

"Unmute" Bread

Listening, Improvising, and Performing with Sourdough in Quarantine

Kate Galloway and Rachael Fuller

Volume 14, Number 2-3, 2021

Improvisation, Musical Communities, and the COVID-19 Pandemic

URI: <https://id.erudit.org/iderudit/1080726ar>

[See table of contents](#)

Publisher(s)

University of Guelph College of Arts

ISSN

1712-0624 (digital)

[Explore this journal](#)

Cite this article

Galloway, K. & Fuller, R. (2021). "Unmute" Bread: Listening, Improvising, and Performing with Sourdough in Quarantine. *Critical Studies in Improvisation / Études critiques en improvisation*, 14(2-3), 1–16.

Article abstract

While many of our colleagues are avidly baking and feeding their newly acquired sourdough starters while sheltering in place during the COVID-19 pandemic, we are conducting ethnographic work with individuals who have embraced the stylistics and aesthetics of improvisation in acts of caring for, listening to, baking with, and recording their sourdough starters, as well as performing alongside their bread-kin. Imagine, in some instances, the multispecies improvisational style of David Rothenberg's co-performance with birds, whales, and insects (Rothenberg 2017; 2016; 2002; Ryan 2020), but with wild yeast and freshly baked bread. In this article we ask: What is it about the conditions of sheltering in place, quarantine, and domestic isolation that fosters an experimental space for reconfiguring multispecies improvisation and performance to include our foodways? Why has baking, specifically bread (and sourdough), rather than other forms of domestic activity and craft fostered this specific sonic response during these pandemic times? How are participants sharing, scrolling through, and listening to these domestic performances across social media? What does the sonic register of these multimodal texts communicate to other socially distancing social media users? Through ethnographic fieldwork of performing with, listening to, musicalizing, and caring for sourdough starters, their "screaming yeast" (Roosth 2009), and the baked result, this article places improvisation studies, domestic practices, multispecies performance, gastromusicology, and pandemic spatial conditions in dialogue to address these questions.

“Unmute” Bread: Listening, Improvising, and Performing with Sourdough in Quarantine¹

Kate Galloway and Rachael Fuller

While many of our colleagues are avidly baking, feeding their newly acquired sourdough starters, and sheltering in place during the COVID-19 pandemic, we are conducting media analysis and digital ethnography focused on baker-listener-performers who have embraced the stylistics and aesthetics of improvisation in acts of caring for, listening to, baking with, and recording their sourdough starters, as well as performing alongside their bread-kin. Imagine the multispecies improvisational style of the American jazz clarinetist David Rothenberg’s co-performance with birds, whales, and insects (Rothenberg, *Bug Music*, “Interspecies,” “Introduction,” *Sudden Music*; Ryan), but with wild yeast and freshly baked bread.

In this article we ask: What is it about the conditions of sheltering in place, quarantine, and domestic isolation that fosters an experimental space for reconfiguring improvisation and performance to include our foodways? Why has baking, specifically bread—specifically sourdough—rather than other forms of domestic activity and craft fostered this specific sonic response during these pandemic times? How are participants sharing, scrolling through, and listening to these domestic performances across social media? What does the sonic register of these multimodal texts communicate to other physically distancing social media users? Through media analysis and critical practices of performing with, listening to, musicalizing, and caring for both their “screaming yeast” (Roosth) and the loaves they make with it, this article places improvisation studies, domestic practices, multispecies performance, gastromusicology, and pandemic spatial conditions in dialogue to reflect on these questions. This article is written in an intentionally experimental and reflective style as we foreground the different voices and fascinating ways that listener-performer-bakers are improvising, recording, sounding, and baking in their homes and online.

As an interdisciplinary field, sound studies is already listening to such spaces. Through her analysis of the cross-species and cross-environment improvisational practices of American jazz clarinetist and multispecies improviser David Rothenberg, musicologist Robin Ryan develops the term “multispecies musicking” to refer to forms of listening and sounding shared by human and nonhuman animal life that also decenter human understandings and values of art and performance. Multispecies musicking “equally situates humans and more-than-humans as biological species subject to the grand scheme of nature, which,” in the case of Rothenberg’s improvisational sound collaborations, “becomes the *muse* and referent for improvisatory expansion” (Ryan 168). For both Rothenberg and Ryan this means expanding conceptions of the improviser to include the improvising nonhuman.

Similarly, in James Steintrager and Rey Chow’s edited collection *Sound Objects*, we hear generous readings of sonic encounters and diverse positionalities and sounding bodies. Georgina Born attends to listening and sounding across species and Jairo Moreno and Gavin Steingo take embodied listening inside the body to listen for the assemblage of blood, organs, and flesh involved in the “audile efforts” (Moreno and Steingo 167) of the heartbeat and bodies within bodies in listening to fetal growth and life. Although marginalized and unconventional approaches to the study of sound objects are explored by Born, Moreno, and Steingo in particular, we are left listening to voices that are beyond humanity’s sensory range and that therefore require human and technological modes of amplification. Here we are specifically thinking about microbial musicking, and the subjectivities of cellular listening. We are thinking

about the use of nanotechnology, such as sonocytology, to amplify the sounds of what anthropologist Sophia Roosth calls “screaming yeast.” And we are thinking about multimedia artist and musician Joshua P. Rosenstock’s Fermentophone, a multi-sensory art installation where fermenting microbes control the rhythm of a computer-generated musical performance.²

It is fitting that breadmaking has received a disproportionate amount of attention by sound-oriented baker-listeners during the COVID-19 pandemic because, as Roosth points out, the unicellular species of fungus *Saccharomyces cerevisiae*, commonly known as yeast, “is also the first to have its cellular noises amplified and recorded” (332). In her study, she is specifically discussing the use of the nanotechnology method of sonocytology, which amplifies yeast cells’ vibrations so that human ears can hear them. While the baker-listeners we listened with shared our fascination with the sounds of yeast, they also explored other forms of improvisational and chance-oriented sound production from their starters and bread, including improvisational performance and listening practices in response to what they heard.



“Musicology Twitter” Bakes and Listens.



Joshua Pablo Rosenstock's "[Fermentophone Harvard](#)."

Why Bread? Why Now?

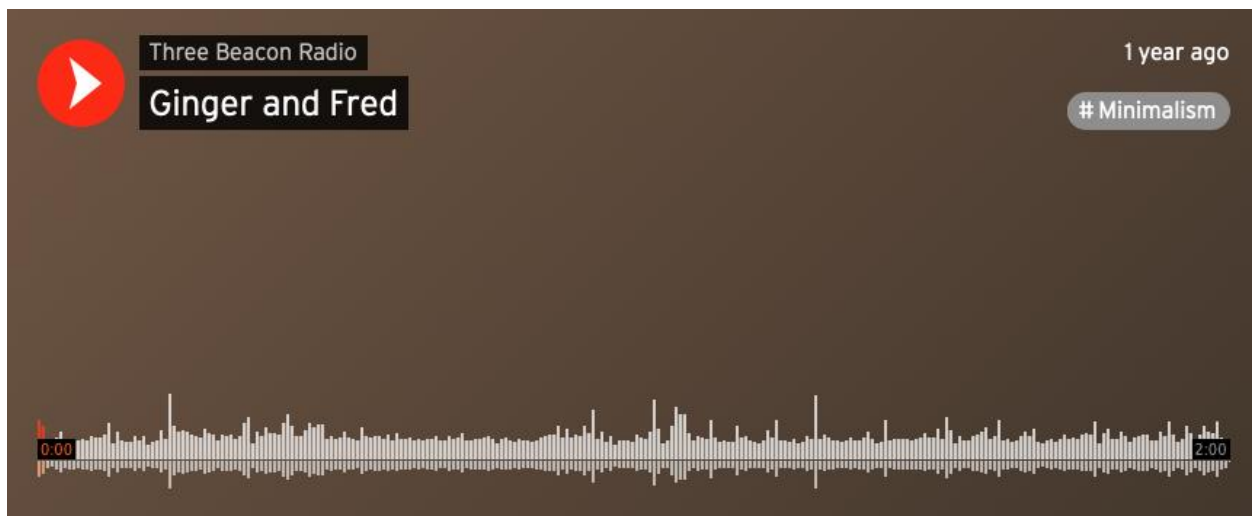
It all began when a Tweet caught Kate's ear. I, Kate, was scrolling through Twitter one afternoon mid-April and my feed was saturated by ethno/musicologists and media and sound studies scholars not only baking bread (as one does during the COVID-19 pandemic), but also highlighting its aurality. As Ryan outlines in her discussion of the technological integration of the musical, the natural, and the improvised in more-than-human musicality, when human and nonhuman sound-makers improvise together in forms of "multispecies musicking," human technological and media intervention "assumes a transformative role as the enabler of coherence between the parallel human and more-than-human soundworlds" (168). Using technologies of sound, we can join in and play along. My colleague Neil Verma, a scholar of sound in radio and communications media, was recording his family's sourdough starters, "Fred" and "Ginger," listening to and recording them using a Sound Device MixPre and a Jez riley French contact microphone.³ Verma and his family were interested in listening to which starter sounded more active that day. Verma announced the answer in his Tweet with the bespoke hashtag: #itwasGinger (@nkhverma, "Here's my daughter"). His recording was featured early in the pandemic on "Outside In: A Communal Listening Series," a spatialized audio stream launched by Chris Hoff and Sam Harnett through their radio show, *The World According to Sound*, so that listeners who were at home sheltering in place or in quarantine could listen together at a distance.⁴

Later that week Verma uploaded his recording to his Soundcloud account, Three Beacon Radio. His program notes for the track read:

Everyone's making sourdough these days. It helps to quell the dread, doing something that requires methodical thinking, doesn't it? Sure. We were given a 24-year-old starter from a generous friend. To add steps to an already elaborate multi-day process, I

divided it into two batches – named them Fred and Ginger – that I fed with the same flour but different temperatures of water. To find out which was most active when it came time to make dough, I decided not to use my eyes or nose, but instead brought Fred and Ginger to my studio (currently a coffee table), where I used a JrF contact microphone and MixPre to record gaseous bursts, along with several barely perceptible disturbances in the jar lid. If you listen for a long time, you feel a little like you are inside slow dough bubbles in the levain.

Anyway, on this particular day, it seemed to my ear that Ginger was more active than Fred. But then I felt bad for the old chap and in the end I decided to combine a little of each starter for the dough. The final stereo mix reflects the material combination, letting the two starter recordings dance together, Fred panned half left and Ginger panned half right. I run it here at 4x speed, I think it sounds best that way. Wear headphones. (Three Beacon Radio)



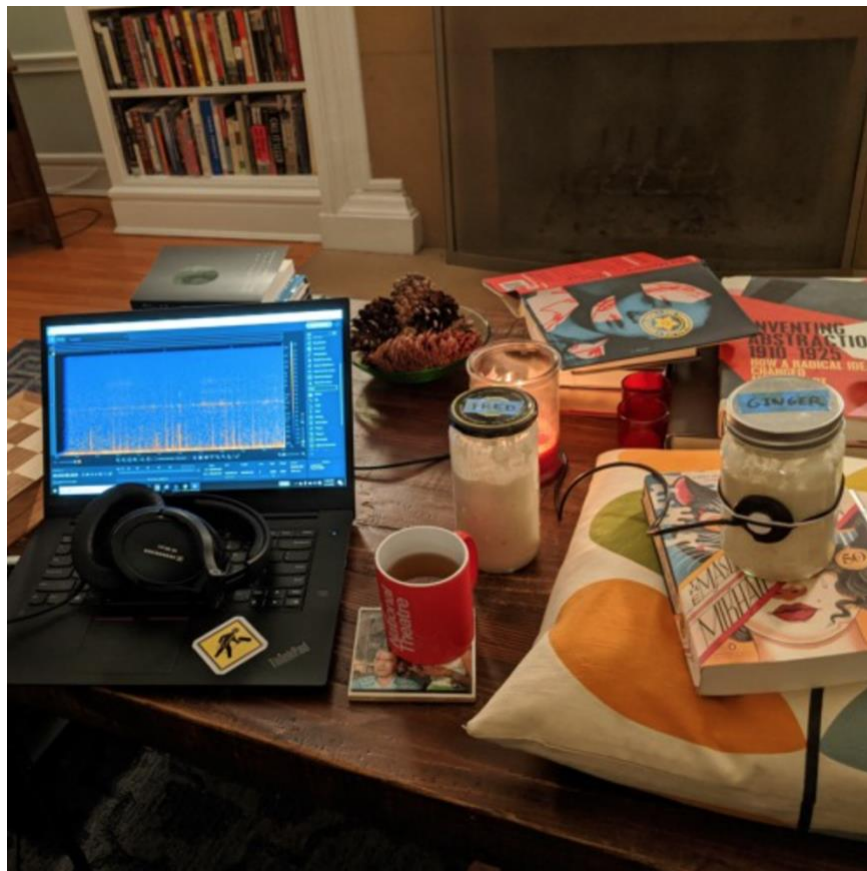
Three Beacon Radio, “Ginger and Fred.”

I follow Verma’s directive and slide on my over-ear headphones to enclose myself in the soundworld of his sourdough starters, fostering an intimate proximity between my ears and the amplified Fred and Ginger. The wash of clicks, spurts, goops, crackles, and micro-pops saturate my cocooned acoustic environment⁵ as I listen intently to the sonic expressions of Fred and Ginger, as well as the sonic distribution among those expressions that Verma has engineered in his home studio. I turn up the volume on my laptop, parsing the sonic moves of these nonhuman improvising agents.

Heralding the sonic and relationality that multispecies musicking offers, Ryan explains that it “is a transparent way of drawing us [humans] into an imagined future—even an imagined past, as archival recordings begin to recall voices of extinct species. Calls to action may accompany live performances involving species whose global existence is threatened. Then again, a performance may emerge as an act of grace that inspires the honoring of nature through its own integrity” (Ryan 179).

The process of preparing and caring for the starters is just as important as the recording process and the technology Verma selected to use for this track, and Verma’s replies on social media to interested listeners, including The World of Sound (@Thewatsound), illustrated the

ease and simplicity involved in sonically engaging with your starter. In response to a prompt asking how much “noise” the starters make and about the recording set-up used for their sourdough sound demo,⁶ Verma writes: “Not much to it! Plug it in, secure the contact surface to the jar with a couple of (in this case) kid hair elastics, find a spot far away from the fridge to get less ambient hum, and there you have it. Just sounds like tiny, slow bubbles. A slow, low goopy version of carbonation” (@nkhverma, “Not much to it!”). The final words in Verma’s program notes—“wear headphones”—signal to the listener that they should lock into an intimate and enclosed aural engagement with the voices of his sourdough starters. Studies in histories of recorded audio that highlight the voice (e.g., radio, podcasts, audiobooks) focus on a voice that is earconic rather than on the voice as a field of listening.⁷ Amidst the pandemic, maintaining the feeding for both Ginger and Fred became “a bit onerous,” Verma confessed in conversation, “and so we combined them into one, now known as ‘Judy.’” Verma shared that “Judy eats light rye, so she sounds a little more like her dad than her mom, to my ear!” The voices of starters that bread viewers/listeners hear as part of the improvisational performances broadcast over social media reveal the ways bread makers and bread performers are implicated in processes of shaping, reflecting, processing, and capturing place, time, community, and expressive culture in relation to domestic activities during the pandemic.



“Fred” and “Ginger” Recording Session.

Deeply immersed in this project and having just watched the latest episode—an appropriately timed “Bread Week”—of series five of *Junior Bake Off*,⁸ I, Kate, listened across social media for more sounds of bread, yeast, and gurgling sourdough starters. In season eleven of *The Great British Bake Off*, which premiered during the fall semester of the pandemic, contestant Peter Sawkins, from Edinburgh, listens with intensity to each of his bakes. It is only through listening

to his baking that he is confident that he has successfully met the challenge. Peter ultimately won season eleven of *The Great British Bake Off*. Many online fans attributed his success to the ways he listened with care to his bakes, evaluating his bread, brownies, and tarts using his entire sensorium, but placing emphasis on his culinary “deep listening” and aural perception of baking processes. In a Tweet from late May, composer and music theorist Evan Ware articulated the correlation between processes of composing with baking bread. Accompanying a close-up shot of a fresh, slightly lopsided crusty sourdough loaf resting on a cooling rack, Ware writes: “Baking sourdough is a lot like composing or writing. Try, fail, try again, fail better. . . rinse/repeat. This week, I’m failing pretty well!” (@warewolf). This Twitter vignette highlights the productive failures and successes of composing, improvising, *and* baking.

Like Kate mentioned, there is so much preparation and caring that goes into listening to ferments like sourdough starter. I, Rachael, think that there is also an enormous amount of preparation and care that goes into actually making a sourdough starter. The most basic sourdough starter is made from flour and water. Some bakers may add other ferments to get their starter growing, like apples or beer; Nancy Silverton is known for her sourdough starter made with unwashed Concord grapes (Chandra). Every day, the baker discards most of yesterday’s sourdough and then adds more flour and water, effectively feeding the starter. Bakers can use any combination of flours, and while starters may yield the best fermentation by using the same flour consistently, they are also incredibly versatile and change shape with the slightest variation. I often find myself with as many as seven different starters in the back of the fridge, all with different variations of flour, each one varying in viscosity and smell.

A successful sourdough starter can look like a lot of different things, and since sourdough is a living ferment, it can also produce diverse results. While Verma’s starter may have given off a particular sound, mine could give off a sound entirely unlike his. And at any distinct age or stage of growth, Verma’s could also give off a different sound than the one he recorded with his family. In the book *Tartine*, Chad Robertson creates a methodological approach to baking bread. Each recipe’s starter or levain rarely changes ratios, but I, Rachael, found that when I riffed off of Robertson’s book using different flours or added ferments, I created new personalities of bread—one with rye flour was denser and the sound of the freshly-baked, just-out-of-the-oven sourdough was a faster, sprightlier pop, while another with brown rice flour made deep, laborious squelches. Each variation in flour-to-water ratio created a singular sourdough personality.

Ethnomusicologist Marié Abe was a test baker for *Tartine* in graduate school and she meticulously planned her sourdough baking around her busy schedule by making a chart on index cards to keep track of her sourdough starter. She writes, “It allowed me to get errands done, go for a run, and edit papers – my day ended up being so much more productive than it would’ve been if I hadn’t baked bread” (Robertson 80). I’d be lying if I said that I didn’t model some of my graduate school schedule off of Abe’s methodology—but it worked! I always had a more productive day of graduate school next to a bucket of levain. *Tartine* describes Abe’s favorite part of the bread as “the faint crackle of the hot crust as it cools—the ‘song’ of the bread” (Robertson 81).

Sifting and Togetherness

It’s no secret that bread making has become something of a cliché hobby during quarantine. At the beginning of quarantine, it seemed like everyone was making their own bread after its store-bought counterpart flew off of the shelves (Johnson). After this, flour started disappearing from the shelves and, very shortly thereafter, so did yeast (Aviles). Part of the reason why sourdough

is so appealing during quarantine is that it only requires flour and water—its simple ingredients in combination with its time-consuming process is ideal, since many people started having more time after the pandemic began due to the sudden lack of a commute or loss of employment. Something that originally seemed like a niche, hipster hobby is suddenly accessible to a lot more people (McCarron). The exception to this is essential workers, who do not have the luxury of a canceled commute. During this particular pandemic, corporations and businesses have touted that “we’re all in this together.” While COVID-19 is a danger to everyone, though, essential workers are at a much higher risk than many others so that we *aren’t* exactly “all in this together” in the same way (Miller, et al.).

On the other hand, “we’re all in this together” could imply that we—human beings as well as non-human beings like sourdough and viruses—are all in this together, for better or worse. Something like yeast or a virus might fit into Donna Haraway’s theoretical framework of “making kin” or coexisting with the “more than human.” As Haraway explains in an interview with radio producer Steve Paulson, “To be kind is to be kin, but kin is not kind . . . Nobody can be kin to everything, but our kin networks can be full of attachment sites” (Paulson). I, Rachael, would argue that our involvement with yeast during a pandemic has forced us into re-examining kinships, particularly when relationships between other humans have become isolated or virtual. Additionally, our involvement with the virus is also forcing us to re-examine kinships with each other, from wearing masks to rethinking getting together, in order to keep each other alive.

On April 4, 2020, Rachael interviewed composer Daniel T. Lewis via Zoom after he mentioned to her that his piece *sift* (2014) was a good piece to think about during a lockdown. “The piece itself isn’t sticky, or maybe I don’t want the piece to be sticky . . . but [this lockdown] makes the experience [of listening to *sift*] sticky,” Lewis mentions, noting that we’re in a very “sticky” situation because we’re forced to be at home right now.



Daniel T. Lewis’s [sift](#).

It's more than just a feeling of stickiness, however, for Lewis. He explains to me, Rachael, that when he was thinking about the piece originally, he thought of Mark Strand's poem, "Not to Miss the Great Thing." The poem itself gives the sense of growing tension and an unexpected event, but when the event happens it's something completely underwhelming. The poem closes with the line: "Maybe this is it. Maybe this is all it is." Lewis shares with me,

I used to love that feeling, of "well, maybe that was it." It's a sticky feeling. But I definitely feel like time is just slipping away right now. It's been twenty-five days [since I started quarantining]. It feels like it's been five, but also sixty. I get that sense of loss toward the end of the day. In the face of reading all of this news about people dying, here I am trying to muster up the energy to balance some credit card statements or do something useful. What am I doing? I feel like the day has gotten away from me, that it's been lost. (D. Lewis)

Many of Lewis's work experiences are still virtual, as he works part-time as an accountant (typically in an office, now from home) while also composing and teaching.

When I first heard *sift*, I mistook the intended meaning—I originally thought *sift* was about flour sifting through a sieve. I actually went so far as to make this piece a part of my baking playlist, which includes an eclectic mishmash of songs relating to baking. Lewis mentioned to me that this is not the first time someone has made this mistake, and he laughed when I thought that *this* was the reason the piece was so appropriate for the pandemic; Lewis and his wife had also taken to making bread (though they were lucky enough to get their hands on some store-bought yeast). However, I still see *sift* as something of a network. It could be meant as something sticky, but it also has a similar meaning when thinking through the action of sifting during baking: flour slowly strains through a sieve, separates, leaves behind particles, and transforms into something usable. When mixed with water and left on the counter for a few days, this "sticky" substance becomes kin.

Lewis hopes that his work resists a singular meaning. When *sift* was recorded for Transient Canvas's album of the same name (*sift*), he provided a short sentence for the liner notes: "*sift* intends to represent an exhaustion, a drawing-up of energy, a struggle to accomplish something, and a final and inevitable collapse." Lewis mentioned that one reviewer included this description and simply wrote: "Mission accomplished." He elaborated, "[a]s if all the piece was, was the acting out of what the program notes had described. That happened when I was already pretty upset with the idea of program notes in general, and so you can see how I might be hesitant to narrow the piece down to a single meaning." Lewis's insistence on *sift* having multiple meanings supports my idea of it being a network with several attachment sites. Thinking of *sift* like a network also opens up the possibility of multiple people ascribing multiple meanings to a piece, which is also supported by Lewis's openness while also decentering compositional intent altogether.

sift is also a piece that conveys labor for Lewis, though he contends that the struggle that accompanies labor is not often viewed as acceptable in US culture:

Early on, for me, the composing process is really effortless. There are no stakes—I'm just playing around. Then, it hits a point where I have to start making decisions. I work primarily on graph paper, and the act of drawing things, writing things, erasing them, redoing them . . . towards the end of the process, the labor becomes something where I actively have to decide what a performer will read. The horror of music is: "does it actually matter what the specifics are of translating this idea into the actual score?" I

struggle with that. For me, labor seems to be invisible. We never see the hardship that people have with anything. In our culture, domestic labor in particular is completely hidden. In general, we have this culture where we say labor is good and that you should be working hard, but we never talk about the hard work. It's not okay to be seen struggling with your work. (D. Lewis)

While Lewis asserts that labor is invisible, during the pandemic certain aspects of labor have been reoriented or, in some cases, exploited. For example, domestic labor during the pandemic, combined with workforce labor, has created a particular clash. Caregivers are often left to choose between caring for loved ones or keeping a job. As a New York Times article written by food blogger Deb Perelman of Smitten Kitchen explains, “[caregivers] are not burned out because life is hard this year. We are burned out because we are being rolled over by the wheels of an economy that has bafflingly declared working parents inessential” (Perelman). On the other hand, the bread baking trend has allowed new bakers to see just how much labor goes into a sourdough starter and making a successful loaf, exposing a type of labor that hadn't necessarily been common for many people pre-pandemic. Understood as the song of bread to a listener, *sift* is an idyllic pandemic listen. Alternatively, *sift*'s concept of time or events slipping away offers a way to listen to some of the difficult aspects of the pandemic. *sift*'s laborious characteristic in the context of pandemic listening can draw attention to certain kinds of invisible labor, now made visible and exploited.

Bread Out, “Sound On”

The theatrical and sonorous cases of musicking with sourdough starters and freshly baked bread loaves resonating across social media during these pandemic times opens up society's ideas of community and performance to non-human kin in our domestic spaces of quarantine. Social media has offered users a space to post, share, and consume multisensory performances by and with living cultures of bacteria and yeast as well as the steam and material cracks and fissures of freshly baked bread cooling after it's removed from the oven. As I, Kate, was scrolling through my Twitter feed one afternoon on the couch next to my dog, I encountered a video of an apparently silent loaf of steaming bread, fresh from the oven. The video is zoomed in to provide the viewer/listener a close-up of their domestic skills; however, the post also contained the directive “Sound On!” that signaled to the user that this post is best enjoyed at full volume. “Sound On” or “Unmute This” videos are a micro-genre of audiovisual Internet media, containing directives that, Paula Clare Harper argues, “operate to corral and direct attention, in which users are called to shift their listening stance from an assumed heterogeneous sonic background to a singular, attentive foreground focus” (Harper, “Unmute This” 11).

I tapped my screen and unmuted the video to reveal a sonorous world of crackles, spurts, and steamy exhales from the fissures in the loaf's firm yet supple crust. Accompanying this instructional text was a short text explaining how the video creator only recently began experimenting with bread-making and, while they knew they were supposed to follow the recipe with due diligence, they chose instead to “improvise” with the recipe and observe the visual *and sonic* results. They also exclaimed that they “loved listening” to their loaves—even those that desperately failed—and this one was the “best” thus far (in both taste and sound). The aesthetic choices made by the video creator include that visual and sonic close-up using specific camerawork and parabolic microphones, which provide the viewer/listener with what media scholars have recently critiqued for their creation of a sense of “false intimacy” (Bruyninckx 138–40).⁹ This audiovisual technique, however, also relays a haptic experience of the loaf that is reminiscent of wildlife sound recordist Chris Watson's collection of close-up wildlife field recordings on *Outside the Circle of Fire* (1998).¹⁰ These unpredictable sounds performed by the

bread outlined how improvisational sonic activity emerged from unexpected places in the domestic lives of people sharing their daily activities online during the pandemic.

In another video, a different creator removes their bread loaf from the oven and immediately places it next to a condenser microphone connected by USB to their laptop, then placing the microphone as close as possible to the surface of the dynamically cooling crust without generating any noise in the recording. The quality of the recording is very intimate due to this microphone placement. In post-production, the creator overlaid a spoken text with a breathy timbre articulated at not quite a whisper that draws the viewer/listener's attention to a variety of sensory parameters while also describing those they must imagine: carefully detailing the texture, smell, taste, and sound of the bread. His vocal pacing, pauses, and brief stutters suggest that he is improvising sections of his text aside from minimal pre-rehearsed sessions. He seductively murmurs, "I love how crisp-yet-tender this warm crust is as it crunches in my moist mouth." Narrations in this style, as Harper argues, help to "foster an intimacy and immediacy that bridge the screen and space of the viewer/listener and ASMR [autonomous sensory meridian response] performer, even as the semantic content of these statements rests subordinate to their function and texture as sound—breathy, sibilant whisperings that themselves might trigger the pleasant bodily feelings collected under the ASMR designation" (Harper, "ASMR" 96). During these times of pandemic isolation when digital communities are formed and strengthened, these kinds of cross-screen points of connection where we listen and feel along with almost-strangers provide much needed bodily pleasure through digital participation and a variety of online sonic encounters.

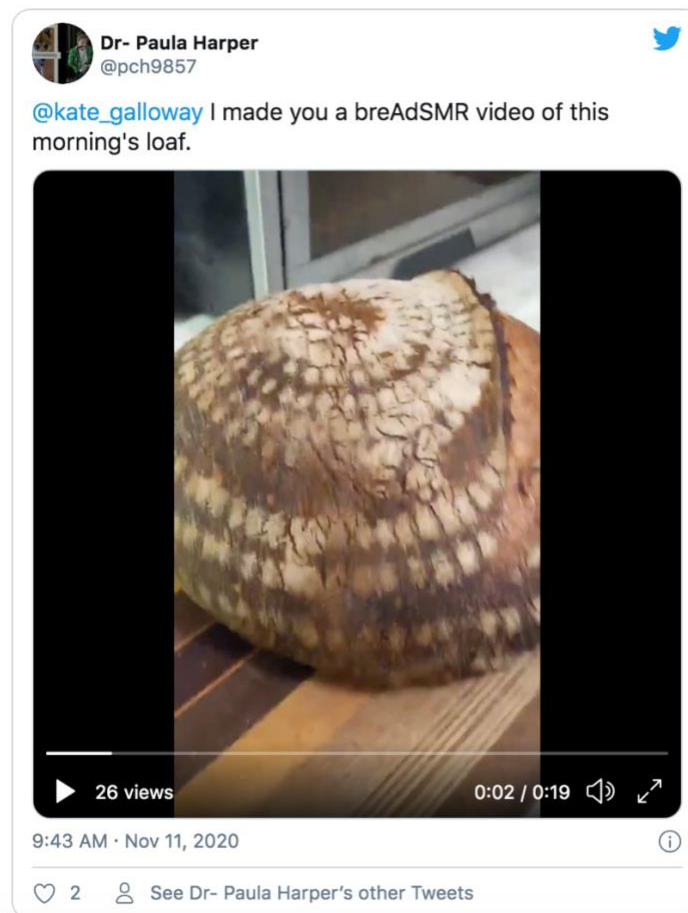


Figure 3 – “breAdSMR.”

In these short ASMR-styled videos, users listen on Twitter to the improvisations of the internal and external temperatures of loaves adjusting to room temperature and the gaseous gurgles of starters releasing gas as yeast develops.¹¹ The annotations for these videos encourage viewers to “unmute,” turn the sound on, listen, and participate in “a particular ‘sociality’ of social media” (Harper, “Unmute This” 8).¹² While ASMR videos take many forms, the “mediated intimacy” of ASMR (and ASMR-styled) videos, as musicologist Harper highlights, formalizes this internet video microgenre. For Harper, ASMR videos “are centrally framed around sensory experience—in particular the use of sound (by the video creator) to induce bodily sensation (in the video viewer/listener), but also incorporating other varieties of sensory experience as well. Many videos feature a variety of particular sonic “triggers”—crinkles, scrapes, cracks, pops, all delivered at a relatively low volume and isolated and amplified through careful recording and production processes” (Harper, “ASMR” 95). Mediated intimate performances of more-than-human growing animate sourdough starters and freshly baked bread are multisensory sonic experiences. They are both visual and tactile, as well as aural.

In another series of posts, a vocalist, Elizabeth,¹³ commented that they were engaging in Deep Listening practices and improvisation with their starter and bread loaves, following in Pauline Oliveros’s footsteps—or should I, Kate, say “earsteps.” The practices of sonic awareness pioneered by Oliveros teach us how concepts such as improvisation, mindfulness, and sonic awareness can be put into practice in our daily lives to promote relational understanding and empathy in a time of political, ecological, and pandemic turmoil.¹⁴ Elizabeth found this was a time where we needed to listen together and beyond the human. “A music greater than the sensibility of one species alone,” David Rothenberg suggests, “might slightly show us a way to live better with nature and not destroy our planet with rampant human aesthetics” (“Interspecies Improvisation” 520). That music, I would argue, might also teach us how to listen better, and with care. Immersed in the writings of Oliveros and Rothenberg, Elizabeth adapted their ideas and approaches to their personal framework for improvisation and pandemic domestic conditions as both a baker and a professional musician who has another “day job” that they can perform online. Elizabeth acknowledges their position of privilege to explore sound and listen in these ways when many of her musician colleagues are in crisis due to the closure and cancellation of performances and venues.

After a failed attempt with a hydrophone, their starter and fresh-from-the-oven bread were alternately wired and rigged-up with contact microphones and electronic sensors, amplifying the soft sounds to within the range of human hearing. Emphasizing the need for technological prosthetics to extend human hearing, John Cage writes, in *A Year from Monday*: “That we have no ears to hear the music the spores shot off from basidia make obliges us to busy ourselves microphonically” (34). Elizabeth’s technological mediation of the nonhuman for the purposes of multispecies improvisational musicking is informed by David Rothenberg’s practice. As Rothenberg writes in *Bug Music: How Insects Gave Us Rhythm*: “Nature’s music always knows its place far more than any human melody” (80).

Elizabeth shared with me, Kate, a series of short videos; some feature them listening and vocalizing alongside analog starters and bread while imagining the sounds that are so soft they remain outside the range of their ears. Others feature Elizabeth listening and vocalizing in response to the sounds of their amplified starter and baked bread, manipulating their voice to interpret, and at times mimic, the sounds of the yeast. They initially intended on releasing these as daily posts on their personal social media account but have yet to make that leap. They continue to be apprehensive when it comes to sharing their amateur multispecies musicking in a

space occupied by viewers/listeners who are a part of their professional musical life and may not understand—and might even devalue—these explorations in everyday improvisation studies.¹⁵

In a series of still and short videos, Elizabeth shared a multisensory range of musicking alongside other sound producing actors, engaging in forms of call-and-response with fragments of sound from starter or fresh bread and with the quality of the sounds they produced amplified by strategically placed contact microphones. They never expected them to respond back to their vocalizations but they could safely assume, from their intimate knowledge of these living and nonliving materials, that they would likely sound and that they should also expect silence when the activity that produced sound ceased or when the amplified sounds were outside their auditory range (and specifically in the case of the bread once it fully cooled on their counter). The decisions Elizabeth makes in their multispecies improvisations and Deep Listening exercises are guided by an ethics of respecting the agency of others in performance just as one must in everyday life. These performances are not only about improvising and producing sound together. Alongside sourdough starters and fresh bread, they mimic a comparable sociality with living and non-living things that we all experienced in our social and creative pre-COVID-19 community spaces.

These varied approaches to listening to, performing alongside, recording, and archiving instances of improvisatory sounding by sourdough starters and freshly baked bread illustrates how improvisation emerges as more than just a “polymorphous” and “polysemic” human activity (Fischlin and Heble 31), but also a multispecies activity where human performers and listeners respond to, relate to, and try to understand the sonic vagaries of the nonhuman world. Similarly, George E. Lewis suggests that “improvisation is everywhere but it’s very hard to see, because this ubiquitous practice of everyday life is fundamental to the existence and survival of every human formation” (G. Lewis, *2011 University Lecture*). Improvisation saturates our everyday lives. It is part of our social lives and during pandemic times it has emerged in unexpected places, highlighting the ubiquity of improvisation in our everyday and in our environments and providing us with greater detail for our understanding of improvisation in relation to the communities, places, and ecosystems we are a part of.¹⁶ For many sound-oriented people, that includes extending the domestic practice of baking bread that has united many—online and offline—into the realm of performance and both amateur and professional sonic practice.

Notes

¹ This title is inspired by and riffs off of Paula Harper’s work on “Unmute This” viral musicking Internet media. See Harper, *Unmute This*.

² For further documentation on the Fermentaphone, see “The Fermentaphone Media Lab” <https://www.joshuaosenstock.com/fermentophone/>.

³ For further information on composer and field recordist Jez Riley French’s environmentally conscious contact microphones, see <https://jezrileyfrench.co.uk/contact-microphones.php>.

⁴ For further information on *The World According to Sound*’s program “Outside In: A Communal Listening Series” see <https://www.theworldaccordingtosound.org/outside-in/>.

⁵ In *Sounding out the City*, Michael Bull writes of the “sonic cocoon” afforded by earbuds and other forms of earphones that ensconce a listener in their own sonic world, technologically

distanced from the soundscape of the surrounding environment on the other side of their earphones.

⁶ The account “The World of Sound” asks Verma, “Whoa, how much noise do they make? We’d love to hear that! And to know how you’re recording with the contact mics” (@thewatsound).

⁷ For studies that address voices and sound aesthetics, see Verma, “From the Narrator’s Lips” and “The Return to Sound Aesthetics.”

⁸ *Junior Bake Off* is known as *Junior Baking Show* in North America and it is hosted by Liam Charles and Prue Leith. It is the teen version of *The Great British Bake Off*, which is broadcast as *The Great British Bake Off* in North America.

⁹ See also, Harper (“ASMR”) and Smith.

¹⁰ See also Smith 155–56.

¹¹ While videos shared on social media platforms are short, lasting only a few minutes, as Harper notes, ASMR videos are typically hosted on YouTube or another video streaming platform and can last a half hour or more and are often looped (“ASMR” 95).

¹² See also Harper, “ASMR.”

¹³ All interview participants were provided with the choice of using their first name or a personally selected pseudonym and identifying their pronouns.

¹⁴ For more on Oliveros’s practice, see O’Brien, “Listening as Activism,” and Oliveros, *Sonic Meditations*.

¹⁵ While I have “Elizabeth”’s permission to write about these media objects and my conversations with them in the context of this paper, I don’t have their permission to reproduce the images and videos they have made and shared with me during quarantine.

¹⁶ A number of recent volumes address the interdisciplinarity and ubiquity of improvisation, revealing the potential for further exploring the range of ways improvisation is found in everyday life and the more-than-human world. See, for example, Fischlin and Porter, Chapman, Born et al., Lewis and Piekut, Siddall and Waterman, Caines and Heble, Fischlin et al., and Albright and Gere.

Works Cited

Albright, Ann Cooper, and David Gere, editors. *Taken by Surprise: A Dance Improvisation Reader*. Wesleyan UP, 2003.

Aviles, Gwen. “Faced with Flour and Yeast Shortages, Bakers Get Creative.” *NBC News*, 9 Apr. 2020, <https://www.nbcnews.com/pop-culture/pop-culture-news/faced-flour-yeast-shortages-bakers-get-creative-n1180171>.

Born, Georgina. “On Nonhuman Sound—Sound as Relation.” *Sound Objects*, edited by James A. Steintrager and Rey Chow, Duke UP, 2019, pp. 185–210.

- Born, Georgina, et al., editors. *Improvisation and Social Aesthetics*. Duke UP, 2017.
- Bruyninckx, Joeri. "Sound Sterile: Making Scientific Field Recordings in Ornithology." *The Oxford Handbook of Sound Studies*, edited by Trevor Pinch and Karin Bijsterveld, Oxford UP, 2012, pp. 127–50.
- Bull, Michael. *Sounding Out the City: Personal Stereos and the Management of Everyday Life*. Berg, 2000.
- Caines, Rebecca, and Ajay Heble, editors. *The Improvisation Studies Reader: Spontaneous Acts*. Routledge, 2015.
- Cage, John. *A Year from Monday: New Lectures and Writings*. Wesleyan UP, 1967.
- Chandra, Gowri. "Nancy Silverton's Sourdough Starter is so Good Scientists are Studying it in Belgium." *Food and Wine*, 30 Apr. 2018. <https://www.foodandwine.com/news/nancy-silverton-sourdough-starter-belgium-library>.
- Chapman, Dale. *The Jazz Bubble: Neoclassical Jazz in Neoliberal Culture*. University of California Press, 2018.
- Elizabeth. Personal interview with Kate Galloway. 25 July 2020.
- "Fermentophone Media Lab." *Joshua Pablo Rosenstock*, <https://www.joshuarosenstock.com/fermentophone/>. Accessed 20 June 2020.
- Fischlin, Daniel, and Ajay Heble, editors. *The Other Side of Nowhere: Jazz, Improvisation, and Communities in Dialogue*. Wesleyan UP, 2004.
- Fischlin, Daniel, and Eric Porter, editors. *Playing for Keeps: Improvisation in the Aftermath*. Duke UP, 2020.
- Fischlin, Daniel, et al., editors. *The Fierce Urgency of Now: Improvisation, Rights, and the Ethics of Cocreation*. Duke UP, 2013.
- Harper, Paula Clare. "ASMR: Bodily Pleasure, Online Performance, Digital Modality." *Sound Studies*, vol. 6, no. 1, 2020, pp. 95–98.
- . "'Unmute This': Captioning an (Audio) Visual Microgenre." *The Soundtrack*, vol. 9, nos. 1-2, 2016, pp. 7–23.
- Haraway, Donna. "Cyborg Revolution with Donna Haraway." *The Dig Podcast*, 8 May 2019. <https://www.thedigradio.com/podcast/cyborg-revolution-with-donna-haraway/>.
- "Jez riley French: Contact Microphones." *jezrileyfrench*, <https://jezrileyfrench.co.uk/contact-microphones.php>. Accessed 1 July 2020.
- Johnson, Katie. "Grocery Stores a Lifeline but Also a Place of Anxiety, Especially for Workers." *The Boston Globe*, 25 Mar. 2020, <https://www.bostonglobe.com/2020/03/25/business/grocery-stores-lifeline-also-place-anxiety-especially-workers/>.

- Lewis, Daniel T. Interview (Zoom) with Rachael Fuller. 4 Apr. 2020.
- Lewis, George E. *2011 University Lecture at Columbia University*. Columbia University, 2011.
- Lewis, George E., and Benjamin Piekut, editors. *The Oxford Handbook of Critical Improvisation Studies, Vols. 1 and 2*. Oxford UP, 2016.
- McCarron, Meghan. "So Everyone's Googling 'Bread' Now: Coronavirus Isolating Has Led to a Bread-baking Boom." *Eater*, 25 Mar. 2020, <https://www.eater.com/2020/3/25/21194467/bread-tops-google-trends-searching-for-recipes>.
- Miller, Claire Cain, et al. "Avoiding Coronavirus May Be a Luxury Some Workers Can't Afford." *New York Times*, 1 Mar. 2020, <https://www.nytimes.com/2020/03/01/upshot/coronavirus-sick-days-service-workers.html>.
- Moreno, Jairo, and Gavin Steingo. "The Alluring Objecthood of the Heartbeat." *Sound Objects*, edited by James A. Steintrager and Rey Chow, Duke UP, 2019, pp. 167–84.
- @nkhverma. "Here's my daughter, Lulu, using a @sounddevices mixpre and a @jezrileyfrench contact mic to listen to our two sourdough starters ("Fred" and "Ginger") and figure out which one sounds more active today. #soundies #stircrazy #itwasGinger." *Twitter*, 2 Apr. 2020, 6:10 p.m., <https://twitter.com/nkhverma/status/1245836128885899264>.
- @nkhverma. "Not much to it! Plug it in, secure the contact surface to the jar with a couple of (in this case) kid hair elastics, find a spot far away from the fridge to get less ambient hum, and there you have it. Just sounds like tiny, slow bubbles. A slow, low goopy version of carbonation." *Twitter*, 2 Apr. 2020, 6:22 p.m., <https://twitter.com/nkhverma/status/1245839110281015298>.
- O'Brien, Kerry. "Listening as Activism: The 'Sonic Meditations' of Pauline Oliveros." *New Yorker*, 9 Dec. 2016.
- Oliveros, Pauline. *Sonic Meditations*. Smith Publications, 1974.
- Paulson, Steve. "Making Kin: An Interview with Donna Haraway." *Los Angeles Review of Books*, 6 Dec. 2019. <https://lareviewofbooks.org/article/making-kin-an-interview-with-donna-haraway/>.
- Perelman, Deb. "In the Covid-19 Economy, You Can Have a Kid or a Job. You Can't Have Both." *New York Times*, 2 July 2020, <https://www.nytimes.com/2020/07/02/business/covid-economy-parents-kids-career-homeschooling.html>.
- Robertson, Chad. *Tartine*. Chronicle Books, 2010.
- Roosth, Sophia. "Screaming Yeast: Sonocytology, Cytoplasmic Milieus, and Cellular Subjectivities." *Critical Inquiry*, vol. 35, no. 2, 2009, pp. 332–50.
- Rothenberg, David. *Bug Music: How Insects Gave Us Rhythm and Noise*. Picador, 2013.

- . "Interspecies Improvisation." *The Oxford Handbook of Critical Improvisation Studies, Vol. 1*, edited by George E. Lewis and Benjamin Piekut, Oxford UP, 2016, pp. 500–22.
- . "Introduction: Does Nature Understand Music?" *The Book of Music and Nature: An Anthology of Sounds, Words, Thoughts*, edited by David Rothenberg and M. Ulvaeus, Wesleyan UP, 2001, pp. 1–10.
- . *Sudden Music: Improvisation, Art, Nature*. University of Georgia Press, 2002.
- Ryan, Robin Ann. "Integrating the Musical, the Natural, and the Improvised: David Rothenberg and Multispecies Musicking." *Jazz Education in Research and Practice*, vol. 1, no. 1, 2020, pp. 167–84.
- Siddall, Gillian, and Ellen Waterman, editors. *Negotiated Moments: Improvisation, Sound, and Subjectivity*. Duke UP, 2016.
- Smith, Jacob. "The Chance Meeting of a Goose and a Plover on a Turntable: Chris Watson's Wildlife Sound Recordings." *Sound Studies*, vol. 2, no. 2 (2016), pp. 151–64.
- Steintrager, James A., and Rey Chow, editors. *Sound Objects*. Duke UP, 2019.
- Strand, Mark. "Not to Miss the Great Thing." *KROnline*, Winter 2012, <https://kenyonreview.org/kr-online-issue/winter-2012-2/selections/strand/>.
- Three Beacon Radio. "Ginger and Fred." *SoundCloud*, <https://soundcloud.com/user-381357568/ginger-and-fred>. Accessed 3 July 2020.
- Transient Canvas. "sift," *sift*. Released 25 Aug. 2017. New Focus Recordings.
- Verma, Neil. "From the Narrator's Lips to Yours: Streaming, Podcasting, and the Risqué Aesthetic of Amazon Channels." *Participations*, vol. 16, no. 2, 2019, retrieved from <https://www.participations.org/Volume%2016/Issue%202/14.pdf>.
- . "The Return to Sound Aesthetics." *The Routledge Companion to Sound Studies*, edited by Michael Bull, Routledge, 2018, pp. 44–53.
- . Personal email correspondence with Kate Galloway. 3-9 Nov. 2020.
- @Thewatsound. "Whoa, how much noise do they make? We'd love to hear that! And to know how you're recording with the contact mics." *Twitter*, 2 Apr. 2020, 6:16 p.m., <https://twitter.com/Thewatsound/status/1245837572175056898>.
- @warewolf. "Baking sourdough is a lot like composing or writing. Try, fail, try again, fail better... rinse/repeat. This week, I'm failing pretty well!" *Twitter*, 25 May 2020. 12:31 p.m., <https://twitter.com/warewolf/status/1264957203372531712>.