

Kombucha as a Guide. Serendipitous Journey through Taste, Feminism, Free and Open Source Culture, and Ritual

Lucile Haute

University of Nîmes (PROJEKT)
& École des Arts Décoratifs – PSL (EnsadLab)
Nîmes & Paris, France
lucile.haute@ensad.fr

Abstract

During one and a half years living with kombucha, the author followed it across a journey that diverged from a disciplinary point of view in favor of a “global design” (Papanek) approach that embraces co-dependencies (Haraway, Tsing). This journey spanned several domains: gastronomy and food, health, textile design, social practices. It was the occasion to find out how different cultures might be embodied by the heterogeneous kombucha community and its various locations: from bio-hack lab to the kitchen, art gallery, design school, and brewery lab. What may this Symbiotic Culture Of Bacteria and Yeast teach us—humans—about our ways of collaborating with, cultivating, exploiting or caring for the living beings we eat and/or use to make everyday objects? Could kombucha SCOBY provide a guide to shifting ways of understanding and performing our way of life, or to phrase it another way: to initiate a cultural revival?

Keywords

Companion Species, DIWO (Do It With Others), Design (critical, fictional, prospective, textile), Kombucha, Performance art, Ritual, SCOBY.

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Introduction

How can we become aware of, meet, and build more respectful relationships with the life forms that surround us? Is there a link between human-made political forms and other-living-being-made living forms? How can we draw inspiration from the observation and understanding of life forms to imagine political forms alternative from exploitation and domination? How can we encourage these kinds of observations? These heterogeneous questions and concerns often appear in interactions with fermenting communities. They are encountered in relation to the question of the Anthropocene and from different fields: philosophy, arts, design.

In a very much grounded perspective, I approached these questions over the past year and a half by concretely engaging on a serendipitous journey with a symbiotic life form: kombucha.



Figure 1. One of the oldest Western kombucha representation: painting of Philipp Kubarev (*Morning*, 1918). Graphic: the author.

This paper aims to chronicle this journey from a situated perspective, and position it as part of a larger tapestry of thoughts and reflections. The author is a white cis-woman living and working in two cities in France, with a rural and feminist background linked to her grandmother's farm and a childhood in a village that passed on a culture of DIY canned food from the garden.

The various fields concerned by kombucha are concrete places from which to address previous questions —ones that, otherwise, would remain theoretical and unembodied. These domains are culinary design as it relates to fermentation, textile design, prospective and

fictional projects, and art. How do contemporary artists and designers reactivate issues inherited from ecology, feminism or mesology?

The goal is to embrace a holistic view of our surroundings, objects and food, to adopt a global design perspective, i.e., following Papanek: taking all stages into account, from production or the extraction of raw materials to the processing of waste, through transformations and uses, all in iterative cycles. How might kombucha be involved in these initiatives?

This paper relies on two types of primary sources. The first are formal interviews with three actors: a kombucha brewer based in Paris, a French-Icelandic artist and designer, and an American designer. The second material is the result of a year and a half of solo and collective experimentations, meeting and living with kombucha, that provided the opportunity for various informal discussions. Among these, I organized a two-week long design workshop to which were invited: an artist, two textile designers, a maker, a kombucha brewer, and an engineer.¹ This generous format was very fertile both in terms of discussions and formal experiments. Thereafter, artistic events facilitated the collection of stories from the public.² Other sources are published magazines, books, articles or even online posts.

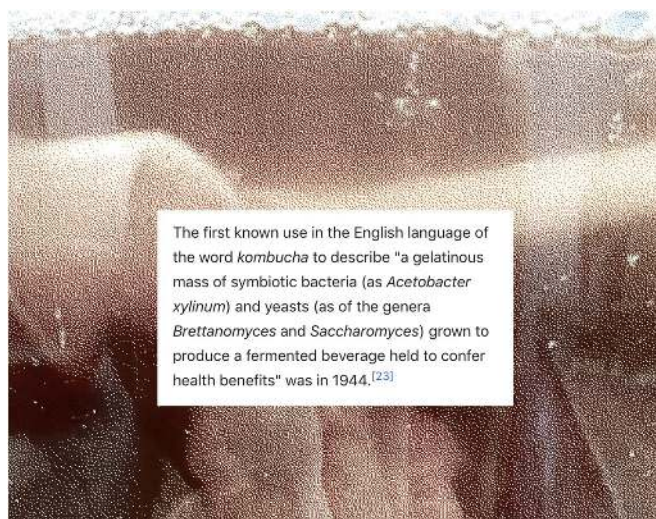


Figure 2. Wikipedia screenshot on kombucha cellulose and beverage. Picture: the author.

Microorganisms and Biotransformation through Interdisciplinary Prism

Kombucha

The average knowledge about Kombucha is that it is a Symbiotic Culture Of Bacteria and Yeast. Yeasts transform sugar into alcohol; bacteria transform alcohol into acid and produces a protective biofilm on the surface. Each one produces the organic substance the other symbiote profits from. The acidification of the solution protects the culture by preventing the growth of undesirable yeasts and bacteria. The beverage is drunk according to an ancestral tradition in Asia, and more recently in the West where its growing mainstream popularity is fairly recent.³

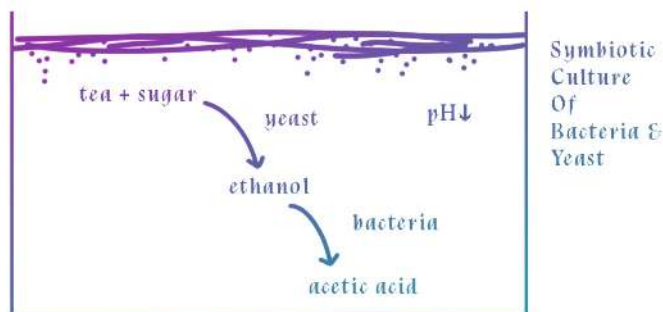


Figure 3. SCOBY diagram by the author.

In a variety of senses, Kombucha's popularity has relied upon a recent fermentation's fame. In the intellectual world, "fermentation" is a fertile concept summoned as a political and philosophical statement linked to feminism, epistemology, and ecology. A representative example is Lauren Fournier's project⁴ and essay.⁵ Fed by the thought of Haraway and Tsing—and they themselves by Margulis—, Fournier associate fermentation and feminism as reciprocal metaphors that we shall deploy hereinafter.

Biotech Perspective

From a bio-engineering perspective, the study of traditional fermented food may reach some molecule of interest for health, food or cosmetic applications. A renewed interest in the fermentation field was explicit, for example, at a conference I attended on February 23, 2022, at Polytech Lille, organized by the Cluster Nutrition Health Longevity—whose motto is "Where The Health and Food Sectors Converge."⁶ This conference gathered entrepreneurs, engineers, public and private researchers in agricultural, under the title "Fermentation: applications, new markets & health potential." Among the seven guests, two kombucha brewers were

programmed. Beyond that pleasant surprise, my interest was particularly picked by the intervention of Gnosis by Lesaffre's Global Marketing Director.

This brand is the result of the acquisition of Gnosis, the specialist in fermentation products, by Lesaffre, the world's leading yeast company in 2015.⁷ The brand statement positions it in the field of health nutrition: "We harness the power of microorganisms and biotransformation processes such as fermentation to create nutritional actives, probiotics, and nutritional and functional yeasts that benefit human health and wellbeing."⁸ In September 2022, they joined the French Gut Initiative, a research project about microbiota.⁹

Their business model is mainly B2B for the food and nutraceutical industries, however, they also offer a range of yeast products for domestic use. During COVID-19 lockdown, they observed an increasing demand on these specific products. After the lockdown, the domestic yeast demand went down but remains above its prior level. They therefore began to developing local yeast variations related to the food cultures of different markets and countries. This anecdote reveals an industrial yeast producer's interest in local cultures, which is paradoxical given that it's precisely the industrialization of food production methods (homogenization, centralization and scaling up) that has removed fermentation from individual plates.

Taste Perspective

On a smaller scale but no less demanding, let's mention two noticeable cookbooks that participated to the spread of fermentation culture. Qualified as a "bible for the DIY set" by The New York Times, *The Art of Fermentation. An In-Depth Exploration of Essential Concepts and Processes from Around the World. With Practical Information on Fermenting Vegetables, Fruits, Grains, Milk, Meats, and More.* from Sandor Ellix Katz was published in 2012. Claiming the polysemy of the word *culture*, Katz states that "Reclaiming our food and our participation in cultivation is a means of cultural revival, taking action to break out of the confining and infantilizing dependency of the role of consumer (user), and taking back our dignity and power by becoming producers and creators".¹⁰

This book has established itself and remains a major reference for DIY and homemade initiatives, with a theoretical perspective and health focus. Loren Fournier often refers to it in her paper. So do other artists working with fermentation such as Maya Minder.

In the world of gastronomy, fermentation was rehabilitated on the chef's table by the triple Michelin starred restaurant Noma, located in Copenhagen (Denmark). Eight years after the publication of a beautiful and expensive book for aesthetes in 2010¹¹, a cheaper and more pragmatic one marked the culture: *The Noma Guide to Fermentation*.¹² Suddenly, it was everywhere: from biohackers lab to *tables d'hôte* kitchens, the bookshelves of wild fermentation amateurs and independent brewery labs.

Where Katz focused on food *and* politics *and* health, considering all three simultaneously, Noma mentioned each recipe's traditional and historical backgrounds but quickly shifted its focus to taste and *How to?*, starting with building a fermentation chamber. Nevertheless, Katz's approach may also apply to describe Noma's book: "Empower [the reader] with tools so [they] can explore and reclaim fermentation into [their] life".

This quick food publication review wouldn't be complete without a non-cookbook: an artists-led publication about the human food system aiming to present research and art about food and technology from an open culture perspective. The third issue of Food Phearking was published by the Center for Genomic Gastronomy in 2016 and themed around *Gut Gardening*.¹³ The issue presents the 15 most famous bacteria from human microbiome followed by essays from artists and researchers. It invites the reader to consider becoming Gut Gardener¹⁴ and joining 'enterogastronomy' movement—eating with the gut in mind.¹⁵

Eating is Political

Behind the Food

"Every living creature on this Earth interacts intimately with its environment via its food" says Katz. Various artists and designers explore the social potential of eating together in a performance perspective. They use the sensual or awkward intimacy inherent to eating or drinking, the different aspects of the collective practice of. It can be festive or ceremonial, joyful then dramatic, depending on the ritual's intent. Eating together may invite to a meditation and allow awareness.

Some artists address the political aspects of food and try to repair some lost connection or understanding of where the food comes from. Tunde Wey's performances¹⁶ and Cooking Sections (Daniel Fernández Pascual & Alon Schwabe)'s work¹⁷ come to mind.

Some embrace the ritual and sacrificial weight of food, underscoring its association with both life and death. As Haraway wrote: "There is no way to eat and not kill, no way and not to become with other mortal beings to whom we are accountable, no way to pretend innocence and transcendence or final peace. [...] Multispecies human and nonhuman ways of living and dying are at stake in practices of eating."¹⁸

One collective and ritualistic moment embracing the sacrificial weight of eating is *The Butcher* proposed by Atelier Van Lieshout at la Friche de la Belle de Mai in Marseille (FR) on September 15, 2013. This spectacular diner held inside the eponymous exhibition proposed a meal around and from a cow. The press kit mentioned three interesting aspects. First, the qualification as "gustatory conviviality" connotes an aesthetic social moment related to gastronomy. Second, the mention of "reactivation of ancestral rituals" implies an anthropological heritage and collective feeding as a symbolically charged and structured moment. Third, the objective of "consumption without waste" embraces the contemporary issues around over-production and concerns around human activities' impact.¹⁹

Drinking Commercial Kombucha

Back to kombucha, the political impact of drinking this beverage may not seem obvious, especially when it isn't homemade but commercially produced. The latter trend in kombucha fashion was born in California and is marketed towards health concerns and self-care habits.



Figure 4. Two bottles of kombucha soda from the French brand Vivant Kombucha. Picture: the author.

Based in Paris since 2018, the brand Vivant Kombucha has adopted a marketing positioning in which taste and process are underscored. It is intentional, inherited from natural wine culture (which inspired the fermentation technic) and brewing culture (which inspired the packaging). The project was to create a non-alcoholic beverage with a taste complexity that related to wild fermentation and the natural wine world.²⁰

The company doesn't place its ethical structural choices on display: small local business, community-grounded, fair salaries, carbon footprint limitation with cargo-bike delivery, bottles consignment for professional customers, by-products reclamation (infused tea and cellulose), care for the livingness of the product (neither filter nor pasteurization are involved in the stabilization process, which relies only upon cold). It remains aware of the limits of its ethical commitment: tea and cane sugar are fair-trade but travel long distances — experiments with beet sugar, which is produced in France, were unsatisfactory, due to fructose peaks during the fermentation process, with undesirable effects on taste, Mial Watkins explained.

In rationalizing his commitment to kombucha, he refers to Jonathan Nossiter's book *Cultural Insurrection*,²¹ summarized as follows: contracultural arts are dead, gangrend by the capitalist system. "The only thing that you can do now, it's to go to the countryside, put your hands into the earth and make something [...]. Build a microeconomy around a very specific thing. [...] It's the story of natural wine and artisanal beer. [...] We applied this way of thinking to kombucha." Vivant Kombucha is fueled by ethical concerns and the will to contribute to a common culture while running a business. Does this business model's affiliation with the capitalist system defuse its insurrectionist potential? Feminists may say so, since "The Master's Tools Will Never Dismantle The Master's House", as says the famed Audre Lorde title.²² However, one may argue that acting, motivated by ethical concern, and armed with a clear and precise understanding, allows for a departure from the theoretical and an embrace of tangible trial.

Fermenting Feminism

Echo to Ecofeminism

As previously mentioned, the social eating moment, articulated via ritualistic forms involving fermentation, may be a means to address contemporary concerns regarding the impact of human activities on the planet.

These are an invitation to explore a specific tradition, one deeply committed to countering mortiferous human activities against living beings, through the employment of artistic and spiritual forms (such as ritual, dance, fiction, meditation...).

The common thesis of ecofeminist theories, summarizes Jeanne Goutal, is that "all domination forms (sexism, racism, specism, colonialism, imperialism, anthropocentrism...) are inseparably and systemically linked."²³ Ecofeminists commit to "the refusal of any form of domination," between humans as well as between species, genders, or regions, and the fact that "systemic change needs a psychic, moral, intellectual and spiritual mutation [...] Ecofeminists refuse the ideal of a freedom without awareness of natural limits."²⁴ This family of thought and action is embodied by contemporary artists and designers addressing topics such as the renewal of interspecies relationship through forms related to ritual.

Building a Critical Space

From 2012 to 2016, Lauren Fournier curated a series of events and exhibitions entitled *fermenting feminism*. It brought together artists to explore the question of "what it means to bring fermentation and feminism into the same critical space?"²⁵ She developed a reciprocal metaphor between fermentation and feminism, that she honed both from a theoretical perspective—with an academic paper—and in practice—with the collective events and exhibitions. She and the participants "approach fermentation through intersectional and trans-inclusive feminist frameworks" and "approach feminisms through the metaphor and material practice of fermentation": "Fermentation as a process of transformation becomes both a metaphor and a material practice through which to explore important issues [...] from the politics of labour, affect, survival, and care to colonialism, food, indigeneity, and the land."²⁶

Through these art exhibitions and events, she affirms a statement that is present in the foreword of the catalog and further developed in a paper: fermentation is a generative and speculative metaphor and, simultaneously, a material practice, a microbiological process that embodies and performs a theoretical positioning.

She elaborates this idea into ten proposals: "fermentation is political; fermentation is vitalism; fermentation is accessibility; fermentation is preservation and transformation; fermentation is interspecies symbiosis and coevolution; fermentation is survival and futurity; fermentation is care of the self and care of others; fermentation is harm reduction;

fermentation is queer time; fermentation is collaboration.”²⁷ Cross reading of the paper and the catalog allows one to associate the artist’s work to one of several of those.

Prospective Design, Fiction & Ritual

Building communities around the table

Crafters and makers concerned on how to do things themselves reclaim self-nourishments and experiment in making processes that participate in an empowerment process. These may turn away from the commercial model, experimenting on other ways to exchange services and goods. Communities can rally around thought or interest, with or without devoted spaces; these can be ephemeral, or provoked by a situation. This is the goal of artists who gather spontaneous communities around fermented food sharing, congregating at the table around the living being that feeds us, and inviting an audience to raise awareness.

From Design to Performance and Cooking

Elin Margot, a French-Islandic artist and designer, often uses food-sharing moments as a starting point and final form to address critical issues. She organized several debate-dinners, inviting people from a common area with divergent points of view around a fictional menu contextualized in a scenario. For those rituals—that may also be called participative performances—, when any furniture or accessory is needed, she relies upon her training in product design, using wood and ceramic. The sequencing of the event draws upon her service design skills. Her method to build it all relies upon critical and speculative design.²⁸

In reference to another artist’s performances, she asks, in a fictional context: what would a dinner consist of in a society that refuses to kill animals and eats only that which some of them naturally shed—such as salamander tail? As such, she rethinks the place of meat.

She recently started to learn cooking. Prior, she faced challenging collaborations with chefs, requesting that they abandon the quest of making good food and focus instead on the way to do it—regardless of taste. Aware of vegan thinking that denies death, claiming inspiration from ecofeminism and hydrofeminism, she aims to provoke a discussion, while eating together, about the human relationship with the living beings on which we feed. She creates scenarios such as a kombucha

adoption for interspecies mothering—that she performed, teaching how to care and maintain the SCOBY, beverage.

From Cooking to Codesign

The artist Maya Minder, a member of the bio-hack lab Hackteria and of the BadLab collective, has followed a symmetrical path: from cooking to objects. Rooted into food practices and social constructs around food, she proposes collective sensual experiences that engage people and their microbiome through macrobiotic, fermented and vegan buffets. She invites to develop an awareness of natural processes, those permanent and invisible movements.

She recently conceived the Green Open Food Evolution, a culinary installation involving a speculative cooking furniture co-conceived with designers. She explains: “The idea was to create cooking that can be activated. We made racks to display the tools of speculative cooking, as well as algae and various other objects. Even the table is like a topographical landscape, non-uniform, that tells a story.”²⁹ The installation was activated in public for the exhibition opening.

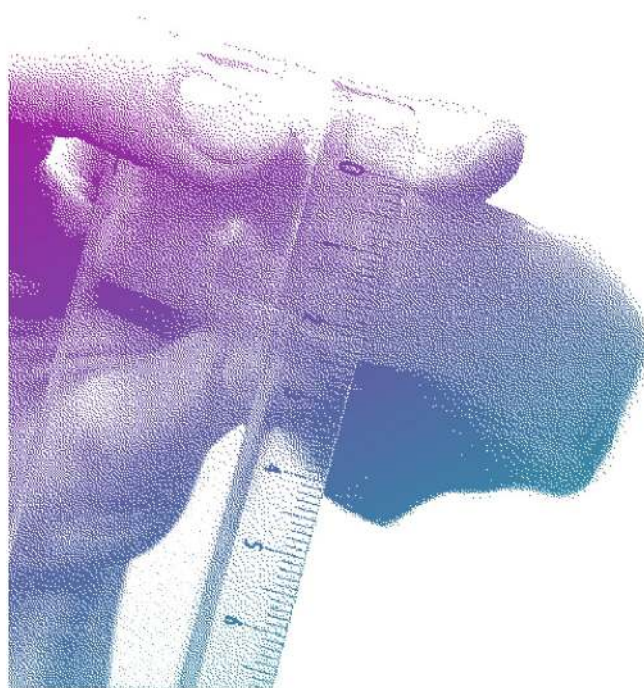


Figure 5. Measuring the thickness of home-grown kombucha bacterial cellulose before drying. Picture: the author.

From Design to Ritual

Joanne Jones was trained in Industrial Design and Environmental Sustainability, then, she steered clear of standard industrial design, refusing plastic and other straight-to-the-trash items, which were unaligned with her values, she says.³⁰ Joining the Nature-Inspired

Design program at ENSCI in Paris, she sought to work with an organism and began growing kombucha leather. It is not easy to bond with faceless organism that becomes a living material. How do you honor the agency of those organisms? she asks. It became more of a philosophical question, almost spiritual as well.

She ended up making an entire prospective design fiction about a kombucha community that works with the organism and develops rituals with the material. Her concern was to provoke questioning: how does one work with living organisms and living materials in respectful ways? How does one escape the exploitation pattern? The fictional community would have to build relationships with the microorganisms and with each other, these would be achieved through ritualistic practices based on the solstice and equinox.

Reinventing Addressing Forms

Following kombucha, I met artists with design backgrounds, an interest in food, ecological and/or political awareness, makers of ritualistic forms as social sculpture, inspired by ecofeminist fictional tactics, and critical, and speculative design methods. This mixture of styles relates to kombucha itself: its plurality of micro-population and the plurality of the ways humans may look at it: as a tasty and/or healthy beverage, as a biomaterial with uses still to be explored or stabilized or as a metaphoric form to rethink human relationship to living being in a more harmonious way of life, as a guide from how learn a greater resilience.

Conclusion: Let's Explore Spiritual Aspects

During this year and a half of meetings and interviews with designers, artists, brewers and engineers, stories and analyses about kombucha were gathered. However, the relationship with beliefs, superstitions and magical rituals is not sufficiently explored. I found traces of kombucha's involvement in divinatory practices. This needs to be continued, not in a religious or dogmatic aim (searching for ways to build beliefs and manipulate people) but, on the contrary, to develop a critical approach to our Western lifestyle (and diet), looking for clues of the cultural revival we absolutely need in the contemporary context. This intuition follows the common assumption of speculative design and ecofeminism: the power of fiction to change the world by changing our imaginaries deserves to be investigated.



Figure 6. Dry kombucha cellulose sample with various of colors and thickness. Samples & picture: the author.

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Author Biography

Lucile Olympe Haute is an artist, researcher and educator. Her research brings together spirituality, technologies and politics — understood in the broader sense of a committed and eco-responsible "living together" that goes beyond anthropocentrism and includes the plant, animal and fungal kingdoms, even the communities of bacteria in our biotopes. Synthesizing these issues, she wrote the *Cyberwitches Manifesto* to bring together witches from different backgrounds, politically committed (ecofeminism, queer/transfeminism, technological emancipation) and involved into empowerment processes. Her work often manifests through the aesthetic and narrative versatility of web-to-print design tools. She is lecturer in art & design at the University of Nîmes (FR) and associate artist at École des Arts Décoratifs – PSL (FR). lucilehaute.fr | projekt.unimes.fr | ensadlab.fr