn towards a new materialist approach to theatricality. I am not trying to dismiss Disneyland as absent of power, normative social formations, or wasteful, plastic performance. Still, I am trying to think about its scalar effects, what we as scholars expect from these spaces, and where anti-theatricality continues to permeate scholarship.

Ultimately, Baudrillard joins scholars who have used theater and theatricality to illustrate other social relations involving obscuring power sources from subjects. However, in working with new materialism and queer and feminist science and technology studies (STS), considering

[232] Baudrillard, *Simulations*.

[233] Baudrillard, 23.

the immersivity, rather than hyperreality, of Disneyland's constructed space, becomes less about an inquiry of the real or not. Rather than comparing the parking lot to a concentration camp, the new materialist might examine the role of concrete and the flattening of space that Disney Entertainment produces in allegiance with local government subsidies and policies both in favor and in tension with the global entertainment company. In rethinking subject-object distinctions, new slippages, and formations occur in theatrical space. Plastic has become a pervasive material and metaphor in ecological and scholarly crises.

This consideration of microplastics helps to avoid the trap of sustainability aesthetics: "healthy" green foliage, sounds of running water, a technofuturism that suggests we are just a few genetic modifications away from a perfect food system. Pressed cardboard takeout containers instead of styrofoam or a "real" piece of fruit plucked from a "real" tree. These performances of 'real' food interventions, those in Living with the Land and in the collapsed theatrical and scientific sites the remainder of this chapter surveys, are perhaps more indicative of theatricality than an efficacious intervention.

Microplastics can also push food scholars and others past the metaphoric and material vilification of plastic. Instead, microplasticity, emerging from new materialist and environmental humanities' calls for an ethics of care with nonhumans, invites this strange, ubiquitous matter as something that can be both beautiful and terrifying simultaneously, perhaps at unexpected scales of performance. Microplastics wander through bodies through water, food, and air, entering the body through mouths and noses, concealed in food, immersing itself in bodies and performance.

Anti-theatricality and anti-plastic sentiments have similarities in disdaining the "fake" and even, if accidental, perpetuating a fantasy of original, real matter, real space, and real people. I suppose this is why I have returned to Baudrillard, a convergence point between entertainment

and plastic. By responding to Baudrillard's *America* and his writings on hyperreality, specifically in considering an embodied experience within one of the rides, performance studies can open up new possibilities to understanding plastic, Disneyland, Disneyworld, and the role of theatricality in posthuman and multispecies conceptions of the body. Additionally, microplastics open up a new method of understanding the commercialized, theatricalized space of Disney theme parks and immersive spaces more broadly: merroir as a watery pathway emitting microplasticity and theatricality.

Micro-Studies: Microplastics and Oceans

It may seem unreasonable to theorize microplastics through oceanic studies in terms of space. Something so small in size compared to the mass of oceans swallows each other up. Especially when, in the case studies that follow, the ocean is not a central figure, space, or concern. However, not only recognizing microplastics and plastic as interwoven matter in ocean ecologies, the telescoping spatial qualities are, as DeLoughrey argues, critical to resisting universalizing the Anthropocene. This telescoping quality can also resist universalizing performance, particularly ecologically engaged performance, in our current state. I hope that an oceanic framework might push against theater and performance ecology studies and soften our conception of the edges of stages by embracing a theatricality of posthuman performance, which includes the immense, oceanic range of aesthetics produced by both global flows of material (especially fossil fuels, including petroleum, the base for plastics) and new particular ethical relations with nonhuman collaborators in performance.

Microplasticity can also help understand the tensions brought about by those in the oceanic. Its scalar qualities are spectral, from local to global, universal to particular. To consider

microplasticity, I do not leave the materiality of plastic behind but rather examine its pervasive, microscopic presence in the body, planet, and performance.

This section brings together the emergence and effects of the American industrial and colonial logic of plastic as disposable (1950s) to the development of plastic-as-fake, and plastic consumerism cultural critique (1980s), to contemporary environmental humanities, queer and feminist new materialist conceptions of plastic-in-relation (2010s). In 2024, plastic, particularly nano- and micro-plastics, are found everywhere ecologically, corporeally, and aesthetically. Caught between cultural conceptions of its always-disposability and ecologic concerns of permanence, writing with plastic is inevitably problematic. While plastic has been both a metaphoric and material force (often a pejorative) in modern American cultural critiques, the emergence of microplastics asks for new cultural frameworks to understand both the body and space in relation to plastic, food, and performance.

Our ability to distinguish bodies from plastic matter has become impossible. Additionally, to distinguish plastic from any body of water (including oceanic) is also impossible.[234] I draw on a few scientific articles that support this conclusion: "Plastic Pollution in the World's Oceans: More than 5 Trillion Plastic Pieces Weighing over 250,000 Tons Afloat at Sea" found plastic pieces in every ocean. Additionally, while there is an abundance of new scientific studies covering the presence of micro- and nano-plastics in human bodies, lungs, blood streams, tissue, and embryos, I draw from XiaoZhi Lim's broad coverage of the state of microplastic studies in the 2021 *Nature* article, "Microplastics are everywhere — but are they harmful?" I want to place these questions about microplastics at a certain time, for as they become increasingly universalized, it is important to address that we are in a relatively new relationship with microplastics. As Lim notes:

[234] Eriksen et al., "Plastic Pollution in the World's Oceans."

> "No published study has yet directly examined the effects of plastic specks on people, leading researchers say. The only available studies rely on laboratory experiments that expose cells or human tissues to microplastics, or use animals such as mice or rats. In one study, for instance, mice fed large quantities of microplastics showed inflammation in their small intestines. Mice exposed to microplastics in two studies had a lowered sperm count and fewer, smaller pups, compared with control groups. Some of the *in vitro* studies on human cells or tissues also suggest toxicity. But, just as with the marine studies, it's not clear that the concentrations used are relevant to what mice — or people — are exposed to. Most of the studies also used polystyrene spheres, which don't represent the diversity of microplastics that people ingest."[235]

The humanities have rightly critiqued the sciences for producing objective knowledge that can gloss over social, cultural, political, and even material particularities. It may be time for the humanities to deeply consider what collaboration, critique, and thinking with sciences might afford our fields. I want to refrain from endorsing a quick absorption of scientific research into humanities research. Instead, might we consider the theatrical lab and the scientific lab to have more in common than not? Even if we diverge in their base methodology, the stories that happen in intimate encounters might prove illuminating for expanding our scope of analysis. I hope to paint the complexity of utilizing scientific knowledge in questions of performance. This chapter will not end with a neat conclusion on what to do with microplastics, nor should it. The use of interdisciplinary scholarship must also include pushing back at the methodological tendencies of certain disciplines. I do not want only to cite science as a fixed knowledge source but attempt to

[235] Lim, "Microplastics Are Everywhere — but Are They Harmful?"

follow Donna Haraway's early calls for situated knowledges.[236] This microplastics situation is a very messy one, and as a performance scholar, I am not tasked with publishing a neat conclusion, thank goodness. These two sources highlight the ubiquity of plastic and the intimacy of plastic while also expressing the limits of human knowledge about what this new relationship means.

It's challenging to narrate this blending of body and plastic without demonizing plastic or promoting distrust of food. I follow Max Liboiron's call to resist the colonialist mindset of plastic as a disposable matter, but rather a multitude of matters that humans are with, likely forever, in a very intimate relationship. So much of this chapter, and the following one, follows a care for plastics and microplastics in performance. However, plastic and microplastics also serve as a method: as micro theatrical matter, this approach will lead to other marginal material on immersive stages. I'll pay close attention to microplastic matter and matter that becomes micro/plastic in performance.

In *Pollution is Colonialism*, Liboiron traces a history of plastic, which identifies the 1956 Society of the Plastics Industry meeting in New York City as the emergence of colonialist white supremacist patriarchal logics of disposability of matter and the imagined construction of pollution when Lloyd Stouffer claimed "the future of plastics is in the trashcan."[237] Liboiron then considers 21st-century environmentalists, scientists, and volunteers who study plastics, particularly microplastics, in marine life, from seabirds to indigenous sea foodways. This chapter follows Liboiron's claim that "plastics undergird and prop up most urban, many rural, and even bodily infrastructures. They literally support life,"[238] and I also add performance. How plastics *already are* in relation to bodies in theatrical and performance space is one key analytical

[236] Haraway, "Situated Knowledges."

[237] Liboiron, *Pollution Is Colonialism*, 1.

[238] Liboiron, 103.

approach. Additionally, *how* plastics matter in those relations speaks to Liboiron's theory of scale, as "scale is not about relative size. Scale is about what relationships matter within a particular context."[239] Reading for plastics requires attention to nonhuman matter and its agential role in more-than-human worlds and a consideration of the scale at which plastics perform. From microplastics in marine animals to endocrine disruptors in human bodies to the scale of corporate production to indigenous foodways, plastics relate asymmetrically.

This spatial change changes the taste of space from conceptualizing the theatrical stage as one fixed to land. Moving with a liquid base and sets of containers (boats, cups, water bottles, foil lining) ranging in effectiveness. Asserting once again that terroir, and now merroir, investigate the space and place of performance at a microscopic level via the senses.

A Taste of the Ocean

When consuming microplastics, the taste of place (terroir) becomes an almost foolish quest. If humans are unaware of the eating of microplastics (at least bodily), and it is nearly impossible to determine a particular site of production of the microplastic particles found in the human body, does terroir not become obsolete? What does a taste for microplastics mean when it defies the sensory language of acid, sweet, salty, umami, and spice? If the previous section articulates the microplastic effect on ocean and plastic studies through the concept of microplastic space, then to approach the concept of merroir, the following section takes up taste *in* microplastic space.

Perhaps taste is less critical in merroir, but rather a sense, a hint, a fluid opening of the body to human-microplastic intimacy serves as the key sensory mode to understand the taste of microplastics. A similar fluidity is necessary for the place of microplastics. As obscure as

[239] Liboiron, 84.

microplastic origins are, its permanence, its continual place-ness in the body is perpetual.[240] Could this expansive place of microplastics mirror the vastness of globalization? A taste for microplastics reconfigures consumption at the sensory level and with global commodities. Microplastics ask us to rethink the globalization of taste– against McDonaldization, which on one scale certainly has homogenized taste, but what I might argue is that on the other, each particular franchised site of consumption is so locally connected to the global that a microscopic interrogation of space is required. Imagine, for example, we were to consider each McDonald's location to be the same globally. Of course, there is repetition in the arches, the ketchup, and the recipes. But beyond differing franchising approaches, menu alterations, and cultural practices, to theorize McDonald's as a glossy homogeneous force too easily perpetuates its own myth it strives for performatively. Microplastics are a product of globalization and mark global flows. It is nearly impossible to identify a point of origin for microplastics. With many ripple effects of such alienation, terroir crumbles, to the much more liquid bounds of merroir.

To consider those liquid boundaries of bodies in relation to plastic, posthuman theories provide an approach to understanding merroir, or the taste of the ocean (as a space deeply entangled with plastic). In *Exposed*: *Environmental Politics and Pleasure in Posthuman Times*, Stacy Alaimo threads together the intimate relationship between plastics and the ocean, arguing for a posthuman trans-corporeality that would "submerge the human within global networks of consumption, waste, and pollution, capturing the strange agencies of the ordinary stuff" which would connect the human body to the elusive oceanic space while also accounting for the force of waste present globally.[241] To further Alaimo's articulation, *where* those connection points are -

[240] Well, microplastic origins are obscured only on one scale. Its origins are glaring in terms of plastic production on another.

[241] Alaimo, *Exposed*, 113.

between human and consumption– is why I propose *merroir* to conceptualize microscopic *and* spatial connections through the mouth. While other bodily and spatial locations may unveil other connection points, I argue the mouth is an essential space for those invisible material flows, doubling consumption as one of consuming capital and one of consuming microplastics.

As two other oceanic scholars will illustrate, the body as a subject is also subjected to the flows and forces of the nation-state. For example, in Elizabeth DeLoughrey's articulation of waste as a state-produced violence via globalization, the proliferation of technofossils (plastics included) *appears* at the state level.[242] In *The Chinese Atlantic: Seascapes and the Theatricality of Globalization*, Sean Metzger argues that the sense of nationality can flow beyond borders and is visualized in seascapes. I work particularly from Metzger's conception of theatricality, "a term connoting a productive immersion in, or at least concerning, the seascape. Theatricality involves recognition of layers of mediation, approximation, substitution, and fakery (if not artifice)."[243] As Metzger identifies the presence and construction of a Chineseness within Caribbean seascapes and visual art, microplastics resist visualization. To recognize the theatricality of microplastic performance, I turn to food as a performance medium that regularly resists the visual as the primary mode of sensory engagement, where a performance's *merroir* floats us to the margins, the microscopic, and dwelling in the unsavory spaces of the ocean.

What Alaimo, Deloughrey, and Metzger articulate in their respective watery works is the elusive and expansive nature of the ocean. There is a continuous and productive tension between localizing and specifying the effects of the ocean on ways of knowing and ways of being alongside its global flows and forces. For Alaimo, watery methods rethink the human body as an isolated subject and instead an interconnected one to return to the matrix. For DeLoughrey, the

[242] DeLoughrey, *Allegories of the Anthropocene*, 100.

[243] Metzger, *The Chinese Atlantic*, 31.

ocean is a scale to challenge universalization in climate change and Anthropocene discourse. For Metzger, seascapes visualize the fantasies of globalization and flows of Chineseness. My approach with *merroir* most closely follows Alaimo's sense of the body's intimacy with the ocean. However, as *terroir* positions gustatory senses within our conceptions of consumption and climate, *merroir* follows as a framework that opens a parallel gustatory oceanic approach to the force of globalization on performance while simultaneously producing a posthuman assemblage.

Theatricality of Microplastics

If theatricality makes immersion into the seascape visible, as Metzger suggests, theatricality can also make immersion gustatorily sensible. This immersion into the oceanic happens twofold in our continual yet invisible act of consuming microplastics. First, in the act of eating, humans' porous boundaries are materialized through the consumption of foodstuffs, putting the body in a trans-corporeal relationship with oceans. For example, consider the apple that opened this chapter. Wist selected the apple to experiment with because it continually reports high counts of micro- and nano-plastics.[244] How are apples, a seemingly contained organic edible matter, so entangled with microplastics? Key components to agricultural production, soil, and water, serve as two avenues that transport micro- and nano-plastics into apple trees and apples. For as terroir indicates, food is a product of its environment, and plants are not closed systems but incorporate nutrients through root systems. Not unlike humans' process of consumption, plants are porous organisms. Plants incorporate water and soil through the stoma (gas transport) or xylem (water transport). Those pathways leave plants open to microscopic plastic particles that are present in

[244] Oliveri Conti et al., "Micro- and Nano-Plastics in Edible Fruit and Vegetables. The First Diet Risks Assessment for the General Population"; Aydın et al., "Occurrence of Microplastics in Most Consumed Fruits and Vegetables from Turkey and Public Risk Assessment for Consumers."

water and soil.[245] Traveling all the way through the apple tree, the apple is entangled with micro- and nano-plastics at the cellular level. The hydration mechanisms used at a particular apple tree will vary, but as discussed, none of those watering systems are free from microplastics. Crunching into an apple puts oneself in relation to the whole of the production process, as terroir inscribes.[246] However, understanding that the apple is porous to the environment reveals that its relationship to water is imbricated with plastic. This immersion into the ocean, even as partial, stretched, vast, and invisible, is one of Metzger's theatricality. This theatricality is also one of posthuman assemblages, where the subject of the human is made porous to waterways and plasticways. This posthuman assemblage comes at a very intimate scale, where microplastics immerse themselves in us.

Secondly, the globalized circulation of plastics through the ocean evades the visual yet still expresses itself theatrically through liquid materials. The apple itself did not reveal its relationship to microplastics visually, as Wist discovered through her failed attempt at extracting microplastic particles. As Metzger connects, "the coupling of theatricality and globalization calls attention to the fact that globalization is always about representation even when used to discuss material connections."[247] Globalization remains a representational force, and rather than assuming microplastics evade representation, food calls us to sensory margins, where we might feel or taste or get just a sense of microplastics. While the visual will undoubtedly slip into the forms approached here (it is incredibly persistent), what edible performance will reveal is also how globalization is represented non-visually.

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[245] Azeem et al., "Uptake and Accumulation of Nano/Microplastics in Plants"; Liu et al., "Uptake, Transport and Accumulation of Micro- and Nano-Plastics in Terrestrial Plants and Health Risk Associated with Their Transfer to Food Chain - A Mini Review."

[246] Mol, *Eating in Theory*.

[247] Metzger, *The Chinese Atlantic*, 28–29.

Examining edible performance broadly challenges what is made visible, constantly slipping in and out of detectability. The study of food as a performance medium is a helpful avenue for understanding theatricality as a relational quality rather than predominantly a visual one. Methodologically, working with merroir goes to the margins of material, matter unseen, often unsavory, and spaces falling to theatricality's edges. Eating an apple could be narrated as a quotidian act, yet with a microscopic consideration, it becomes a dramatic, theatrical, global intimacy. The apple remains an organic matter, yet plastic. Regardless of marketing labels of local, organic, biodynamic, natural, or not, there are microplastic qualities to the apple–this contradiction is indicative of the theatricality of eating, not its moral end as consumption of the 'fake.' Microplasticity in our food and performance systems mirrors this evasion of transparent representation. So the theatricality of food, while still immersed in the oceanic, dissolves any precise bounds between real and fake.

Following the oceanic models of Alaimo, DeLoughrey, and Metzger, merroir constitutes globalization's material and representational effects on the body. Schaag's queer plasticization may produce new attention to plastic relations, but theatricality expands plastics oceanically to unexpected spaces of performance. Where and how immersive spaces are reliant on plastic are myriad, and the goal of the merroir of edible performance is to keep tasting: styrofoam, plastic siding, the plastic bag of the dry cleaners, plastic wrapper of the paintbrush, water bottles at intermission, condiment packets at the concession stand. Microplasticity refigures all performance as immersive microscopically.

While I have argued for the non-visual, gustatory, intimate, and global effects of microplastics, I will conclude the methods of merroir by emphasizing what edible performance means in this ecological and commercial context. I have thrown around the word immersive, but

it is applicable twofold: it both assumes material entanglement and describes an emerging theatrical form and new media concept. Immersive theater is a useful place to start for this question for three reasons: first, it follows a genealogy of theatrical space as laid out by Kim Solga in *Theory for Theatre Studies: Space* (2019) that connects realism to environmental theater, site-specificity, and performance space that attempts to construct a total environment for the spectator to participate in.[248] This connection is in line, or at least has some resonance, with Una Chaudhuri's suggestion that site-specific theater holds the capacity to act ecologically in considering the larger space that a performance participates in. In the case of edible performance, the spectator, the eater, is similarly immersed, if at the microscopic level. Second, immersive theater often activates non-ocular sensory modes to give a sense of totality: smells, physical pathways, and tastes. Finally, immersive theater is globally and commercially popularized. Immersive performance has both the representational possibilities called for in ecological theater and engages with globalized performance's production and circulation effects.

As Living with the Land illustrated, microplasticity also leads to immersive performance as a space that threads together particular performance sites of microplastic ingestion, blurring into expansive environments. The totality of immersion with microplastics, aesthetically, *alimentarily*, and ecologically reflects Christian Stiegler's argument in *The 360° Gaze: Immersions in Media, Society, and Culture*, which articulates the experience of immersive environments in and with media alongside that of postmodern culture at large:

> "Both are crucially defined by feelings of uncertainty, dissolution, frictions, fluctuations, and a changing perception of reality. They mark a totality of experiences that surrounds and absorbs us and ultimately eliminates distance and security mechanisms. By being completely exposed to these experiences, we find ourselves in what I would like to call

[248] Solga, *Theory for Theatre Studies*.

liquid spaces. The feeling of immersion evolves in these spaces. They are determined by processes of fluidity, hybridity, crossing borders, and liminal thresholds."[249]

The liquid spaces are metaphoric in some ways for Stiegler: social space unfolding on servers, extreme dissolution with norms that reinforce fixed binaries, but perhaps microplastics add a very material process to rethink scale in immersive environments and even the materiality of postmodern life.[250] Disney's waterways, water bottles, and hydroponic farming build a liquid space with too many porous and plastic encounters to name. This final inquiry into the effect of immersive space's total fluidity and hybridity will lead us to this dissertation's final chapter: where immersive spaces' material remains provide new disciplinary muddlings between humanities and sciences. Particularly, I examine how, even if in liquid forms, immersive environments built in the 1990s have remained into the 2020s. Following this chapter's consideration of EPCOT's enduring, microplastic qualities, the concluding chapter applies microplasticity to sites where theater and science converge: as plastic polymers break, stretch, and linger on, so too does immersive space.

There is much more plastic in performance than is narrated in this chapter. However, by stringing together the liquid forms of plastic, food, and performance, I hope to at least test the possibility of microplastics as a way to consider malleable and fixed theatrical space simultaneously. I have slipped between food, microplastics, and plastic as entangled yet distinct matter. This activates microplasticity as a term to describe 21st-century immersive performance. In alimentary performance, the ubiquitousness of plastic matter, particularly microplastics, remains a challenge. On the one hand, it is a dramatic shift in food, putting most, if not all,

[249] Stiegler, *The 360° Gaze: Immersions in Media, Society and Culture*, 7.

[250] One could also consider how new media space is contingent on the ocean: as internet cables that create those digital social connections are conditional on passage on the ocean floor.

human bodies in an intimate and mysterious (as of now) relationship with plastic. On the other hand, it remains so nearly invisible in our food system that we do not fully know how it circulates. By incorporating care and attention to microplastics and their effects, I teeter the line of scientism and acknowledge that the research on microplastics is a malleable, changing practice of inquiry.[251] In regards to the environmental implications of food in performance, shifting scales is imperative to resist the scalar mismatches of ecological activism, food justice, and anti-theatricality.

[251] Lorimer, *The Probiotic Planet*, 17.

Chapter 4
Theatrical Remains:
Biospheres, Condiment packets, and Other Containers for Microplastics

As promised, my conclusion to microplastics was something of a wash. Liquid conclusions are less explicit–more felt. And yet that uncomfortable openness that results in the oceanic can also provide further inquiry into conceptions of space, place, and taste. Microplastics, as a matter that defines 21st-century performance space, may also prove useful in rethinking the strict bounds between research sites and the epistemologies, practices, and performances that emerge from those knowledge-making spaces. Particularly, I invite us to return to land, and specifically to other tourist sites that claim sustainable or alternative food futures: Monsanto's House of Plastic, Biosphere 2, and the Stone Barns Center for Agriculture and Ecology. These large containers for ecological performance lead us to smaller ones, as plastic leads to microplastics. This chapter concludes with a turn to small ketchup packets and baran to broadly conceptualize the role of food and microplastics in ecological space.

In particular, I focus on theatrical spaces that rely on scientific knowledge production and scientific research sites that depend on theatricality. Following will be a continuation of t/merroir in immersive space, considering global and corporate capital flows, food production, microplastic ingestion, and theatricality. The methods result in unlikely remains of performance: I examine Biosphere 2, another of Baudrillard's favored case studies, to consider its material and metaphoric reliance on plastic, oil, and theatricality and its production of remaining theatrical matter from the 1991 experiment to the present day. Through participant observation and archival material, resonant spaces follow: Monsanto's House of Plastics connects corporate sponsorship and quotidian plastic life, Stone Barns Center for Food and Agriculture materializes radical interventions into food production while simultaneously fueled by oil and corporate

wealth, and a return to Living with the Land's companion restaurant space, The Garden Grill, all trace intimate relationships with microplastics and plastics, edible matter, and the convergence of theatrical and scientific space. These "immersive" spaces immerse audiences in microplastics and microplasticity. They also mark a unique emergence of performance sites where theatrical and scientific spatial organization converges, producing disciplinary crossings.

Finally, this chapter rehearses the microscopic edges of disciplinary thinking: scientific study and performance practice merge in both the methods and case studies presented. These spaces have previously been identified in cultural criticism as *metaphorically* plastic. I return, again, to these conclusions (as I've returned to terroir) with an attention to the animacy, anxiety, and absurdity of matter. The theatrical matter will appear as edible and inedible: ketchup condiment packets, decorative plants, "invisible" paint, and baran provide microscopic studies for microplastic consumption. These aesthetic, ethical, and material contradictions do not eschew intimate relations with nonhuman matter nor present the utopian future that their marketing may suggest.

Another of Baudrillard's favored case studies: Biosphere 2

"Its designers say it's science, its detractors say it's a tourist attraction"[252] - Peter Jennings (1991)
"But the whole project seemed to be set up more like theater than like science"[253] - Sarah Scoles (2023)

To examine Biosphere 2's convergence points of theater and science, I begin with two quotes from two journalists, crystalizing how public anxieties surrounding Biosphere 2 have remained throughout its 30 years of operation: is it theater or science? Biosphere 2, a social and scientific experiment of a group of individuals living in a terraformed environment of the early 1990s in

[252] *Spaceship Earth*.

[253] Scoles, "I Survived a Weekend at Biosphere 2 Pretending to Be in Space."

Arizona, is no stranger to academic critique. Scholars have grappled with the impact of the highly publicized experiment across the sciences, humanities, and arts: eight individuals entered an enclosed "biosphere," including seven biomes, from an ocean simulator to a mangrove rainforest to agricultural space. The individuals, the 'biospherians,' sought to produce enough oxygen, food, and social cohesion to survive for a few years in an Earth simulator. Publicly deemed a scientific failure after oxygen dropped to unlivable levels (which required injecting oxygen into the structure), I return to this site to examine its failures as indicative of its microplasticity and a consideration of its remaining qualities to grapple with the permanence of plastic in performance.

A 2020 documentary, *Spaceship Earth,* positions the inception of Biosphere 2 as *intentionally* a theatrical proposition: movement artists, scenic designers, storytellers, scientists, and creatives met together to rehearse and materialize a simulated ecology which then, due to economic and scientific pressures, compromised its intentions. Yet that ecology, however imaginative, ineffective, or theatrical, has a slew of unexpected material and theoretical remains. Matter such as audio headsets, barren fruit trees, and staged scenes of artistic practice glimpsed through plexiglass construct a site where a spectator can "explore living, breathing scientific research." Biosphere 2 lingers on as a research site and tourist experience run by Arizona State University, collapsing scientific, theatrical, and tourist spaces. These convergence points call to a number of questions regarding methods that consider the material margins of these spaces: What are the remains of the 1991 performance by the biospherians? How do the remains of Biosphere 2 complicate the space's proposed environmental and sustainable ethics of the original *and* adapted ecological and social experiment? How can performance studies serve as a critical

method in conceptualizing the remains of science experiments past to immersive environments of the present? What lingering matter reveals the disciplinary microplasticity of Biosphere 2?

We might think of the *theatrical remains*, to return to a concept in the introduction, of Biosphere 2 (and other theatrical-scientific convergence zones) as metaphoric *or* material microplastics of performance. Shreds of theatricality appear in unlikely materials, often conditional on plastic, microplastics, and fossil fuels. Think of paint for scenic pieces, plaques explaining scenes, and plexiglass making a somewhat obscured lens and container for props, objects, and archival materials. Each of these sites, Biosphere 2, Disneyland, etc, are *containers* for microplastics– providing corporate and liquid origin points (often oil) for *some* microplastics–not all.

The assemblage of the remaining material from the 1991-93 social and ecological experiment is vast: a slew of media articles, a few films, fiction and documentary, scientific research of varying scale, and biographies from participants all remain as media and knowledge. The range of ideas echoing, reflecting, and grappling with the space, scientific experiment, and performance sits so precariously on the edge of science *and* theater that it has caused great anxiety for all parties: what exactly is it? Is it doing anything for "real" science? Finally, in observing the adaptation of Biosphere 2 over the years, if Biosphere 2 of the 90s was such a failure to science, why has it become a research site for a university? And what matter was the adaptation reliant on for the transformation over the last thirty years?

To attempt to draw the media that surrounds Biosphere 2 into a cohesive shape would easily be the length of a book (it already is). Instead, I ask what, from the observation point of a spectator and a scholar, does the space *do* and *remain* as in its contemporary existence as both a theatrical-tourist space and a research site. Is this convergence point of tourism and scholarship a

point for concern and great anxiety, or is it perhaps an opportunity to examine the limits of each type of space? So, while media pieces live within the footnotes of this paper, the shape of our exploration will be through a few theatrical material remains of Biosphere 2.

I offer theatrical remains that invite scripted, material, exaggerated engagement with a space. Stemming from Robin Bernstein's scriptive things and Rebecca Schneider's remains, the theatrical remains of performance may initially seem banal.[254] Dolls, fingers, bones, garments, salt-pork, instruments, and props all remain in and out of the archive, stretching the effects of performance long past a human body's contribution.[255] Take, for example, the plastic severed finger that marks the paperback cover of Schneider's *Performance Remains* (2011), a critical performance studies text that argues for the remaining temporality of performance through the lingering materials, affects, and effects of performance.[256] As the finger points "at the trace of the future of the past," perhaps the faux finger, commonly made out of plastic or rubber, also points to the durability of theatricality.[257] The materials that produce heightened spaces propose another inquiry– the remaining quality of theatrical material varies in molecular composition– for plastic decomposes differently than rubber.[258] So, as the faux finger points to the future of the past, the future stretches as molecularly far as the material can remain. As I will later argue, the temporal expanse of theatrical remains echoes new materialist projects of situating matter as non-neutral and environmental humanities scholars who seek to conceptualize the impact of human life on

[254] Schneider, *Performing Remains*; Bernstein, *Racial Innocence*.

[255] Roach, *It*; Sofer, *The Stage Life of Props*; Cabranes-Grant, *From Scenarios to Networks: Performing the Intercultural in Colonial Mexico*.

[256] Schneider, *Performing Remains*, fig. 1.3.

[257] Schneider, 51.

[258] de Lima et al., "Biodegradation of Natural Rubber Latex Films by Highlighting the Crosslinked Bond"; Rose and Steinbüchel, "Biodegradation of Natural Rubber and Related Compounds."

broader ecological systems. Ultimately, this is a proposal for a method of analysis that might map out material connections between disciplines.

Ultimately, as microplastics have led us out of the explicitly *edible*, this chapter concludes with a broader concern of considering the material remains of the field of performance. One principal aim is to not consider theatrical matter as somehow separate from the ecology and environment that produced it, an idea indebted to Una Chaudhuri, who, in the foundational essay "There Must Be a Lot of Fish in That Lake," articulates the margins of the materialist stage as critical in conceptualizing theater ecologically.[259] Biosphere 2 is a site that muddies Chaudhuri's conception of ecological theater along with immersive performance space.

Immersive Performance & Theater Ecology

Theorizing matter on stage has begun to seep its way into the subfield of theater ecology, through a range of approaches, for example, in the recent works of Angenette Spalink, Katie Schaag, and Annouchka Bayley.[260] However, theater ecology, defined by performance scholar Una Chaudhuri, has positioned "the unattended garbage that accumulates on the margins of the realist stage," as an unlikely yet crucial material in understanding Western thought's history of separating humans from nature.[261] As theatrical space has developed beyond the realist stage, perhaps, as Kim Solga argues, into immersive environments, this chapter considers microplastics as a material that flows around, through, and in immersive theatrical performance.[262] Immersive

[259] Chaudhuri, "'There Must Be a Lot of Fish in That Lake.'"

[260] Spalink, "Parks as Performance: Wilderness and Colonial Ecological Violence in 'The Hidden Worlds of the National Parks'"; Schaag, "Plastiglomerates, Microplastics, Nanoplastics"; Bayley, "Diffraction for Performance Research."

[261] Chaudhuri, "'There Must Be a Lot of Fish in That Lake,'" 24.

[262] Solga, *Theory for Theatre Studies*.

space is particularly useful to examine microplastics because both tend towards a universal: immersive theater can construct an 'entire' environment where microplastics are seemingly 'everywhere'. This dramatic scale of theatrical space and matter converges at the body eating in an immersive experience. What the human participant is *doing* and what is *being done* to the participant is microscopically global.

Microplastics change how we consider and analyze performance through alimentary, ecological, oceanic, and corporeal lenses. The qualities of performance, the exaggeration that occurs, and changes in scale: massive oceanic scales and microscopic, nearly invisible scales, must be considered. How do microplastics reveal that theatricality is a quality that puts unexpected things-in-relation? To consider how microplastics will change performance studies' approaches to performance, this passage on plastic in the *Anthropocene Lexicon* invites a meditation on the "beauty and terror" of plastic's transformative potential:

> "What if we learned to see such banal and quotidian things—this construction tarp billowing over a renovated rowhouse in Baltimore, for example—as openings into a common pulse of existence, as fluid expressions… rather than as isolated and finished forms of consumer satisfaction?"[263]

Anthropologist Anand Pandian suggests that our time with plastic has not reached an endpoint in consumption but is a fluid and long-lasting relationship. As plastic studies scholars have shown, this fluidity slips between material and metaphor. The slippage, I propose, is also an act of scaling, where theatrical space, particularly in alimentary performance, moves between literal consumption and metaphoric - where what we eat is visible and invisible, and edible entanglements shape our sensory capacities.

[263] Pandian, "Plastic," 327.

This emphasis on both the literal and the metaphoric is a central question in Chaudhuri's "There Must be a Lot of Fish in That Lake," which calls for a less metaphoric approach to theater scholars' study of the environment but rather considers the literal waste at the margins of the realist stage. Pandian and Chaudhuri focus on the banal and, I might add, the small edges of performance. For Pandian, it is a tarp. For Chaudhuri, it is the "mere" fish in Chekhov's *The Seagull*: the question of whether art and nature remain distinct or intertwined is of the utmost critical ecological importance.[264] Chaudhuri's 1994 article was a crucial starting place to address the consequences and possibilities of revisiting the literal in performance and resisting using nature as a metaphor. One of her examples is using site-specific theater to incorporate the ecological into theater. She makes an explicit distinction between site-specific and immersive, rightly so, claiming:

> "the simulated worlds of contemporary mass entertainment-the theme parks, world showcases, safari parks, tropical shopping plazas, and so on-become ever more uncanny as they become more perfect. As the technologies of representation approximate ever more closely to techniques of reproduction, the world that is being recreated so precisely recedes ever more quickly from our grasp."[265]

Pandian's approach to plastic and synthetic materials differs from Chaudhuri's, perhaps reflecting the development of the environmental humanities between 1994 and 2020. Chaudhuri reflects the rhetorical argument of *Simulations*, where mass entertainment is rendered unreal and ungraspable. However, what I think scholars in plastic studies call for, and what the previous chapter responded to, is a resistance to the long-affirmed

[264] Chaudhuri, "'There Must Be a Lot of Fish in That Lake,'" 25.

[265] Chaudhuri, 30.

assumption that the simulacra is going too fast, the original just out of reach, and the fake so persistent that there is nothing to be done about it.

Baudrillard is not the only person to reflect on the emergence of built entertainment spaces. Performance studies, tourism studies, and the emergence of the study of immersive theater have questioned the techniques and aesthetics of environments that simulate past, future, or present experiences in which spectators actively participate.[266] Disney theme parks contain many versions of these temporal simmings, whether it is the disjointed American nostalgia for the medieval of Fantasyland, the exoticizing and orientalizing of Adventureland, or, in the case of this chapter's focus, the foodways and future-looking agro-techno-optimism that has been at the center of Disney theme parks since its inception. However, what Biosphere 2 and EPCOT share, not only in aesthetic geodesic design but also in a converged scientific and theatrical space, has remained long past what initial audiences and media expected. Their endurance is due to microplasticity–seemingly fixed space with endless microscopic variations that have produced such remaining spaces.

We move to the margins of the theatrical-scientific space, where material is required to produce theatricality. Still, this material is often dismissed, ignored, or remains an unsightly or unhelpful matter (both aesthetically and environmentally). The microplastic framework the previous chapter articulated and the material itself work repeatedly: plastic produces the space and the microplastics. Additionally, plastic remains throughout decades of operation, management change, and spatial function. Yet the particulate matter, new layers of paint, swapped out plexiglass covers and replaced real plants with artificial ones all “shred” and break apart the sense of a unified and permanent plastic matter in performance. This tension between

[266] Kokai and Robson, *Performance and the Disney Theme Park Experience*; Magelssen, *Simming*.

global permanence and localized decomposition is one key avenue to help conceptualize, even sense, microplastics in performance.

The watery, technofossil material that flows around visibility yet stubbornly immerses itself in performance invites not only a methodology for theater ecology but also extends performance studies scholar Rebecca Schneider's concept of performance remains. So perhaps the "conundrum of theatricality," where representation and real come to collide, is also a point at which the human exits its humanist bounds and becomes something else, the non-ontological status of the human, as Chapter 2 proposed.[267] Whether microplastics render the human body plastic or the effects of performance mark soil health, the theatrical remains are critical in understanding how theater and performance have shaped the Anthropocene. Additionally, theatrical remains render the representation and the real less visually apparent. If microplastics cannot be visually represented, can they evade theatricality? To make such a suggestion would be an elision of the heavy presence of microplastics in food and performance. Microplastics pose a new conundrum of theatricality, where theatricality is rendered a relational process that is not conditional on the visual but one that can be tasted.

Table 2: Biosphere 2 Intensive Agriculture Production for 9 Biospherians, September 1991 to September 1993

CROP - Fruit	YIELDS Kg/sq.meter Year 1	YIELDS Kg/sq.meter Year 2	TOTAL 2 YR Yield Kg	G. Per person per day	PROTEIN (g.)/person/day	FAT (g.)/person/day	?? person/day
Apple			**.57**	**.10**	**0.00**	**0.00**	**0.06**
Banana			2170.92	367.15	2.36	10.49	220.29
Fig			54.34	9.19	0.07	0.03	6.70
Guava			53.50	9.05	0.06	0.04	3.64
Kumquats			4.17	0.71	0.00	0.00	0.42

[267] Schneider, *Performing Remains*, 270.

Lemon			10.12	1.71	0.01	0.00	0.34
Lime			3.63	0.61	0.00	0.00	0.16
Orange			5.65	0.96	0.01	0.00	0.33
Papaya			1215.64	205.59	0.81	0.15	52.87
Subtotal			**3518.53**		**3.31**	**19.71**	**284.79**

Source: Silverstone, S. E., and M. Nelson. "Food Production and Nutrition in Biosphere 2: Results from the First Mission September 1991 to September 1993." *Advances in Space Research*, Natural and Artificial, 18, no. 4 (January 1, 1996): 49–61. https://doi.org/10.1016/0273-1177(95)00861-8.[268]

Eating in Biosphere 2: A short history of the plant in the kitchen

Food matter is a helpful place to begin the inquiry into some of the theatrical remains of Biosphere 2 in the present day. Food and eating were central to publicity and media coverage of the 1991 experiment: a dominating question was whether the Biospherians could produce enough food to survive. Diet was also a key point of scientific research by Dr. Roy Walford, who examined the effects of an extremely low-calorie diet on humans over the two years. Upon the exit of one of the participants due to an emergency injury, the media questioned whether the experiment was compromised. Rumors followed that she brought a bag with supplemental food to eat after returning to the enclosed environment. Whether there really was food, it was really edible, and if the participants really grew it, all circulated as part of the questions of the efficacy of the science being 'done.'

Cooking and eating are central to the contemporary tourist experience of Biosphere 2. Arriving at the visitor center in Oracle, Arizona, a hill and the stretching desert sky obscured my initial view of the iconic geodesic dome I was anticipating. Early in the morning, only one or two other visitors joined me in paying the $25.00 entrance fee. The experience is a self-guided audio

[268] Silverstone and Nelson, "Food Production and Nutrition in Biosphere 2."

tour with numbered stop points throughout the grounds. I downloaded the app onto my phone and popped in my Airpods to begin. The self-guided tour was relaunched in the fall of 2020 after pandemic closures shifted the tourist experience.[269] Previously, tours took place in groups led by a staff member, who projected their histories, facts, and story of Biosphere 2 over a small portable speaker with a microphone attached.[270] I thought of those small speaker boxes collecting dust in some unseen room to the tourist, unable to decompose. Theatrical remains as waste could shape much of this analysis: trash bags and replaced placards, outdated merchandise, or any other number of material that produces a tourist space but ends up in a landfill. Nestling my plastic Airpods deeper into my ears in an empty carpeted foyer with a bit of remaining air conditioning, I press play on the first video. After the short introductions and walk-through of the exterior property, the first location upon entry to the once-sealed Biosphere is the "Human Habitat," specifically the kitchen and dining area. This space stages vitality twofold: first, and perhaps most obviously, is the liveliness that a kitchen space infers: the tourist encounters the bodies that once moved, cooked, and ate in the kitchen, the struggles to consume, and stories of the rare cup of coffee or the endless bananas of the 1990 biospherians. However, in seeking the margins of this built environment, another secondary matter has lingered on from the kitchen's original existence: a small plant in the center of the kitchen island that has adapted and remained throughout the thirty years of Biosphere 2's operations, of its own accord and by human intervention.

This small plant has had a particularly potent life throughout the many iterations of the theatrical-scientific space. Examining this plant (actually a series of plants) reveals the theatrical role of nonhuman life as both scientific and aesthetic, objectifiable and agential, remaining and

[269] Mace, "Choose Your Own Adventure at Reopened Biosphere 2."

[270] Bishop, "Biosphere 2."

changing, within spaces that rehearse science and tourism simultaneously. Understanding the microplasticity of Biosphere 2 will ultimately fail to capture every instance of microplastics. As the previous chapter articulated, total visualization of microplastics is not feasible or even useful in our approach to understanding plastics in performance. What this plant in the kitchen exemplifies is the very problem that our opening journalists (and many others) have identified: performance and science intersect as companion methods, spatial arrangements, and potential avenues for climate interventions - not as oppositional forces. To draw this short history of the plant in the kitchen, I draw from archival footage presented in the 2020 documentary *Spaceship Earth*, blog posts from tourists visiting Biosphere 2 post-2011, the currently available self-guided tour app, and my participant observation in November 2022 (each pictured below). Even these archives have their sensory limitations – the distance put between me as the observer and the small plant in the kitchen was often so great that determining if the plant was organic matter or petroleum-based was often impossible.

In the initial experiment in the 1990s, the plant in the kitchen was a small herb pot, providing flavor, depth, and an herbaceous roundness to dishes that were otherwise incredibly limited in terms of variation or flavor, as their cooking included almost no fats and limited sodium. However, since the 1991 experiment, the plant has been no longer an edible herb plant; it has been changed to a climbing vine stretching on plastic and twined up to the ceiling. In 2017, a tourist captured a photo of the plant at its largest, taking up most of the visual space, also at a time when tourists could enter the kitchen. In 2022, the plant had changed again, and the kitchen was not accessible to tourists but only viewable through an open window. The plant does not sustain itself throughout Biosphere 2; it changes not only in its visual representation in the kitchen but quite literally as a new plant, changing in function and scale. The theatrical matter

changes yet remain. On the one hand, the plant is unsustainable. Its presence relies on replacement over the years. However, its spatial role by the planter, the kitchen, and the convergence of scientific and theatrical space keep the plant 'alive': it functions as a vital scenic device to invite a sense of liveness into the space and an efficacy that the plant can *really* grow. The plant is a greater model of human-nonhuman life in theatrical and scientific spaces.

Fig 4.1 The kitchen plant in Biosphere 2 (1991-93). Still from *Spaceship Earth*. Directed by Matt Wolfe. Distributed by Neon Rated. 2020.

Fig 4.2 The kitchen plant in Biosphere 2 (2017). Photograph by Michael Bishop Blog. 2017.

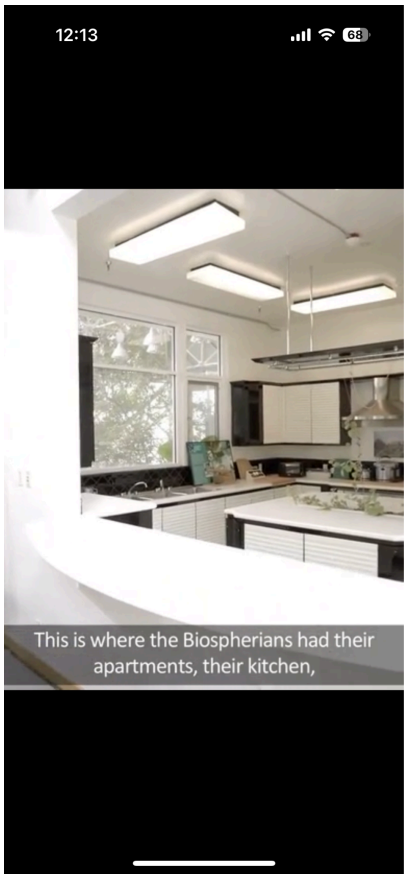

Fig 4.3 The kitchen plant in Biosphere 2. Screenshot from the Biosphere 2 Guided Tour App. 2022. Image courtesy of Biosphere 2.

Fig 4.4 The kitchen plant in Biosphere 2. Oracle, Arizona. Photo taken by the author. November 20, 2022. Image courtesy of Biosphere 2.

There is no media scandal about this botanical theatrical matter at Biosphere 2. Somewhat mundane, the plant has remained on the margins. Unlike the meals, cups of coffee, bananas, or even the air breathed by the biospherians, the plant takes a similar role to what Karmen Franinović and Roman Kirschner identified as the Microbiospherians in their *Performance Research* article, where unsuspecting, often invisible, actants in ecological assemblages can reveal partnerships and collaborations between humans and nonhumans.[271] Extending beyond the matter, what an examination of the plant in the kitchen asks: How can we see theatricality and ecological inquiry as intertwined rather than opposing modes of relating to the world (one being in falseness and another in grounded truth?) By considering the theatrical remains of scientific experiments, the overreliance on efficacy of science can ease, and the value of theatricality can expand.

[271] Franinović and Kirschner, "Microbiospherians."

Lack of oxygen, and not food, was the ultimate failure of the Biosphere. Yet, what the failure, yet simultaneously vital, role of food in Biosphere 2 reveals is that these goals of efficacy and entertainment worked together simultaneously throughout the 90s, which remains into the present. One particularly temporally and ecologically disjointed moment occurs as the audio guide leads the tourist out of "The Human Habitat." Leaving the library, dorm-style rooms on display, and the kitchen, the spectator winds down large metal stairs. Not only does the ceiling stretch higher with glimpses of the long ramp of soil testing space, but the smell of dirt and dampness transforms the experience into something not quite so domestic. The audio guide describes how fruits and vegetables were grown to sustain the biospherians. While the guide explains the efforts of cultivating squash, lettuces, fruit trees, coffee beans, and more, the spatial world the spectator has walked into contrasts this utopian past. The fruit trees enclosed in the greenhouse are stretching tall, with no sign of anything edible. Searching amongst the banana leaves, the cherry tree, and other unnamed plants in "The Orchard," I found myself mirroring the goals of the journalists: searching for proof that Biosphere 2 was habitable for humans through food. If that proof were located, the reason for this space would be realized: its performance, its space efficacious, and Biosphere 2 could be something more than a mere simulation of an already destroyed Biosphere 1 (Earth). But perhaps, were I to allow the margins of the tourist space, the gaps in The Orchard, to exist without a desired goal of production, the analysis doesn't so hurriedly dismiss the contemporary ecology of Biosphere 2. Rather, the barren fruit trees that do not *produce* anything for humans indicate valid elisions that the practice of Western scientific research makes regarding theatrical and animated pasts. What, if anything, is the point and efficacy of the science initially 'done' by the first Biospherians? How have the site's remains adapted and survived through theatricality rather than despite it? The lively past of the kitchen,

domestic human life, and particularly agricultural and food production (and the assumption of consumption) shape scientific production in the present.

As the introduction suggested, Biosphere 2 is no stranger to academic critique, even outside the sciences, as a space empty of meaning or even matter. Jean Baudrillard's attempt to guide us conceptually on what to do with ecological catastrophes lacks a clear proposal of *what* to do within life in the simulacra. However, we can turn to his concept of the Maleficent Ecology in his 1994 work, *The Illusion of the End,* to examine one of his proposals that offers something other than the perpetuated fixation on our loss of the real. Baudrillard's maleficent ecology is crafted through his analysis of Biosphere 2. Baudrillard argues that by attempting to simulate a way out of our current ecological crisis, we only produce more waste, turning nature itself into residue, or a waste product.

In the case of Biosphere 2, a built agricultural and ecological model with a sense of utopianism and theatricality, Baudrillard considers it too seriously, a scholarly scalar mismatch, similar to his mismatch with Disneyland parking lots and concentration camps. The evil, strange, and unpleasant ecology Baudrillard imagines (the one he claims that Biosphere 2 does not produce) was a guess at the future that may not have come true. As Baudrillard lamented in 1994, "Now, nature is also germs, viruses, chaos, bacteria and scorpions, significantly eliminated… as though they were not meant to exist."[272] He supposed an absence of microbial life. However, since he reflected on the simulated space of Biosphere 2, much has disproved this claim on eliminating nonhuman participants, including the aforementioned Performance Research article that identified how the vitality of unruly microbes was a key oversight in the Biospherians experiment. Microbes were undoubtedly present, alongside reports of cockroaches

[272] Baudrillard, *The Illusion of the End*, 81.

entering the enclosed environment, and ultimately, the mess of human error, a penchant for theatricality, and even a taste for herbal flavors in a dish can all slip into our simulations.

In the last thirty years, the public scientific community has changed conceptions of environmental urgencies. Biosphere 2 is difficult to narrate in terms of its ecological effects. Firstly, its "scientific" impact has changed dramatically over the last thirty years: initially, a conceptual experiment that was highly criticized by the intellectual public, somewhat embraced by scientists, and publicized by the media, transformed through management changes. Secondly, its "environmental" goals have changed: what began as a broad question about living in a non-Earth environment has now become a winding avenue for research in both Earth systems, such as coral reef rehabilitation in their mimetic ocean, or non-Earth life, such as agricultural possibilities in simulated Moon environments. What was once critiqued for an expensive and methodologically unsound experiment has adapted into a remaining space and site for research. However, none of the research is directly theater-based.

There are stark differences between the marketing of Biosphere 2 of the 90s and Biosphere 2 at the time of this paper. Biosphere 2 of the 90s was primarily presented as a social experiment, asking how a group of individuals could survive in a location that resembles terraforming, a process of adapting non-Earth environments through ecological interventions to resemble Earth. Questions of life on the Moon or Mars dominated the scientific and social experiments: could the plants produce enough oxygen for human life? Could humans grow enough food to sustain themselves? Would the social extreme of eight people living together, isolated for two years, cause psychological turmoil? These questions were not necessarily the key questions the 'biospherians' asked in their practice but rather what emerged from the scale of media coverage.

Compare this to the Biosphere 2 of our current age. After a tumultuous four years of operations, business turnover, including a period of operations led by now far-right media executive and former White House Chief Strategist Steve Bannon, and ensuing lawsuits, Columbia University assumed operations of the space in 2004.[273] By 2011, the University of Arizona assumed full ownership. Now, Biosphere 2 exists in a few ways, simultaneously: as a research space for ecological, climate, and space experiments, a walking tourist experience, and as a conference and event space with hotel and meeting rooms for rent. The tour concludes by exiting the enclosed spaces and passes through the conference center and hotel, with a convenient audio advertisement of the rentable space. This placed advertisement as part of the tourist-meets-research experience also reveals another economic strategy for survival not unique to Biosphere 2 but is perhaps indicative of the realities of ecotourism and research centers at large: corporate and social event rentals financially fuel the operations of many U.S. research, arts, and cultural organizations.

Corporate and private rentals are not the only economic source for producing these convergent nonprofit art-science spaces. Texas oil billionaire Ed Bass has continually funded Biosphere 2. His financing supported the initial build, and Biosphere 2's reopening in 2007 occurred mainly due to numerous financial and property donations from Bass. 2017 saw a 30 million dollar donation from Bass.[274] Bass's nearly endless financial backing also points to a critical avenue through which Biosphere 2 remained. We might also incorporate the capital accrual from petroleum (oil) sales as material links that microplastics can conceptually, if not materially, draw in built environments.

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[273] This alarming character appearance by a far-right politician and media force also marks a unique juncture in U.S. environmental political discourse, theorized by Bruno Latour in *Politics of Nature*, which points to a divergence when environmental issues became a partisan issue, which historically has not been as explicit as the 2010s and especially Trump-era politics assume. Latour, *Down to Earth: Politics in the New Climatic Regime*.

[274] Stokstad, "Biosphere 2 Gets New Owner, Funding."

Biosphere 2 as an interdisciplinary space reveals the critical importance of considering the adaptation of spaces as a means of economic *and* ecological survival simultaneously–often contradictorily. Sites such as the Stone Barns Center for Food & Agriculture or the recently opened El Bulli 1846, claim interdisciplinary research at the nexus of food, culture, and ecology similar to EPCOT and Biosphere 2.[275] As these places exercise research for human and planetary survival through alimentary and agricultural interventions, they also rely on economic models that oppose these goals: Stone Barns makes little money from its highly publicized restaurant, less from its public tours, and most operating costs come from corporate retreats and weddings, all of it conditional on donated land from David Rockefeller, grandson of Standard Oil Co-Founder John Davidson Rockefeller Sr. These theatrical-scientific spaces make ecological interventions into space, introducing new regenerative agricultural models, rehearse multispecies relationships, all localized material shifts. The microplasticity of these spaces reveals the far-reaching economic ground on which the space can exist: corporate sponsorship, investment from philanthropic billionaires with surplus wealth from raw material extraction, or commercial rentals. The theatrical remains of Biosphere 2 are riddled with ecological and economic disaster, yet perhaps, should we look to the margins, we can sense unexpected allegiances between arts and scientific methodologies.

Interdisciplinary allegiances between performance and science do not assume ethically good relations. However, even if sponsored by such global and corporate alliances as Disney Entertainment or generational oil wealth, interdisciplinary partnerships are riddled with material and ecological effects, not only an aesthetic that produces an empty, unreal space. These microplastic spaces should not be disposed of (in terms of scholarly and aesthetic consideration), but rather fluidly interpreted, criticized, and examined as a theatrical space with myriad theatrical

[275] Keskin, "Spain's Best Restaurant Transforms into Innovative Culinary Museum."

remains. Intimacy with theatrical matter in spaces driven predominantly by entertainment (Disneyworld) or predominantly by scientific research (Biosphere 2) suggests that theatricality is not conditional on large-scale aesthetics, nor in a particular discipline, for it can be found in the margins, and intimacy does not assume ethically good relations. Perhaps sustainability, or the ability to maintain a system, in these particular sites is best categorized by proximity to capital accrual derived from the fossil fuel industry to present a visually and sensorily satisfying immersive ecology. These agricultural and alimentary utopian environments are conditional on the scenic interventions made possible through theatrical land use acquired through philanthropic oil tycoons or their descendants.

Sustainable Food Systems: The Fantasy of Real Food and Its Theatrical Issues

Unlike the mysteriously vibrant small plant in the kitchen in Biosphere 2, Living with the Land continually claims materially real food is being produced by their greenhouse. While eating is not visually central to the ride (you do not actually have to eat to participate), the efficacy claimed by the greenhouse is contingent on edible food. Additionally, eating has become a central component of the theme park experience.[276] These two elements converge in a line from the voiceover accompanying the boat ride through the greenhouse:

> "These crops taste as good as they look. In fact, we serve more than fifteen tons of produce from our greenhouses in restaurants here at The Land every year. "[277]

Exemplifying a kind of scientific and nutritional efficacy reliant on scale, the theme park claims its ability to produce a portion of its food through a particular volume to verify the functioning of the greenhouse. Living with the Land theatrically produces agricultural authenticity. However,

[276] Kokai, "From Mickey Waffles to Vegan Samosas: Evolving Disney Food Fandoms."

[277] *EPCOT Living with the Land Ride POV at Night in 4K | Walt Disney World Orlando Florida May 2022*. [11:48]

producing food in an immersive space also produces economic viability. Creating a food item that can be sold on top of a theme park ticket increases sales. Converging the production of the food item into the theatrical experience creates a doubling effect of ecological and economic product: while the localized production of a head of lettuce does diminish the total greenhouse gas emissions, over relies on nitrous oxide, and even perhaps plastic waste (due to decreased transport time), the inclusion of food also incorporates another opportunity for commodification.[278] This head of lettuce also does not account for the incomprehensible quantity of food waste produced by the theme park, nor the plastic pollution created by all soft beverages and water options available for purchase which are only sold in plastic bottles.

The theatrical issues of food are not unique to the theme park space. Disney is not the only immersive experience that narrates, performs, and spatially asserts a future of food, concealing both plastic and its metaphoric companion of "fake." Biosphere 2 as an interdisciplinary space reveals the critical importance of considering the adaptation of spaces as a means of economic *and* ecological survival simultaneously–often contradictorily. Sites such as the Stone Barns Center for Food & Agriculture or the recently opened El Bulli 1846 claim interdisciplinary research at the nexus of food, culture, and ecology similar to Biosphere 2. As these places exercise research for human and planetary survival through alimentary and agricultural interventions, they also rely on economic models that oppose these goals: Stone Barns makes little money from its highly publicized restaurant, less from its public tours, and most operating costs come from corporate retreats and weddings, all of it conditional on donated land from David Rockefeller, grandson of Standard Oil Co-Founder John Davidson Rockefeller

[278] Food items as a means to increase profits are not unique to ecological space. Many theatrical venues will offer signature drinks based on songs or characters, or movie theaters will provide concessions connected to particular films. These marketing strategies have material effects, as the food item must be manipulated into some reflection of the narrative elements it performs.

Sr. These theatrical-scientific spaces make ecological interventions into space, exercise regenerative agricultural models, and rehearse multispecies relationships. Yet the remains of these spaces reveal the far-reaching economic ground on which the space can exist: corporate sponsorship, investment from philanthropic billionaires with surplus wealth from raw material extraction, or commercial rentals. The theatrical remains of Biosphere 2 are riddled with ecological and economic disaster, yet perhaps, should we look to the margins, we can sense unexpected allegiances between arts and scientific methodologies.

Farm, restaurant, and nonprofit education center convergence Blue Hill (the restaurant) at Stone Barns Center for Food and Agriculture (the nonprofit) was recently exposed for often misrepresented menu items, like a well-known "single-udder butter." What was initially posed as a dish from a single udder (one cow) on their farm was exposed through employee interviews to occasionally include milk sourced from outside the farm. Additionally, a "compost oven" that was regularly used on the pre-dinner tour to serve an egg cooked by the oven was revealed to have compromised reliability and at times, "the compost oven would get the eggs 80 percent cooked, at which point the eggs would be finished in the kitchen."[279] What is perhaps more telling than concerns that Stone Barns is failing at being "real" or "efficacious" is to consider the public's attention to material authenticity at small scales. An urgent microscopic verification is narrated: was the egg actually cooked in the oven? Was the 20% cooked in the oven proof that this place is not real? These anxieties echo the fantasies of identification Americans have long held about subject positions and are perhaps reflected in the vibrant matter and authenticity of theatricality.[280] Admittedly, the fractional attention to matter in public perception is reflected in this article's methodology, but rather than uphold material essentialism, I aim to extend Mel

[279] McCarron, "Blue Hill at Stone Barns Told a Story Too Good to Be True, Former Employees Say."

[280] Samuels, *Fantasies of Identification*.

Chen's spectral approach to vitality in new materialist projects, which complicates assuming all matter is granted agency equally.[281] Are large-scale venues, universities, or commercially controlled spaces so culturally fraught, so plastic, that we have an easier time swallowing a hot dog produced by their central commissaries than a compost-poached egg produced mostly by a converged nonprofit farm and for-profit restaurant?

Similarly, Apricot Lane Farms, the subject of a popular documentary and now mini-series, now hosts expensive tours of its agroecological farming. However, scanning through employee feedback on sites like *Indeed* or *Glassdoor* reveal a poor working environment and a concern that "this place is like Disneyland."[282] These connections pose that rather than a unilateral application of "Disneyfication" to alternative agricultural spaces (which remain applicable), microplasticity can muddle a universal application of Disneyfied aesthetics as purely fake. Instead, the particulars of the theatrical remains demand microscopic analysis.

On one of my visits to Stone Barns, I had the opportunity to walk with a kitchen team member, eat lunch, and discuss their role in the restaurant. We wandered through idyllic farmland and a stone dairy with modern modifications to expand the bakery, a large reception area, and an arts and ecology room. Passing through the neatly ordered herb garden nestled into a stone alcove, we paused at an annexed building. What was initially a washroom, or maybe a pen for sheep, now hosted a ten-foot table surrounded by props of a washroom past. Hardly any plastic was in sight. Overlooking a crop field, my tour guide mentioned how this was a table for select guests, large groups would take a short respite for a course during the multi-course meal at Blue Hill, the high-end restaurant that brought Stone Barns its cultural significance. We sighed at

[281] Chen, *Animacies*.

[282] "Working at Apricot Lane Farms in Moorpark, CA: Employee Reviews."

the quiet beauty. My guide remarked, "you know this all works because of corporate buyouts and weddings, right?"

Interdisciplinary allegiances between performance and science do not assume promising and ethically good outcomes for people or the planet. Drawing from Max Liboiron's methodological inquiries into scientific practice in *Pollution is Colonialism* (2021), they assert that "assumed access to land is foundational to so many settler relations" and usefully provide an avenue for which to decouple any assumption that interdisciplinarity or even intimacy between fields assumes environmental ethics.[283] Even if sponsored by such global and corporate alliances as Disney Entertainment or generational oil wealth, interdisciplinary partnerships are riddled with material and ecological effects, not only an aesthetic that produces an empty, unreal space. These spaces should not be disposed of (in terms of scholarly and aesthetic consideration) but rather fluidly interpreted, criticized, and examined as a theatrical space with myriad theatrical remains. These agricultural and alimentary utopian environments are conditional on the scenic interventions made possible through theatrical land use acquired by philanthropic oil tycoons or their descendants.

I have suggested that many theatrical remains in the surveyed spaces are derived from plastics and petroleum. While this proposal could include the myriad uses of plastic in theatrical and scientific practice, I conclude my spatial analysis with perhaps one of the most aesthetically obvious examples to illustrate that unexpected remains can be found in the most overt theatrical environments: Disneyland and Monsanto's House of the Future. The exhibition home was created to model a prefabricated post-war house, described in a pamphlet from the chemical company's Plastics Division as a place "built to demonstrate in a practical way the new structures and furnishings possible by taking advantage of these and other inherent properties of

[283] Liboiron, *Pollution Is Colonialism*, 68.

plastics." The fractional remains of the House of the Future provide a material in which to immerse into immersive built environments.

Disciplinary Containers

In the many crises we face, the defunding of arts and humanities in academia, major arts and culture grant sources, and elsewhere have drawn cause for concern.[284] One of my aims in this disciplinary analysis of theater and science is to consider how scientific space and theatrical space already function together and what this might mean for new disciplinary life, perhaps an addition to Rosi Braidotti's call for a *posthumanities*, which broadens humanistic inquiry to include nonhuman cultural and historical production.[285] Similarly, Haraway's call for a *humus*ities, framing compost and soil as central to our interconnected inquiries into life seeks to rethink anthropocentrism at the academic level.[286] With increased funding for sustainability initiatives and broadly environmentally engaged work (funding of which I have benefitted), I urge humanities and arts scholars to consider the material crossings, where theater and science materially, theoretically, and conceptually converge *and* where they differ.

The differences, many of which are in funding, place humanities-based scholars in a precarious position, one we have begun to visit in Chapter 3 on microbes on the role of celebrity scholars. As the urgency for survival dominates research-inquiries, scholars in academia are urged to interdisciplinarity for capital's sake as well, not only for urgent solutions to contemporary crises. Reimagining disciplinary containers creates more opportunities for new shiny scholastic commodities– as Anna Tsing aptly notes:

[284] Hartocollis, "Can Humanities Survive the Budget Cuts?"; Siddique, "Does Humanities Research Still Matter?"; "Why Did the Ford Foundation Kill Off Its Highly Successful Diversity Program?"

[285] Braidotti, *The Posthuman*, 143.

[286] Haraway, *Staying with the Trouble: Making Kin in the Chthulucene*.

> "One of the strangest projects of privatization and commodification of the early twentieth-first century has been the movement to commoditize scholarship. Two versions have been surprisingly powerful. In Europe, administrators demand assessment exercises that reduce the work of scholars to a number, a sum total for a life of intellectual exchange. In the United States, scholars are asked to become entrepreneurs, producing ourselves as brands and seeking stardom from the very first days of our studies, when we know nothing. Both projects seem to me bizarre–and suffocating. By privatizing what is necessarily collaborative work, these projects aim to strangle the life out of scholarship."[287]

Performance is a process of collaboration, and it is time our scholarship reflects that dependency. So perhaps, instead of going big, imagining a new academic model, I'll go smaller, a marginal reflection on the small remains of theatricality. What affordances might a study of theatrical matter that sets us alongside scientific inquiry provide? A microscopic attention to theatrical remains can provide new marginal connections in theatrical and scientific analyses of rehearsed, simulated, and immersive ecologies.

Material Containers

This article is made from containers, from the geodesic forms of Biosphere 2 to the rock-walled dairy of Stone Barns. These spaces have housed, shaped, and oriented a theatrical immersion into science, drawing this article to the marginal materials and invisible containers shaping theater-science convergence zones. As we wander ever further to the edges of performance, I

[287] Tsing, *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins*, 285.

conclude with petroleum-based paint that renders containers invisible. Might these remaining material containers invite us to reconsider the disciplinary containers that produce such analysis?

The Monsanto House of the Future is not Disney's only future-looking space. Disneyland opened in 1955 to mixed reviews, wet cement, and an unclear future. Many of Disneyland's rides and spaces were built through corporate sponsorship–technology and scientific research materialized in entertainment spaces, relying on an economic model from the World's Fairs.[288] Two years after opening, Disneyland partnered with Monsanto's plastics division along with MIT and a "plastics in housing research and development program" to develop a model home that would use plastic material at every level of design and function.[289] The ride only lasted ten years as an attraction to guests. Yet, this strange house reveals that plastic, over time, acts less disposable than we thought, metaphorically, aesthetically, culturally, and materially. The House of the Future and its remaining concrete base coated in "Go Away Green" reveal another type of petroleum-based liquid substance–paint–that inserts plastic into theatricalized domestic space.

In response to the rise of the use of plastics and corporations' concern for a domestic plastic market post World War II, Monsanto aimed to bring mass-produced building materials from plastic to the American market. One avenue for this gap was the creation of the spectacle of the House of Tomorrow. 21st-century houses do not fully reflect the white plastic curved shapes that Monsanto and Disney produced. Rather, instead, I turn to some of the material theatrical remains of the ride. A 2016 article in *Mechanical Engineering* highlights the methodological distinctions between visual representation and alternative sensory modes, where the visual "idea of the house as a prototype was eventually abandoned… the house functioned strictly as a

[288] Rabinovitz, *Electric Dreamland*, 107.

[289] *The Monsanto House of the Future*.

Disney exhibition home."[290] While a prototype for the shape of a home has not materialized in mass-produced single-family homes, the expansion of plastics in domestic life exemplifies the use of plastic in nearly every imaginable place in contemporary domestic space due to plastic's resistance to disposability.

The most explicit example of the enduring qualities of the Monsanto House of the Future is in the attraction's short-lived tenure as a ride. When the plastic house was removed from the park ten years after its opening, it proved more stubborn than quickly disposable. Theme park lore circulates in fan-created websites and tour guides that tell the story of the 1967 demolition of the House of the Future: a wrecking ball bounced directly off of the plastic siding of the house.[291] A vibrant tale, plastic permanence is reiterated through fandom, asserting the material force of the theme parks rather than an entirely simulated space.

While fandoms can certainly maintain a kind of spatial presence through their self-created histories, working with theatrical remains as a methodology requires a close, microscopic material analysis of the House of the Future. While the entire ride resisted demolition, the cement foundation that the house was built on top of was less easy to remove. In fact, through at least 2015, the cement base stayed in the park. Masked with a proprietary paint color called "Go Away Green" and dressed as a planter behind oversized flowers, the remains of the House of the Future kept performing for at least another thirty years after the ride closed.

The case of Disney's proprietary paint color, "Go Away Green," complicates the aesthetic performance of paint and the remaining materials of performance.[292] The paint was developed to render walls, fences, speakers, doors, and other structures that do not fit in with the specific

[290] Thimany, "What the House of Tomorrow Can Teach Us Today."

[291] Thimany.

[292] Proprietary colors are not unique to the Disney company's theme park division, as the development of inks and paints for the animation studio was also critical in the film studio's rise to commercial success.

design of a particular area in the park "invisible," a few different shades of sage green that human eyes do not fully register, especially compared to the detailed and vibrant structures that make up so much of the theme parks. Visually, the paint contains space and removes structural elements that do not fit the total visual design. For example, would a twenty-foot speaker make aesthetic sense in Fantasyland, where every other structural element gives the illusion of being constructed from an imagined and alarmingly clean medieval stone? Instead, painting it a color that lets the eye skim over the environmentally anachronistic structure suits the designers while maintaining the need to project audio tracks throughout the park. But materially, "Go Away Green" is a misnomer, for the paint color has limited capacity in what it can make "go away." While it may render certain objects less visible, paint has an intense staying power and is one of the most significant microplastic pollutants in the ocean.[293]

Paint can move around and cover most surfaces it comes into contact with, rehearsing a liquid quality but remaining power due to the continual shredding and movement of dried and liquid paint. Paint's liquid attributes are reflected in a Bloomberg article, stating, "paint gets into the environment in as many ways as it's used, meaning it's practically everywhere."[294] Paint is also a key material in scenic design, transforming lumber or other objects into representations of walls, shapes, and other imagined spaces. In recent years, many popular media and blog articles have begun to address "Go Away Green's" visual possibilities: home design, Disney fans, and news sources have brought this paint into popular *view*.[295] But more than a visual distraction, we might consider "Go Away Green" as indicative of the vast and spatially expansive impact theatricality has on environmental health.

[293] "The release of plastic paints in the environment"; Gaylarde, Neto, and da Fonseca, "Paint Fragments as Polluting Microplastics."

[294] "House Paint Has a Microplastic Problem - Bloomberg."

[295] "Paint Tricks"; "Discover Disney's Color Magic With Go Away Green and Blending Blue! - Inside the Magic."

To recount the history of the House of the Future, one could glorify how Disney "reused" existing building material for new immersive experiences in the park, suggesting some type of fantasy sustainable future for theme parks. In reality, that adaptation was necessary for the struggling theme park and serves as a reminder that while Disney's theme parks can be perceived as monolithic and capitalist entertainment venues, they often fail at survival and need outside means to survive financially and material to survive aesthetically. While Disney has become synonymous with a highly profitable monolith of a global corporation, business journalists and theme park scholars have long pointed out that the theme park was always a precarious project that relied on many corporate collaborations to ensure survival.[296] These collaborative survival strategies are, again, perhaps an opportunity to consider *where* collaboration occurs and at what scale. On a recent visit to the theme park, where I poked around an oversized constructed garden patch, I asked an employee if the cement base was available to look at–even if it was nearly obscured. They sighed and said that it had been removed some time ago. The space has now become a testing ground for a new AI immersive experience within the parks, a necessary development for a rapidly expanding guest count with a much slower spatial expansion.[297] Seeking theatrical remains will inevitably face archival gaps, perhaps opening a need for plastic historiographies, as the material remains will stretch, scale, and linger on in and out of the archive.

The Monsanto House of the Future may not serve as a visual premonition to architectural structures, but there is a larger, global wash that the 1957 house predicts: the rise of Monsanto and Disney as two dominant forces, one shaping the chemicals industry, genetic modification

[296] Snow, *Disney's Land*, 167; Rabinovitz, *Electric Dreamland*, 165.

[297] The slow spatial growth of Disneyland will change in the coming years, as Spring 2024 saw a $1.9 billion expansion project. "Anaheim Sees Final Approval of DisneylandForward."

and patenting of seeds, forever shifting soil health and food production globally, and the other dominating global theme park entertainment and much of animation and film landscape. Considering the material and metaphoric crossings of science and theater requires a renegotiation of understanding pleasure, entertainment, terror, and plastic. The potential theater and performance studies can offer environmental humanities is to reassert a tenderness, attention, and reliance on plastic in performance.

By sensing the margins of the immersive theatrical space, ecological theater methodologically engulfs, swallows, or washes over a wide range of theater and performance approaches worthy of ecological inquiry. I may have failed at inserting a tenderness for plastic thus far, but let me try again. The following section will further explore how liquid food, as a theatrical matter, is a particularly vibrant one. Now, a smaller microplastic container, and consider condiments: additions, the extra-ness of flavor, and a marginal space and liquid site of microplastic performance.

On Condiments

Let us wander even further to the marginal edges of these entertaining research sites. As microplasticity would have it, a microscopic scale of focus can lead to large-scale impacts. For example, moving outside of a single theme park ride and considering the food system that Disney parks operate as a whole presents the scalar tensions of analysis in eco-performance. At one scale, sustainability is performed by waterways via hydroponic farming in a narrative-driven experience. On the other, the Florida parks grapple with serving between 20 and 50,000 people daily and the tons of ensuing food waste and plastic production.[298] While the parks as a whole

[298]This scale is similar to what large universities, such as UCLA, feed daily. Charles Wilcots, the Associate Director of Housing-Dining at UCLA worked for Disney Theme Parks prior to his work at UCLA. Jones, Interview with Chef Gary Jones, Environmental Integration Culinary Specialist for Disney Parks.

have been argued by performance scholars as immersive experiences where spectators can exert agency through participation, with food and immersive experiences, I question if agency over microplastic ingestion is possible.

In an interview with Chef Gary Jones, Environmental Integration Culinary Specialist for Disney Parks, the practical issues of food interventions at the scale of a theme park materialized. Including my own experience as a spectator on a one-day trip to Disneyland, I wandered through wondering what was to be done with food, changing sourcing or production or waste practices, in such a large space, with so many consumers.[299] First, in the interview with Jones, he identified food waste as a primary issue regarding carbon emissions for the parks. The disposal of uneaten food mostly occurred in seated dining areas where portion sizes are larger than most guests, especially on hot days, could consume, landing much of the food in the trash.[300] Reflecting on the potential of smaller portions and less utensil and packaging use, the role of the snack cart emerged as a possible area of rethinking food in the parks. I took this with me as I walked through the Anaheim park on September 17th, 2022. Imagining Baudrillard gazing, horrified, down Main Street, U.S.A., I also witnessed the circulation of food surrounding the snack carts hosting pretzels, churros, turkey legs, and popcorn.[301] I landed at the corn dog station where the wooden stick and a small paper wrapper were all that was placed in a participant's hand as non-edible matter. Was handheld food an answer to these corporate spaces that have produced such a wasteful environment of consumption? Was this small interaction where I paid something like thirteen dollars for a corndog my plastic-free encounter in the parks? With the warm breaded

[299] While the parks are different, especially in scale, geography, and tourist demographic, I have an old friend and Disney employee who can swipe me into Disneyland for free and it's a 30 minute drive rather than a five hour flight.

[300] The problem of food waste is a scalable one, as it is also a major contributor to greenhouse gas emissions.

[301] These readily available handheld food items reminded me of the oysters chapter three opened with, a favored snack for Early Modern audience members in England.

meat stick in my hand, I sensed something was missing. I wandered behind the cart to a strange new sea of liquid and plastic: condiments. While this seemingly banal, yet for some essential, component to the corn dog may seem like tangential matter, the plastic container for small packets of liquid seemed another strange performance of plastic's intimate proximity to food and performance.

Fig 4.5. Condiment packets behind a corn dog cart in Disneyland. Anaheim, California. Photo taken by the author. September 17, 2022.

The 2-inch condiment packet is helpful in sensing the *merroir* of theme parks and perhaps all large-scale entertainment venues, stadiums, and even other spaces for high volume consumption (universities, hospitals) where there is general attention to food tasting good.[302] While the Living with the Land ride in Chapter 3 may rehearse "real" potentials for alternative agricultural models, within DisneyWorld, stretching our purview to the whole theme park's food web and simultaneously fracturing it into a small pile of ketchup packets, employs the same tension that microplastics enact: ubiquitous yet microscopic. This is perhaps an avenue to begin to seek out the "beauty and terror" Pandian calls for in "Plastic." In the above image, a pedestal holds "sealed-foil little lumps that contain a squirt or two of vinegary, sugary tomato sauce," described

[302] This excludes prisons.

by journalist Megan Garber in her critique of the American condiment packet. Notably, Garber addresses how the design of the packets is considered "weak, unskilled, and wholly unsuited to the game at hand," where the location to tear and ability to get enough ketchup onto your plate or food item is constricted.[303] This failure of design reflects that of the plastic siding and cement base of Monsanto's House of the Future. Disposable and yet permanent.

Tearing into a Heinz ketchup packet is an intimate encounter with microplastics.[304] As the plastic seal cracks and stretches and shreds open to reveal the ketchup inside, the plastic-based seal breaks down, possibly with a trace amount of polymer shreds mingling with the condiment. I don't mean to suggest that these ketchup packets are a *primary* source of microplastic consumption or that they should be removed or banned from the parks, but they are *part* of our food and present in tasting experiences.[305] Following the calls for care and beauty, consider the role that condiments, sauces, and additions to food to make them taste "better," in the case of ketchup adding an acid and a sweetness to a savory and salty corn dog. Ketchup condiment packets make possible microplastic consumption and simultaneously an aesthetically balanced bite. Perhaps these condiment packets exemplify the drive behind merroir: a desire for a balanced flavor profile, having taste about one's taste, will necessarily invite a microplastic encounter. A balanced approach to taste is not free of plastic relations but rather savors them. While this may seem like a lot of attention given to a seemingly banal component of a snack,

[303] Garber, "America's Shame."

[304] Disney and Heinz have long been corporate partners. During the rapid shift to even more single-use food items in the 2020 Covid Pandemic, Heinz was unable to produce enough ketchup condiment packets needed globally. At one point, Disney replaced Heinz packets with another brand, causing a small uproar on blogs and YouTube channels of regular fans.

[305] This is concrete attempt at a methodological distinction between scientists (testing ketchup packets for microplastics) or policymakers (banning entertainment venues use of single use disposable condiment packets), and my role as a critical performance theorist curating an assortment of case studies attempting to understand microplastics in performance.

what performance studies can offer to food studies is a consideration of extra-ness, the theatricality of food, as worthy of consideration when imagining food futures.

Baran: Plastic as "Eating in the Raw"

Condiment packets are not exclusive to theme parks but show up in many food environments, from fast food restaurants, takeout or food delivery, or that drawer in your kitchen where you're sure you will eventually use that packet of sambal. I speculate that similarly to studies on plastic takeout containers and water bottles as key sites for human consumption of microplastics, ripping open the plastic and foil container might unleash a few microscopic particles of plastic into our food, mouth, and guts along with the fermented, salty, tangy, acid-driven flavors that many condiments impart on a dish. While this observation might provoke food or packaging designers to imagine a new relationship with condiments (by all means), this final section considers ontologically how theatricality, globalization, plastics, and multispecies assemblages are all linked through edible liquidity seeking a gustatory *balance* - a balance that animates matter on spectrums, does not privilege an ethical superiority to particular foodstuffs, and puts the body in relation to an ocean of matter.

The assemblage that has materialized between humans, food, and microplastics is tenuous: metaphoric and material, particular and ubiquitous, something we can't quite taste yet shapes much of our consumption. Could, perhaps, the use of ketchup packets be an opportunity for a multispecies inquiry? While plastic is not a species, perhaps the agential connections assumed by this field of inquiry might be useful in conceptualizing how humans and plastic are in continual relations. Multispecies studies, especially in the feminist science and technology studies genealogy, often emerging from Donna Haraway's *When Species Meet,* is a fruitful place to consider a decentering of the human as a subject and inviting agencies and nonhuman

ontologies, opening potentials for a *queer plasticization* in Schaag and Davis' terms. As this chapter posits, food is a critical place for understanding our intimate and global relationship with plastics. The act of eating is found in the margins and footnotes of multispecies studies, where human and nonhuman relationships intermingle at a gustatory level.[306]

Picking up where multispecies studies left off (with eating in the footnotes), Anne Anlin Cheng brings bell hooks' and Kyla Wazana Tompkins' *critical eating studies* into assemblage- and multispecies theories. I return to *critical eating studies* as introduced in the first chapter of this dissertation, to further consider Cheng's "Sushi, Otters, Mermaids: Race at the Intersection of Food and Animal; or, David Wong Louie's Sushi Principle." (2015) Cheng's methods lay out a slippery oscillation between literary depictions of eating and food and an embodied engagement with eating sushi. Cheng presents 'the sushi principle,' which destabilizes the body in relation to the consumption of raw fish, ontologically complicating the human while also establishing new ethical relationships in multispecies assemblages where eating is involved. Ultimately the sushi principle becomes an ontological question, as Cheng notes, to eat sushi "is to open myself up to the vulnerability of my own flesh."[307] The sushi principle considers the embodied transformations that occur at sites of consumption. Critical eating studies renegotiate "consumption" as a smooth action, or solely representational, inviting the "alimentary canal," indigestion, and rawness, to the fold of the body. But as merroir is want to do, what might the edges of the taste of sushi reveal? What theatrical remains surround sushi consumption, and what might that reveal about human consumption of plastics?

[306] Haraway, *When Species Meet*, 17. Haraway's final chapter on industrial chicken production lays out the non-utopian nature of multispecies relations, where food often determines these uneven relationships.

[307] Anlin Cheng, "Sushi, Otters, Mermaids," 11.

The *merroir* of sushi, sensing microplastics in food, illuminates a companion to the contemporary global production of sushi: plastic grass (or mimetic baran, historically haran).[308] While marginal matter to the fleshy, raw, tender act of chewing that Cheng describes, baran provides an important function to "eating in the raw." Plastic grass or baran is used to separate fish from rice or from different fish from touching each other in order to keep the flavors distinct. Primarily in U.S. supermarkets or takeaway containers, it is now used to separate the pickled ginger and mustard-horseradish blend (that goes by wasabi). Baran's complicated necessity as both a flavor enhancement and indicative of plastic's invisibly invariable presence in food is strangely captured in a satirical skit from IFC's *Portlandia.*

As this dissertation nears its end, I return to the comedic show's apt reflections on 21st-century American diet anxieties, which began in Chapter 1 with the unease of terroir, to now reflect on the essential role of plastics in food. Six years after "Farm," the pilot episode, 2017 brought the final season of the show. In season 7, episode 7, the show presents a one-and-a-half-minute spoof on the show *Chef's Table*, which has shaped much of the visual representation of food.[309] The show presents a chef (Fred Armisen) opening a new restaurant where the theme is "bad airport sushi," mirroring the editing and cinematography of *Chef's Table*. The absurdity of a low-quality mass-produced food item is highlighted by imagining the intentions and craft behind the dish is that of haute-cuisine restaurants covered in the highly popular Netflix streaming show. But more than the visual humor employed, taste becomes central to illuminating anxieties about the seeming meaninglessness of plastic in food. First, the joke is that the quick service pre-made sushi has a flat, "fishy" taste, with Armisen pontificating,

[308] MacNaughton, "The $0.006 Object in Your Sushi Container Is Doing an Important Job."

[309] Binns, "The Netflix Documentary House Style."

"that flavor of rice you don't get anywhere else. Where it's so hard you actually feel like, *"am I eating bits of plastic?"*[310]

The skit concludes with an alimentary punch-line: a guest sends a plate of sushi back to the kitchen, to which the Armisen responds, "Let's add a little something to it. There we go. Meaningless Paper,"[311] nestling a single piece of *plastic* grass on the plate to complete the dish. The comedic statement most obviously reveals an understanding of plastic as tertiary and disposable: it is not real food, but an empty addition to the plate to appease the desires of the guest. The baran only symbolizes the absurdity and fakeness of airport sushi. But a closer material analysis also marks a fleeting relationship between plastic matter in food performance. Where the rice was rendered plastic due to a lack of quality, the baran was rendered non-plastic, named paper rather than plastic. Additionally, while visually baran is excessive to what one could consume (a human likely won't be placing the baran in their mouth) and seemingly "meaningless," its historical and contemporary usage is one of balancing and distinguishing flavors. Of course, baran's efficacy in distinguishing flavors in commercially made sushi is open for a more nuanced debate, but it serves a function in a dish that is not unlike that of a ketchup condiment packet; small plastic pieces can balance flavor and animate unsavory microplastic matter simultaneously.

[310] "Portland Secedes."

[311] "Portland Secedes."

Fig 4.6. A chef adds plastic baran as a finishing touch. *Still from "Portland Secedes" Portlandia, Season 7 Episode 7.* Directed by Bill Benz. IFC Films.

When one consumes sushi, including or not including the plastic grass, the presence of microplastics is increasingly guaranteed. The *merroir* of sushi goes beyond a disdain for the visual excess of the plastic grass and towards a negotiation that the consumption of sushi is always opening ourselves up to the vulnerability of our own flesh. Yet that flesh is one that is, through our bloodstreams and guts, and other parts unknown, enmeshed with microplastics. This careful sensory attention to microplastics and plastic in food interrogates how we already are in relation with plastic at a range of scales, including aesthetic ones. Rather than casting microplastics as disposable, considering *how* microplastics affect taste is critical. In a food system where microplastics are ubiquitous, our flesh has become extra; laden with theatricality and microplastics.

Perhaps, as a container, baran is indicative of the thin, seemingly ineffective, but sensorily necessary distinctions between disciplines. First, baran is small– Wendy Macnaughton visualizes the flavor barrier in a New York Times graphic article on baran, titled "The $0.006 Object in Your Sushi Container Is Doing an Important Job," mirroring it's microscopic price with

baran's small prominence in contemporary American foodways.[312] Second, baran does serve a purpose, creating a barrier between flavors of fish–of course those flavors are not ever fully possible to divide food on the plate, and it all ends up churned in someone's mouth. These small sensory leaks through and around baran are perhaps a better way to think of disciplinary divides and their utility: divisions and methodologies do allow for a range of interventions in academia, in public sectors, and across the globe. Interdisciplinarity is not homogeneity, but rather thin plastic linings that should be cared for, and only reproduced if absolutely necessary.

Eating is always an exercise in failure, whether the built environment fails to produce the alimentary aesthetics it imagines, consumption inevitably harms bodies and ecologies, and taste flips between ecologically and economically determined. Chapter 4, Microplastics, began with Allie Wist's failure to materialize microplastics from food production. Chapter 3, Microbes, situated failure as intrinsic to microbial theatricality as argued by Tracy Davis and Thomas Postlewait, who offers that "perhaps failure, like theatricality, is inescapable."[313] Overall, terroir's own limits as a framework to examine tasting the environment are laden with microscopic uncertainty and precarity. Perhaps failure, like theatricality, like microplastics, like food, is inescapable.

[312] MacNaughton, "The $0.006 Object in Your Sushi Container Is Doing an Important Job."

[313] Davis and Postlewait, *Theatricality*, 11.

Bibliography

Abrams, Joshua. “Mise En Plate: The Scenographic Imagination and the Contemporary Restaurant.” *Performance Research* 18, no. 3 (June 2013): 7–14. https://doi.org/10.1080/13528165.2013.816464.

Abrams, Joshua. “Mise En Plate: The Scenographic Imagination and the Contemporary Restaurant.” *Performance Research* 18, no. 3 (June 2013): 7–14. https://doi.org/10.1080/13528165.2013.816464.

———. “Towards an Ecological Dramaturgy of Dining: Plate as Landscape Device.” *Contemporary Theatre Review* 30, no. 4 (October 1, 2020): 490–508. https://doi.org/10.1080/10486801.2020.1820497.

Anlin Cheng. “Sushi, Otters, Mermaids: Race at the Intersection of Food and Animal; or, David Wong Louie’s Sushi Principle.” *Resilience: A Journal of the Environmental Humanities* 2, no. 1 (2015). https://doi.org/10.5250/resilience.2.1.006.

Asimov, Eric. “12 Natural Wines to Drink Now.” *The New York Times*, February 15, 2022, sec. Food. https://www.nytimes.com/2022/02/15/dining/drinks/natural-wines.html.

———. “The Wine Business Sees a Problem: Millennials Aren’t Drinking Enough.” *The New York Times*, February 7, 2022, sec. Food. https://www.nytimes.com/2022/02/07/dining/drinks/wine-millennials.html.

Banes, Sally, and André Lepecki, eds. *The Senses in Performance*. Worlds of Performance. New York: Routledge, 2007.

Benjamin, Walter. “A Short History of Photography*.” *Screen* 13, no. 1 (March 1, 1972): 5–26. https://doi.org/10.1093/screen/13.1.5.

Bennett, Jane. *Vibrant Matter: A Political Ecology of Things*. Duke University Press, 2010.

Bernstein, Robin. *Racial Innocence: Performing American Childhood from Slavery to Civil Rights*. America and the Long 19th Century. New York: New York University Press, 2011.

Bottoms, Stephen J. (Stephen James). “The Efficacy/Effeminacy Braid: Unpacking the Performance Studies/Theatre Studies Dichotomy.” *Theatre Topics* 13, no. 2 (2003): 173–87. https://doi.org/10.1353/tt.2003.0029.

Brillat-Savarin, and M. F. K. Fisher. *The Physiology of Taste, or, Meditations on Transcendental Gastronomy*. New York: Vintage Books, 2011.

“Camins 2 Dreams.” *Fresh Glass*. PBS, July 25, 2023. https://www.pbs.org/video/camins-2-dreams-bqpxzy/.

“CDFA - Statistics.” Accessed August 2, 2023. https://www.cdfa.ca.gov/Statistics/.

Chaudhuri, Una. “‘There Must Be a Lot of Fish in That Lake’: Toward an Ecological Theater.”

Theater 25, no. 1 (February 1, 1994): 23–31. https://doi.org/10.1215/01610775-25-1-23.

Chaudhuri, Una, and Elinor Fuchs, eds. *Land/Scape/Theater*. Ann Arbor, MI: University of Michigan Press, 2002. https://doi.org/10.3998/mpub.11713.

Den Haan, Coly. "Camins 2 Dreams." Winesplaining. Accessed January 17, 2024. https://www.winesplainingpodcast.com/episodes/camins-2-dreams.

Eckersall, Peter, Helena Grehan, and Edward Scheer. *New Media Dramaturgy: Performance, Media and New-Materialism*. New Dramaturgies. London, United Kingdom: Palgrave Macmillan, 2017.

Feiring, Alice, and Nishant Choksi. *Natural Wine for the People: What It Is, Where to Find It, How to Love It*. First edition. California: Ten Speed Press, 2019.

Food Studies - UCLA. "Rothman Family Institute for Food Studies." Accessed February 27, 2022. https://foodstudies.ucla.edu/.

Graf, Katharina, and Elsa Mescoli. "Special Issue Introduction: From Nature to Culture? Lévi-Strauss' Legacy and the Study of Contemporary Foodways." *Food, Culture & Society* 23, no. 4 (August 7, 2020): 465–71. https://doi.org/10.1080/15528014.2020.1773692.

Guthman, Julie. *Agrarian Dreams: The Paradox of Organic Farming in California*. Second edition. California Studies in Critical Human Geography 11. Oakland, California: University of California Press, 2014.

Herod, Andrew. *Scale*. Key Ideas in Geography. London ; New York: Routledge, 2011.

Hidalgo, Melissa. "The Couple Making 'Pride Wine' in the Santa Ynez Valley to Uplift the LGBTQ+ Community." *Los Angeles Times*, June 28, 2023. https://www.latimes.com/food/story/2023-06-28/camins-2-dreams-underrepresented-wine .

Holt-Giménez, Eric, Raj Patel, and Annie Shattuck. *Food Rebellions! Crisis and the Hunger for Justice*. Cape Town : Oakland, CA : Boston, MA: Pambazuka Press ; Food First Books ; Grassroots International, 2009.

hooks, bell. *Black Looks: Race and Representation*. New York: Routledge, 1992.

Hunt, Kristin. *Alimentary Performances: Mimesis, Theatricality, and Cuisine*. Abington ; New York, N.Y: Routledge, Taylor and Francis Group, 2018.

Iheka, Cajetan Nwabueze. *African Ecomedia: Network Forms, Planetary Politics*. Durham: Duke University Press, 2021.

Kennedy, Alicia. "On Natural Wine," February 20, 2023. https://www.aliciakennedy.news/p/on-natural-wine.

Kershaw, Baz. *Theatre Ecology: Environments and Performance Events*. Cambridge ; New York: Cambridge University Press, 2007.

Kettman, Matt. “A Childhood Chemistry Set Helped Make Tara Gomez a Winemaker.” *Wine Enthusiast*. Accessed January 10, 2024. https://www.wineenthusiast.com/culture/wine/tara-gomez-kita-wines/.

Kirshenblatt-Gimblett, Barbara. “Playing to the Senses: Food as a Performance Medium.” *Performance Research* 4, no. 1 (January 1999): 1-30,. https://doi.org/10.1080/13528165.1999.10871639.

Magelssen, Scott. “‘Some Are Born Green, Some Achieve Greenness’: Protest Theater and Environmental Activism.” In *Public Performances: Studies in the Carnivalesque and Ritualesque*. Logan: Utah State University Press, 2017. https://muse.jhu.edu/pub/187/edited_volume/book/57293.

Markstein, Helene G., and Arthur Maria Steijn, eds. “The Dramaturgy of Wine, the Terroir of Performance: Multi-Sensory Performance-Making in Through the Grapevine.” In *Inhabiting the Meta Visual: Contemporary Performance Themes*, 9–19. BRILL, 2016. https://doi.org/10.1163/9781848885325_003.

Marston, Jennifer. “Mushroom Vertical Farming Company Smallhold Files for Bankruptcy; Firm in ‘Worse Financial Shape than Previously Disclosed.’” AgFunderNews, February 20, 2024. https://agfundernews.com/mushroom-vertical-farming-company-smallhold-files-for-bankruptcy-firm-in-worse-financial-shape-than-previously-disclosed.

Marx, Karl. “Economic Manuscripts: Capital: Volume One.” Translated by Samuel Moore and Aveling, Edward. Marx/Engels Internet Archive, 2015. https://www.marxists.org/archive/marx/works/1867-c1/.

McMillan, Rob. “State of the US Wine Industry 2022.” Silicon Valley Bank, n.d. https://www.svb.com/globalassets/trendsandinsights/reports/wine/svb-state-of-the-wine-industry-report-2022.pdf.

———. “State of the US Wine Industry 2023.” Silicon Valley Bank, n.d. https://www.svb.com/globalassets/trendsandinsights/reports/wine/svb-state-of-the-wine-industry-report-2023.pdf.

Parker, Thomas. *Tasting French Terroir: The History of an Idea*. California Studies in Food and Culture 54. Oakland, California: University of California Press, 2015.

Paxson, Heather. “Locating Value in Artisan Cheese: Reverse Engineering Terroir for New-World Landscapes.” *American Anthropologist* 112, no. 3 (2010): 444–57. https://doi.org/10.1111/j.1548-1433.2010.01251.x.

Perullo, Nicola. *Epistenology: Wine as Experience*. Arts and Traditions of the Table: Perspectives on Culinary History. New York: Columbia University Press, 2020.

Petrini, Carlo. *Slow Food: The Case for Taste*. Columbia University Press, 2003. https://doi.org/10.7312/petr12844.

Schechner, Richard. “Rasaesthetics.” *TDR: The Drama Review* 45, no. 3 (2001): 27–50.

Schiffler, Elizabeth. “Microbial Theatricality: Selfmade, Celebrity, and Scales of Hunger.” *Global Performance Studies* 6, no. 1–2 (2023). https://doi.org/10.33303/gpsv6n1-2a133.

———. “Proximity, Precarity, and Microscopic Distinctions in Nonhuman Performance: An Interview with Pei-Ying Lin.” *Theatre Journal* 74, no. 4 (December 2022): E-101-E-110. https://doi.org/10.1353/tj.2022.0089.

Schneider, Rebecca. “New Materialisms and Performance Studies.” *TDR/The Drama Review* 59, no. 4 (December 2015): 7–17. https://doi.org/10.1162/DRAM_a_00493.

———. *Performing Remains: Art and War in Times of Theatrical Reenactment*. Abingdon, Oxon ; New York: Routledge, 2011.

Smallhold. “Smallhold Vision & Values.” Accessed March 18, 2024. https://smallhold.com/pages/our-mission.

Sofer, Andrew. *The Stage Life of Props*. Theater--Theory/Text/Performance. Ann Arbor: University of Michigan Press, 2003.

Teague, Lettie. “A Skeptic’s Tour of New York City’s Natural Wine Bars.” *Wall Street Journal*, March 16, 2023, sec. Life. https://www.wsj.com/articles/what-is-natural-wine-skeptics-tour-new-york-city-natural-wine-bars-bbeec2ed.

Tompkins, Kyla Wazana. *Racial Indigestion: Eating Bodies in the Nineteenth Century*. New York University Press, 2012.

Trubek, Amy B., ed. *The Taste of Place: A Cultural Journey into Terroir*. First paperback printing. California Studies in Food and Culture 20. Berkeley, Calif.: University of California Press, 2009.

Tsing, Anna Lowenhaupt. *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins*. Princeton: Princeton University Press, 2015.

Waters, Alice, Bob Carrau, and Cristina Mueller. *We Are What We Eat: A Slow Food Manifesto*. New York: Penguin Press, 2021.

White, Ann Folino. *Plowed under: Food Policy Protests and Performance in New Deal America*. Bloomington: Indiana University Press, 2015.

———. “Towards an Ecological Dramaturgy of Dining: Plate as Landscape Device.” *Contemporary Theatre Review* 30, no. 4 (October 1, 2020): 490–508. https://doi.org/10.1080/10486801.2020.1820497.

Alaimo, Stacy. *Exposed: Environmental Politics and Pleasures in Posthuman Times*. Minneapolis: University of Minnesota Press, 2016.

Anlin Cheng. “Sushi, Otters, Mermaids: Race at the Intersection of Food and Animal; or, David Wong Louie’s Sushi Principle.” *Resilience: A Journal of the Environmental Humanities* 2, no. 1 (2015). https://doi.org/10.5250/resilience.2.1.006.

Apartment Therapy. “Paint Tricks: Use Disney’s ‘Go Away Green.’” Accessed June 25, 2024. https://www.apartmenttherapy.com/paint-tricks-use-disneys-go-away-green-219276.

Armstrong, Martin. “Chart: How We Eat, Drink and Breathe Microplastics.” Statista, March 25, 2022. https://www.statista.com/chart/18299/how-we-eat-drink-and-breathe-microplastics/.

Asimov, Eric. “12 Natural Wines to Drink Now.” *The New York Times*, February 15, 2022, sec. Food. https://www.nytimes.com/2022/02/15/dining/drinks/natural-wines.html.

———. “The Wine Business Sees a Problem: Millennials Aren’t Drinking Enough.” *The New York Times*, February 7, 2022, sec. Food. https://www.nytimes.com/2022/02/07/dining/drinks/wine-millennials.html.

Atkinson, Greg. “Treasures of the Tide Flats: On a Beach or at a Bash, Oysters Are Worthy of Celebration,” March 14, 2003. https://www.seattletimes.com/.

Aydın, Rana Berfin, Aykut Yozukmaz, İdris Şener, Funda Temiz, and Daniela Giannetto. “Occurrence of Microplastics in Most Consumed Fruits and Vegetables from Turkey and Public Risk Assessment for Consumers.” *Life* 13, no. 8 (August 4, 2023): 1686. https://doi.org/10.3390/life13081686.

Azeem, Imran, Muhammad Adeel, Muhammad Arslan Ahmad, Noman Shakoor, Gama Dingba Jiangcuo, Kamran Azeem, Muhammad Ishfaq, et al. “Uptake and Accumulation of Nano/Microplastics in Plants: A Critical Review.” *Nanomaterials* 11, no. 11 (November 2, 2021): 2935. https://doi.org/10.3390/nano11112935.

Banes, Sally, and André Lepecki, eds. *The Senses in Performance*. Worlds of Performance. New York: Routledge, 2007.

Baudrillard, Jean. *America*. London ; New York: Verso, 2010.

———. *Simulations*. Foreign Agents Series. New York City, N.Y., U.S.A: Semiotext(e), Inc, 1983.

———. *The Illusion of the End*. Stanford, Calif: Stanford University Press, 1994.

Bayley, Annouchka. “Diffraction for Performance Research.” *Performance Research* 25, no. 5 (July 3, 2020): 1–3. https://doi.org/10.1080/13528165.2020.1868830.

Benjamin, Walter. “A Short History of Photography*.” *Screen* 13, no. 1 (March 1, 1972): 5–26. https://doi.org/10.1093/screen/13.1.5.

Bennett, Jane. *Vibrant Matter: A Political Ecology of Things*. Duke University Press, 2010.

Bernstein, Robin. *Racial Innocence: Performing American Childhood from Slavery to Civil Rights*. America and the Long 19th Century. New York: New York University Press, 2011.

Binns, Daniel. “The Netflix Documentary House Style: Streaming TV and Slow Media,” December 20, 2018.

Bishop, Claire. “Art of the Encounter: Antagonism and Relational Aesthetics.” *Circa*, no. 114 (2005): 32–35. https://doi.org/10.2307/25564369.

Bishop, Michael. “Biosphere 2.” *Michaelbbishop* (blog), February 28, 2017. https://michaelbbishop.wordpress.com/2017/02/27/biosphere-2/.

Bottoms, Stephen J. (Stephen James). “The Efficacy/Effeminacy Braid: Unpacking the Performance Studies/Theatre Studies Dichotomy.” *Theatre Topics* 13, no. 2 (2003): 173–87. https://doi.org/10.1353/tt.2003.0029.

Bourdain, Anthony. *Kitchen Confidential: Adventures in the Culinary Underbelly*. Updated ed. New York: Harper Perennial, 2007.

Braidotti, Rosi. *The Posthuman*. Cambridge, UK ; Malden, MA, USA: Polity Press, 2013.

Bramley, Anne. “Snacking In Shakespeare’s Time: What Theatregoers Ate At The Bard’s Plays.” NPR.org, April 21, 2016. https://www.npr.org/sections/thesalt/2016/04/21/475128109/snacking-in-shakespeares-time-what-theatregoers-ate-at-the-bards-plays.

Brillat-Savarin, and M. F. K. Fisher. *The Physiology of Taste, or, Meditations on Transcendental Gastronomy*. New York: Vintage Books, 2011.

Cabranes-Grant, Leo. *From Scenarios to Networks: Performing the Intercultural in Colonial Mexico*. Northwestern University Press, 2016.

“Camins 2 Dreams.” *Fresh Glass*. PBS, July 25, 2023. https://www.pbs.org/video/camins-2-dreams-bqpxzy/.

Carruth, Allison. “Michael Pollan’s Dilemma.” *Public Books* (blog), November 1, 2013. https://www.publicbooks.org/michael-pollans-dilemma/.

“CDFA - Statistics.” Accessed August 2, 2023. https://www.cdfa.ca.gov/Statistics/.

Chakrabarty, Dipesh. “Postcolonial Studies and the Challenge of Climate Change.” *New Literary History* 43, no. 1 (2012): 1–18. https://doi.org/10.1353/nlh.2012.0007.

Chaudhuri, Una. “‘There Must Be a Lot of Fish in That Lake’: Toward an Ecological Theater.” *Theater* 25, no. 1 (February 1, 1994): 23–31. https://doi.org/10.1215/01610775-25-1-23.

Chaudhuri, Una, and Elinor Fuchs, eds. *Land/Scape/Theater*. Ann Arbor, MI: University of Michigan Press, 2002. https://doi.org/10.3998/mpub.11713.

Chen, Mel Y. *Animacies: Biopolitics, Racial Mattering, and Queer Affect*. Perverse Modernities. Durham, NC: Duke University Press, 2012.

City of Anaheim. “Anaheim Sees Final Approval of DisneylandForward.” Accessed June 25, 2024. https://anaheim.net/CivicAlerts.aspx?AID=2916.

Consumer Reports. “You’re Literally Eating Microplastics. How You Can Cut down Exposure to Them.” *Washington Post*, October 7, 2019.

https://www.washingtonpost.com/health/youre-literally-eating-microplastics-how-you-can-cut-down-exposure-to-them/2019/10/04/22ebdfb6-e17a-11e9-8dc8-498eabc129a0_story.html.

Coppock, Rachel L., Matthew Cole, Penelope K. Lindeque, Ana M. Queirós, and Tamara S. Galloway. "A Small-Scale, Portable Method for Extracting Microplastics from Marine Sediments." *Environmental Pollution* 230 (November 1, 2017): 829–37. https://doi.org/10.1016/j.envpol.2017.07.017.

Cox, Kieran D., Garth A. Covernton, Hailey L. Davies, John F. Dower, Francis Juanes, and Sarah E. Dudas. "Human Consumption of Microplastics." *Environmental Science & Technology* 53, no. 12 (June 18, 2019): 7068–74. https://doi.org/10.1021/acs.est.9b01517.

Cozzi, Enzo. "Hunger and the Future of Performance." *Performance Research* 4, no. 1 (January 1, 1999): 121–29. https://doi.org/10.1080/13528165.1999.10871652.

Crutzen, Paul J. "The 'Anthropocene.'" In *Earth System Science in the Anthropocene*, edited by Eckart Ehlers and Thomas Krafft, 13–18. Berlin, Heidelberg: Springer Berlin Heidelberg, 2006. https://doi.org/10.1007/3-540-26590-2_3.

Daley, Jason. "Cheese Made From Celebrity Belly Button and Armpit Bacteria Goes on Display." Smithsonian Magazine, May 17, 2019. https://www.smithsonianmag.com/smart-news/cheese-made-celebrity-belly-buttons-and-armpit-bacteria-goes-display-180972189/.

Davis, Heather M. *Plastic Matter*. Elements. Durham: Duke University Press, 2022.

Davis, Tracy C., and Thomas Postlewait, eds. *Theatricality*. Theatre and Performance Theory. Cambridge ; New York: Cambridge University Press, 2003.

DeLoughrey, Elizabeth M. *Allegories of the Anthropocene*. Durham: Duke University Press, 2019.

Den Haan, Coly. "Camins 2 Dreams." Winesplaining. Accessed January 17, 2024. https://www.winesplainingpodcast.com/episodes/camins-2-dreams.

Diane Ravitch's blog. "Why Did the Ford Foundation Kill Off Its Highly Successful Diversity Program?" September 19, 2022. https://dianeravitch.net/2022/09/19/why-did-the-ford-foundation-kill-off-its-highly-successful-diversity-program/.

"Discover Disney's Color Magic With Go Away Green and Blending Blue! - Inside the Magic." Accessed June 25, 2024. https://insidethemagic.net/2024/03/disney-go-away-green-lp1/.

Donnelly, Catherine W. "12. Towards an Ecosystem Approach to Cheese Microbiology." *Cheese and Microbes*, n.d. https://app.knovel.com/hotlink/pdf/id:kt00TXCSN2/cheese-and-microbes/towards-an-ecosystem.

DuPuis, E.Melanie. *Nature's Perfect Food: How Milk Became America's Drink*. New York

University Press, 2002.

Eckersall, Peter, Helena Grehan, and Edward Scheer. *New Media Dramaturgy: Performance, Media and New-Materialism*. New Dramaturgies. London, United Kingdom: Palgrave Macmillan, 2017.

Eckersall, Peter, and Eddie Paterson. "Slow Dramaturgy: Renegotiating Politics and Staging the Everyday" 58 (April 1, 2011): 178–92.

EPCOT Living with the Land Ride POV at Night in 4K | Walt Disney World Orlando Florida May 2022, 2022. https://www.youtube.com/watch?v=Jq-T0t4rWyI.

Eriksen, Marcus, Laurent C. M. Lebreton, Henry S. Carson, Martin Thiel, Charles J. Moore, Jose C. Borerro, Francois Galgani, Peter G. Ryan, and Julia Reisser. "Plastic Pollution in the World's Oceans: More than 5 Trillion Plastic Pieces Weighing over 250,000 Tons Afloat at Sea." *PLOS ONE* 9, no. 12 (December 10, 2014): e111913. https://doi.org/10.1371/journal.pone.0111913.

Feiring, Alice, and Nishant Choksi. *Natural Wine for the People: What It Is, Where to Find It, How to Love It*. First edition. California: Ten Speed Press, 2019.

Fisher, M. F. K. *Consider the Oyster*. San Francisco: North Point Press, 1988.

Folger Shakespeare Library. "Shakespeare's Theater." Text, December 15, 2014. https://www.folger.edu/shakespeares-theater.

Food Studies - UCLA. "Rothman Family Institute for Food Studies." Accessed February 27, 2022. https://foodstudies.ucla.edu/.

Franinović, Karmen, and Roman Kirschner. "Microbiospherians." *Performance Research* 25, no. 3 (April 2, 2020): 95–103. https://doi.org/10.1080/13528165.2020.1807771.

Freedman, Paul. "Fifty Years Ago, Berkeley Restaurant Chez Panisse Launched the Farm-to-Table Movement." *Smithsonian Magazine*, July 16, 2021. https://www.smithsonianmag.com/innovation/fifty-years-ago-berkeley-restaurant-chez-panisse-launched-farm-table-movement-180978181/.

Garber, Megan. "America's Shame: Our Ketchup Packets." The Atlantic, February 4, 2014. https://www.theatlantic.com/technology/archive/2014/02/americas-shame-our-ketchup-packets/283576/.

Gaylarde, Christine C., José Antonio Baptista Neto, and Estefan Monteiro da Fonseca. "Paint Fragments as Polluting Microplastics: A Brief Review." *Marine Pollution Bulletin* 162 (January 1, 2021): 111847. https://doi.org/10.1016/j.marpolbul.2020.111847.

Gest, H. "The Discovery of Microorganisms by Robert Hooke and Antoni van Leeuwenhoek, Fellows of The Royal Society." *Notes and Records of the Royal Society of London* 58, no. 2 (May 22, 2004): 187–201. https://doi.org/10.1098/rsnr.2004.0055.

Gilbert, Jack A., Daniel van der Lelie, and Iratxe Zarraonaindia. "Microbial Terroir for Wine

Grapes." *Proceedings of the National Academy of Sciences* 111, no. 1 (January 7, 2014): 5–6. https://doi.org/10.1073/pnas.1320471110.

Gobbi, Alex, Alberto Acedo, Nabeel Imam, Rui G. Santini, Rüdiger Ortiz-Álvarez, Lea Ellegaard-Jensen, Ignacio Belda, and Lars H. Hansen. "A Global Microbiome Survey of Vineyard Soils Highlights the Microbial Dimension of Viticultural Terroirs." *Communications Biology* 5, no. 1 (March 18, 2022): 1–9. https://doi.org/10.1038/s42003-022-03202-5.

Goodman, Michael K., and Jo Littler. "Celebrity Ecologies: Introduction." *Celebrity Studies* 4, no. 3 (November 1, 2013): 269–75. https://doi.org/10.1080/19392397.2013.831623.

Graf, Katharina, and Elsa Mescoli. "Special Issue Introduction: From Nature to Culture? Lévi-Strauss' Legacy and the Study of Contemporary Foodways." *Food, Culture & Society* 23, no. 4 (August 7, 2020): 465–71. https://doi.org/10.1080/15528014.2020.1773692.

Guthman, Julie. *Agrarian Dreams: The Paradox of Organic Farming in California*. Second edition. California Studies in Critical Human Geography 11. Oakland, California: University of California Press, 2014.

———. "Can't Stomach It: How Michael Pollan et al. Made Me Want to Eat Cheetos." *Gastronomica* 7, no. 3 (August 1, 2007): 75–79. https://doi.org/10.1525/gfc.2007.7.3.75.

Haavisto, Vilhelmina. "Suddenly I See: How Microscopes Made Microbiology Possible." *ASM.Org*. Accessed February 14, 2024. https://asm.org:443/Articles/2022/June/Suddenly-I-See-How-Microscopes-Made-Microbiology-P.

Haraway, Donna. "Anthropocene, Capitalocene, Chthulucene. Donna Haraway in Conversation with Martha Kenney." *Art in the Anthropocene: Encounters among Aesthetics, Politics, Environments and Epistemologies*, 2015, 255–69.

———. "Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective." *Feminist Studies* 14, no. 3 (1988): 575–99. https://doi.org/10.2307/3178066.

Haraway, Donna Jeanne. *Staying with the Trouble: Making Kin in the Chthulucene*. Duke University Press, 2016.

———. *When Species Meet*. University of Minnesota Press, 2008.

Harmi, Mehdi. "French Cheese under Threat." *CNRS News*, January 16, 2024. https://news.cnrs.fr/articles/french-cheese-under-threat.

Hartocollis, Anemona. "Can Humanities Survive the Budget Cuts?" *The New York Times*, November 3, 2023, sec. U.S. https://www.nytimes.com/2023/11/03/us/liberal-arts-college-degree-humanities.html.

Hauser, Jens, and Lucie Strecker. "On Microperformativity." *Performance Research* 25, no. 3

(April 2, 2020): 1–7. https://doi.org/10.1080/13528165.2020.1807739.

Herod, Andrew. *Scale*. Key Ideas in Geography. London ; New York: Routledge, 2011.

Hey, Maya. “Fermenting Communications: Fermentation Praxis as Interspecies Communication.” *Public* 30, no. 59 (June 1, 2019): 149–57. https://doi.org/10.1386/public.30.59.149_1.

———. “On Performative Food Acts and the Human-Microbe Relationship.” In *Conversations with Food*, edited by Dorothy Chansky and Sarah W. Tracy, 163–78. Vernon Press, 2021.

Hidalgo, Melissa. “The Couple Making ‘Pride Wine’ in the Santa Ynez Valley to Uplift the LGBTQ+ Community.” *Los Angeles Times*, June 28, 2023. https://www.latimes.com/food/story/2023-06-28/camins-2-dreams-underrepresented-wine .

Holt-Giménez, Eric, Raj Patel, and Annie Shattuck. *Food Rebellions! Crisis and the Hunger for Justice*. Cape Town : Oakland, CA : Boston, MA: Pambazuka Press ; Food First Books ; Grassroots International, 2009.

hooks, bell. *Black Looks: Race and Representation*. New York: Routledge, 1992.

“House Paint Has a Microplastic Problem - Bloomberg.” Accessed February 5, 2024. https://www.bloomberg.com/news/articles/2023-07-19/your-house-paint-is-causing-an-ocean-plastic-problem.

Hunt, Kristin. *Alimentary Performances: Mimesis, Theatricality, and Cuisine*. Abington ; New York, N.Y: Routledge, Taylor and Francis Group, 2018.

Iheka, Cajetan Nwabueze. *African Ecomedia: Network Forms, Planetary Politics*. Durham: Duke University Press, 2021.

Imbler, Sabrina. “In the Ocean, It’s Snowing Microplastics.” *The New York Times*, April 3, 2022, sec. Science. https://www.nytimes.com/2022/04/03/science/ocean-plastic-animals.html.

Indeed. “Working at Apricot Lane Farms in Moorpark, CA: Employee Reviews.” Accessed September 30, 2022. https://www.indeed.com/cmp/Apricot-Lane-Farms/reviews?fcountry=US&floc=Moorpark%2C+CA.

Jones, Gary. Interview with Chef Gary Jones, Environmental Integration Culinary Specialist for Disney Parks, June 28, 2022.

Kamp, David. “Cooking Up a Storm.” Vanity Fair, October 10, 2006. https://www.vanityfair.com/news/2006/10/kamp_excerpt200610.

Katz, Sandor Ellix. *Fermentation as Metaphor*. White River Junction, VT ; London, UK: Chelsea Green Publishing, 2020.

Kennedy, Alicia. “On Natural Wine,” February 20, 2023. https://www.aliciakennedy.news/p/on-natural-wine.

Kershaw, Baz. *Theatre Ecology: Environments and Performance Events*. Cambridge ; New York: Cambridge University Press, 2007.

Keskin, Buse. “Spain’s Best Restaurant Transforms into Innovative Culinary Museum.” *Daily Sabah*, June 8, 2023, sec. Food. https://www.dailysabah.com/life/food/spains-best-restaurant-transforms-into-innovative-culinary-museum.

Kettman, Matt. “A Childhood Chemistry Set Helped Make Tara Gomez a Winemaker.” *Wine Enthusiast*. Accessed January 10, 2024. https://www.wineenthusiast.com/culture/wine/tara-gomez-kita-wines/.

Kirksey, Eben. “Editorial: Welcome to the Virosphere.” *E-Flux* 130 (October 2022). https://www.e-flux.com/journal/130/491400/editorial-welcome-to-the-virosphere/.

Kirshenblatt-Gimblett, Barbara. “Playing to the Senses: Food as a Performance Medium.” *Performance Research* 4, no. 1 (January 1999): 1-30,. https://doi.org/10.1080/13528165.1999.10871639.

Kokai, Jennifer A. “From Mickey Waffles to Vegan Samosas: Evolving Disney Food Fandoms.” In *Fan Phenomena: Disney*, edited by Sabrina Mittermeier, 2022.

Kokai, Jennifer A., and Tom Robson. *Performance and the Disney Theme Park Experience: The Tourist as Actor*. Cham, Switzerland: Palgrave Macmillan, 2019.

Korieh, Chima J. “Alcohol and Empire: ‘Illicit’ Gin Prohibition and Control in Colonial Eastern Nigeria.” *African Economic History*, no. 31 (2003): 111–34. https://doi.org/10.2307/3601949.

Koutnik, Vera S., Jamie Leonard, Lea A. El Rassi, Michelle M. Choy, Jaslyn Brar, Joel B. Glasman, Win Cowger, and Sanjay K. Mohanty. “Children’s Playgrounds Contain More Microplastics than Other Areas in Urban Parks.” *Science of The Total Environment* 854 (January 1, 2023): 158866. https://doi.org/10.1016/j.scitotenv.2022.158866.

Latour, Bruno. *Down to Earth: Politics in the New Climatic Regime*. English. Cambridge, UK ; Medford, MA: Polity, 2018.

———. *The Pasteurization of France*. First Harvard University Press paperback ed. Cambridge, Mass.: Harvard Univ. Press, 1993.

Leitch, Alison. “Slow Food and the Politics of ‘Virtuous Globalization’*.” In *Food and Culture*, edited by Carole Counihan, Penny Van Esterik, and Alice Julier, 4th ed., 493–509. Fourth edition. |. New York: Routledge, 2018. https://doi.org/10.4324/9781315680347-35.

Lévi-Strauss, Claude, and Claude Lévi-Strauss. *The Raw and the Cooked. Introduction to a Science of Mythology / Claude Lévi-Strauss, v. 1*. Chicago: University of Chicago Press, 1983.

Liboiron, Max. *Pollution Is Colonialism*. Durham: Duke University Press, 2021.

Ligon, B. Lee. “Biography: Louis Pasteur: A Controversial Figure in a Debate on Scientific Ethics.” *Seminars in Pediatric Infectious Diseases* 13, no. 2 (April 1, 2002): 134–41. https://doi.org/10.1053/spid.2002.125138.

Lim, XiaoZhi. “Microplastics Are Everywhere — but Are They Harmful?” *Nature* 593, no. 7857 (May 4, 2021): 22–25. https://doi.org/10.1038/d41586-021-01143-3.

Lima, Daniele Rosendo de, Italo Rennan Sousa Vieira, Elisson Brum Dutra da Rocha, Ana Maria Furtado de Sousa, Antonio Carlos Augusto da Costa, and Cristina Russi Guimarães Furtado. “Biodegradation of Natural Rubber Latex Films by Highlighting the Crosslinked Bond.” *Industrial Crops and Products* 204 (November 15, 2023): 117290. https://doi.org/10.1016/j.indcrop.2023.117290.

Lin, Judy. “Stinky Cheese Offers Us a Whiff of Knowledge about Our Body’s Bacteria.” *UCLA Newsroom*, January 8, 2014. https://newsroom.ucla.edu/stories/christina-agapakis-bacteria-cheese-249812.

Lin, Pei-Ying. “Virophilia,” n.d. https://peiyinglin.net/page?p=virophilia.

———. “Virophilia - How We Use Viruses in Cuisines.” Accessed February 12, 2024. http://virophilia.peiyinglin.net.

Liu, Yongqiang, Yue Ben, Ruijie Che, Chunqing Peng, Jining Li, and Fenghe Wang. “Uptake, Transport and Accumulation of Micro- and Nano-Plastics in Terrestrial Plants and Health Risk Associated with Their Transfer to Food Chain - A Mini Review.” *Science of The Total Environment* 902 (December 1, 2023): 166045. https://doi.org/10.1016/j.scitotenv.2023.166045.

Lorimer, Jamie. *The Probiotic Planet: Using Life to Manage Life*. Posthumanities 59. Minneapolis: University of Minnesota Press, 2020.

Mace, Mikayla. “Choose Your Own Adventure at Reopened Biosphere 2.” *University of Arizona News*, November 6, 2020. https://news.arizona.edu/story/choose-your-own-adventure-reopened-biosphere-2.

MacNaughton, Wendy. “The $0.006 Object in Your Sushi Container Is Doing an Important Job.” *The New York Times*, November 29, 2018, sec. Business. https://www.nytimes.com/2018/11/29/business/plastic-sushi-grass-thing.html.

Magelssen, Scott. *Simming: Participatory Performance and the Making of Meaning*. Theater: Theory/Text/Performance Series. Ann Arbor: University of Michigan Press, 2014.

———. “‘Some Are Born Green, Some Achieve Greenness’: Protest Theater and Environmental Activism.” In *Public Performances: Studies in the Carnivalesque and Ritualesque*. Logan: Utah State University Press, 2017. https://muse.jhu.edu/pub/187/edited_volume/book/57293.

Markstein, Helene G., and Arthur Maria Steijn, eds. “The Dramaturgy of Wine, the Terroir of Performance: Multi-Sensory Performance-Making in Through the Grapevine.” In *Inhabiting the Meta Visual: Contemporary Performance Themes*, 9–19. BRILL, 2016.

https://doi.org/10.1163/9781848885325_003.

Marston, Jennifer. “Mushroom Vertical Farming Company Smallhold Files for Bankruptcy; Firm in ‘Worse Financial Shape than Previously Disclosed.’” AgFunderNews, February 20, 2024. https://agfundernews.com/mushroom-vertical-farming-company-smallhold-files-for-bankruptcy-firm-in-worse-financial-shape-than-previously-disclosed.

Marx, Karl. “Economic Manuscripts: Capital: Volume One.” Translated by Samuel Moore and Aveling, Edward. Marx/Engels Internet Archive, 2015. https://www.marxists.org/archive/marx/works/1867-c1/.

McCarron, Meghan. “Blue Hill at Stone Barns Told a Story Too Good to Be True, Former Employees Say.” Eater, July 6, 2022. https://www.eater.com/22996588/blue-hill-stone-barns-dan-barber-restaurant-work-environment-ingredients.

McMillan, Rob. “State of the US Wine Industry 2022.” Silicon Valley Bank, n.d. https://www.svb.com/globalassets/trendsandinsights/reports/wine/svb-state-of-the-wine-industry-report-2022.pdf.

———. “State of the US Wine Industry 2023.” Silicon Valley Bank, n.d. https://www.svb.com/globalassets/trendsandinsights/reports/wine/svb-state-of-the-wine-industry-report-2023.pdf.

Meikle, Jeffrey L. *American Plastic: A Cultural History*. New Brunswick, N.J: Rutgers University Press, 1995.

Metzger, Sean. *The Chinese Atlantic: Seascapes and the Theatricality of Globalization*. Framing the Global Series. Bloomington, Indiana: Indiana University Press, 2020.

Mol, Annemarie. *Eating in Theory*. Experimental Futures. Durham: Duke University Press, 2021.

Neimanis, Astrida. *Bodies of Water: Posthuman Feminist Phenomenology*. Environmental Cultures Series. London ; New York: Bloomsbury Academic, an imprint of Bloomsbury Publishing Plc, 2017.

Noble, Ann C. “Wine Aroma Wheel.” Ann C. Noble, 1990.

Oliveri Conti, Gea, Margherita Ferrante, Mohamed Banni, Claudia Favara, Ilenia Nicolosi, Antonio Cristaldi, Maria Fiore, and Pietro Zuccarello. “Micro- and Nano-Plastics in Edible Fruit and Vegetables. The First Diet Risks Assessment for the General Population.” *Environmental Research* 187 (August 1, 2020): 109677. https://doi.org/10.1016/j.envres.2020.109677.

Olúpàyímọ́, Dọ̀lápọ̀ Z. “The Illicit Production and Consumption of Ògógóró in Coastal Yorùbáland and the Niger Delta.” *Yoruba Studies Review* 2, no. 1 (2017). https://doi.org/10.32473/ysr.v2i1.129853.

O.S.B., Marcellino, Sister Noëlla, and David R. Benson. “The Good, the Bad, and the Ugly: Tales of Mold-Ripened Cheese.” *Microbiology Spectrum* 1, no. 1 (October 2013). https://doi.org/10.1128/microbiolspec.CM-0005-12.

Pandian, Anand. “Plastic.” In *Anthropocene Unseen*, edited by Anand Pandian and Cymene Howe, 325–29. A Lexicon. Punctum Books, 2020. https://doi.org/10.2307/j.ctv11hptbw.55.

Parker, Thomas. *Tasting French Terroir: The History of an Idea*. California Studies in Food and Culture 54. Oakland, California: University of California Press, 2015.

Paxson, Heather. “Locating Value in Artisan Cheese: Reverse Engineering Terroir for New-World Landscapes.” *American Anthropologist* 112, no. 3 (2010): 444–57. https://doi.org/10.1111/j.1548-1433.2010.01251.x.

———. “Post-Pasteurian Cultures: The Microbiopolitics of Raw-Milk Cheese in the United States.” *CULTURAL ANTHROPOLOGY* 23, no. 1 (2008): 15–47. https://doi.org/10.1525.

Perullo, Nicola. *Epistenology: Wine as Experience*. Arts and Traditions of the Table: Perspectives on Culinary History. New York: Columbia University Press, 2020.

Petrini, Carlo. *Slow Food: The Case for Taste*. Columbia University Press, 2003. https://doi.org/10.7312/petr12844.

Pollan, Michael. *Cooked: A Natural History of Transformation*. New York, NY: Penguin Books, 2014.

———. “Ripeness Is All: The Fruit Bowl.” Michael Pollan, August 23, 2011. https://michaelpollan.com/articles-archive/ripeness-is-all-the-fruit-bowl/.

“Portland Secedes.” IFC, February 16, 2017.

Rabinovitz, Lauren. *Electric Dreamland: Amusement Parks, Movies, and American Modernity*. Film and Culture. New York: Columbia University Press, 2012.

Roach, Joseph R. *It*. Ann Arbor: University of Michigan Press, 2007.

Rose, Karsten, and Alexander Steinbüchel. “Biodegradation of Natural Rubber and Related Compounds: Recent Insights into a Hardly Understood Catabolic Capability of Microorganisms.” *Applied and Environmental Microbiology* 71, no. 6 (June 2005): 2803–12. https://doi.org/10.1128/AEM.71.6.2803-2812.2005.

Roudeau, Cécile. “How the Earth Feels: A Conversation with Dana Luciano.” *Transatlantica. Revue d’études Américaines. American Studies Journal*, no. 1 (April 8, 2015). https://doi.org/10.4000/transatlantica.7362.

Samuels, Ellen Jean. *Fantasies of Identification: Disability, Gender, Race*. Cultural Front. New York: New York University Press, 2014.

Saro-Wiwa, Zina, May 22, 2024.

Schaag, Katie. “Plastiglomerates, Microplastics, Nanoplastics.” *Performance Research* 25, no. 2 (February 17, 2020): 14–21. https://doi.org/10.1080/13528165.2020.1752572.

Schechner, Richard. *Performance Theory*. Rev. and Expanded ed., with A new preface by the author, Reprinted. Routledge Classics. London: Routledge, 2009.

———. “Rasaesthetics.” *TDR: The Drama Review* 45, no. 3 (2001): 27–50.

Schneider, Rebecca. “New Materialisms and Performance Studies.” *TDR/The Drama Review* 59, no. 4 (December 2015): 7–17. https://doi.org/10.1162/DRAM_a_00493.

———. *Performing Remains: Art and War in Times of Theatrical Reenactment*. Abingdon, Oxon ; New York: Routledge, 2011.

Science Gallery Dublin. “SELFMADE.” Accessed March 14, 2021. https://dublin.sciencegallery.com/grow-your-own-exhibits/selfmade.

Scoles, Sarah. “I Survived a Weekend at Biosphere 2 Pretending to Be in Space.” Scientific American. Accessed September 21, 2023. https://www.scientificamerican.com/article/i-survived-a-weekend-at-biosphere-2-pretending-to-be-in-space/.

Selfmade, 2013. https://www.youtube.com/watch?v=1Ej4BP64BsU.

SevenFifty Daily. “Understanding Microbial Terroir in Wine,” January 27, 2020. https://daily.sevenfifty.com/understanding-microbial-terroir-in-wine/.

Siddique, Asheesh Kapur. “Does Humanities Research Still Matter?” Inside Higher Ed. Accessed April 2, 2024. https://www.insidehighered.com/opinion/views/2023/08/15/does-humanities-research-matter-anymore-opinion.

Silverstone, S. E., and M. Nelson. “Food Production and Nutrition in Biosphere 2: Results from the First Mission September 1991 to September 1993.” *Advances in Space Research*, Natural and Artificial, 18, no. 4 (January 1, 1996): 49–61. https://doi.org/10.1016/0273-1177(95)00861-8.

“Slow Factory.” Accessed September 19, 2023. https://slowfactory.earth/.

Smallhold. “Smallhold Vision & Values.” Accessed March 18, 2024. https://smallhold.com/pages/our-mission.

Snow, Richard. *Disney’s Land*. New York: Scribner, 2019.

Sofer, Andrew. *The Stage Life of Props*. Theater--Theory/Text/Performance. Ann Arbor: University of Michigan Press, 2003.

Solga, Kim. *Theory for Theatre Studies: Space*. Theory for Theatre Studies. London ; New York: Methuen Drama, 2019.

Spaceship Earth. Neon, 2020.

Spalink, Angenette. “Parks as Performance: Wilderness and Colonial Ecological Violence in ‘The Hidden Worlds of the National Parks’.” *International Journal of Performance Arts and Digital Media* 18, no. 3 (September 2, 2022): 374–89. https://doi.org/10.1080/14794713.2022.2040288.

Stiegler, Christian. *The 360° Gaze: Immersions in Media, Society and Culture*. Massachusetts Institute of Technology Press (MIT Press), 2021.

Stinson, Liz. “Hungry? Try Some Cheese Made of Michael Pollan’s Belly-Button Germs.” Wired, December 12, 2013. https://www.wired.com/2013/12/hungry-these-cheeses-are-made-from-human-skin-and-sweat/#slideid-363001.

Stokstad, Erik. “Biosphere 2 Gets New Owner, Funding.” *Science*, June 29, 2011. https://www.science.org/content/article/biosphere-2-gets-new-owner-funding.

Tandoh, Ruby. “Ruby Tandoh: How I Was Turned into a Human Cheese.” *The Guardian*, May 13, 2019, sec. Food. https://www.theguardian.com/food/2019/may/13/ruby-tandoh-i-was-turned-into-human-cheese.

Teague, Lettie. “A Skeptic’s Tour of New York City’s Natural Wine Bars.” *Wall Street Journal*, March 16, 2023, sec. Life. https://www.wsj.com/articles/what-is-natural-wine-skeptics-tour-new-york-city-natural-wine-bars-bbeec2ed.

“THE ILLICIT GIN INSTITUTE — Mangrove Arts Foundation.” Accessed April 9, 2021. https://mangroveartsfoundation.org/THE-ILLICIT-GIN-INSTITUTE.

The Monsanto House of the Future. Bay State Film Productions, Inc., 1957.

“The release of plastic paints in the environment.” Accessed February 5, 2024. https://www.e-a.earth/plastic-paints-the-environment/.

Thimany, Jean. “What the House of Tomorrow Can Teach Us Today.” *Mechanical Engineering (New York, N.Y. 1919)* 136, no. 12 (2014): 30–37. https://doi.org/10.1115/1.2014-Dec-1.

Tompkins, Kyla Wazana. “On the Limits and Promise of New Materialist Philosophy.” *Lateral* (blog), June 1, 2016. https://csalateral.org/issue/5-1/forum-alt-humanities-new-materialist-philosophy-tompkins/.

———. *Racial Indigestion: Eating Bodies in the Nineteenth Century*. New York University Press, 2012.

Trubek, Amy B., ed. *The Taste of Place: A Cultural Journey into Terroir*. First paperback printing. California Studies in Food and Culture 20. Berkeley, Calif.: University of California Press, 2009.

Tsing, Anna Lowenhaupt. *The Mushroom at the End of the World: On the Possibility of Life in*

Capitalist Ruins. Princeton: Princeton University Press, 2015.

Underhill, Irving. *Tunnels of Love, Coney Island*. Brooklyn Museum. Accessed March 30, 2023. https://www.brooklynmuseum.org/opencollection/objects/181502.

Waters, Alice. "Alice Waters on the Persuasive Power of the Peach." Vanity Fair, November 1, 2017. https://www.vanityfair.com/style/2017/11/alice-waters-essay.

Waters, Alice, Bob Carrau, and Cristina Mueller. *We Are What We Eat: A Slow Food Manifesto*. New York: Penguin Press, 2021.

Werner Herzog Eats His Shoe. Les Blank Films, 1980.

"What Are Microbes?" In *InformedHealth.Org [Internet]*. Institute for Quality and Efficiency in Health Care (IQWiG), 2019. https://www.ncbi.nlm.nih.gov/books/NBK279387/.

White, Ann Folino. *Plowed under: Food Policy Protests and Performance in New Deal America*. Bloomington: Indiana University Press, 2015.

———. "Tasting Celebrity." *Performance Research* 22, no. 7 (October 3, 2017): 67–74. https://doi.org/10.1080/13528165.2017.1353195.

Wist, Allie, November 29, 2022.

Wootton, Nina, Koster Sarakinis, Rufino Varea, Patrick Reis-Santos, and Bronwyn M. Gillanders. "Microplastic in Oysters: A Review of Global Trends and Comparison to Southern Australia." *Chemosphere* 307 (November 1, 2022): 136065. https://doi.org/10.1016/j.chemosphere.2022.136065.

Yard. "Just Plane Wrong: Celebs with the Worst Private Jet Co2 Emissions | Insights." Accessed February 26, 2024. https://weareyard.com/insights/worst-celebrity-private-jet-co2-emission-offenders.

Zika, Joel. "The Dawn of the Dark Ride at the Amusement Park." In *Proceedings of the 2014 Conference on Interactive Entertainment*, 1–5. IE2014. New York, NY, USA: Association for Computing Machinery, 2014. https://doi.org/10.1145/2677758.2677775.