

THE SHAPE OF SOUND

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Abstract

My studio work imagines the experiences of non-human animals and finds ways for humans to approximate them or imagine forms of entwinement between species. Sound-sculpture has been at the centre of my practice-based research at York University over the past five years. I have used this medium to consider what an expanded range of human senses might be if we move beyond the five that Western culture typically acknowledges. Sound can bend and bounce, it can penetrate and vibrate through bodies, it can move objects – and yet hearing and touching are often thought of as separate. Imagining the sensory experiences of the non-human world is one way of thinking-with other species. The culmination of my research is *The Shape of Sound*, an exhibition and written dissertation.

It is the in-between spaces – and the potential for shifts in behaviour because of proximity to another – that inspire me to imagine alternate ways of thinking about the world. The richness of liminal spaces has influenced my studio projects and I have consciously approached my written research with these proximal influences in mind. I have used the craft of twining – the hands-on process of twisting and wrapping together two or more strands to make a cord – as a structure for this paper. While the chapters have themes, they are entangled with one another. They shift, transform, and reemerge.

Collaborative methodologies are part of my studio practice and have the potential to be transformative relationships. They are dialogues that can shift ways of thinking and generate outcomes beyond what would be created by an individual. To extend this approach to my writing and broaden the discussion of the male-dominated field of sound art, I have conducted

conversational interviews with women artists who maintain multi-disciplinary practices that use both sound and object. Excerpts from the interviews are woven throughout the text, adding a polyphonic voice to the dissertation.

Ecopoetics is another strand of *The Shape of Sound* text. Poems are included as a counterpoint to prose. Ecopoetry contends with the human-nature entanglement while acknowledging the current climate crisis; qualities that are reflected in my studio practice.

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– working with glass – that can be applied to my own practice. Big thanks to Helga Jakobson, Jessica Thompson, Rita McKeough, Marla Hlady and Maria Hupfield – all busy artists with their own work to be done – who have taken the time to participate in my interview conversations. Your insights and perspectives have been essential and a pleasure.

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List of Work in the Exhibition

Toad Touch (Water) 2021 – two bronze sound-sculptures, 30” x 30” x 16” each. A pair of toad sound-sculptures that hold spouting bowls on their backs

Toad Touch (Performance) 2022 – video projection, 8:11 <https://youtu.be/6ASCVuoQeeM>

Performers Lisa Conway and Steph Yates interact with the *Toad Touch* sound-sculptures

Third Ear Shells 2023 – three bronze sculptures, approximately 6” x 3.5” x 3” each

Rubbings 2023 – three graphite jumpsuit rubbings on paper, approximately 36” x 68” each

Milkweed Pods & Preserver 2024 – over forty unique bronze cast milkweed pods

(approximately 4” x 2” x 1” each), one large, sculpted bronze pod (12” x 4” x 3”) and a soft-sculpture life-preserver (13” x 17” x 1.5”) filled with milkweed floss.

Copper Bowls 2024 – polished, hammered copper, dimensions vary

Spring Songs 2024 – surround sound audio composition of toad mating calls

(E)Merge 2024 – varied series of intaglio prints 16” x 16” each

Murmuration 2024 – rubber stamped ink on paper 17” x 17”

Toad Touch (Land) 2024 – bronze, Pair of toad sculptures 30” x 30” x 16” each

Line



Figure 1 Browsing Line

I want to tell you about the line.

Well, maybe it isn't THE line, but it is a line (of sorts).
A reductive, redactive process
a tightening of the belt.

Lines connect, intersect, divide, run parallel...
really what I want to show you is only one piece of a line.
Like Yoko Ono's 1966 sketch across a gallery wall,
This Line is Part of a Very Large Circle.

Thirty years later, John Murchie
requested a tattooist freehand a line
elbow to wrist
on each of his arms.
This began the performance *Black and Blue*
which will continue until his very last breath.

He told me two things about the two-lined tattoo:
his mother thought it was the stupidest thing she'd ever heard of
and that he'd offered this performance to the National Gallery
upon its completion
donated –
as either a drawing or sculpture.

Looking for lines leads to tangles.
Threads enmesh
intentions twine
connections vanish, reappear
giving in to knots, and snarls.

A subtle asymmetry of the body
a wobbly measure of human time – the lines blur.
I don't know if John would commit to one explanation of this work.

I have a photo of *Black and Blue*.
It is a homemade postcard, not addressed to me.
“Hey John, still walking the line?” it begins.
Somehow in the flurry of art exchange and correspondence
it came to rest in my studio.

Lines don't always connect quite the way you expect them to.
I wonder, did the National Gallery ever reply?

But it is a much different line that I set out to describe to you.

Like crown shyness in the tops of forests
or mycorrhizal lines communicating below the soil.
Space to breathe sunlight
roots that wrap and fuse below the soil
a distribution of wealth
a complex network of one living system.
One that loops us into a larger tangle of lines.
Loops together the tangle of lives.

Maybe you've seen this line too
if you've spent any time in Ontario
next to a lake in summer.

A body of water and months in between,
erasure appears.
The summer heat sharpens its presence
a crisp absence in a season of plenty.

You might mistake it for a high waterline from a distance
but this line is formed in winter when food is scarce.
When the snow is too deep
and the deer have stripped away all the food they can find
hunger drives them out onto the precarious ice
to eat the cedars
overhanging the shore

as
high
up
as
they
can
reach.

A special cache of food
only accessible once the lake is frozen.
When it is needed most.

And though this line girdles many lakes
once you know how it is formed it gains verticality.
An extension of the high/hard waterline
the average height a hungry deer can reach.

A game of Cat's Cradle, the lines shift, patterns dissolve and reconfigure.

The year I was born
Simone Forti published *Handbook in Motion*.
A journal
a sketchbook
Fluxus happenings and studies of movement.
Thirty-two years after Yoko's line
I received a copy of this book – a birthday gift from John.
Some of it written in his living room.

I held a large grasshopper in my open hand. It swayed from side to side as we gazed into each other's eyes. We sustained this alignment of sight through an exact correspondence in our movements, which created a certain resonance between us. We danced together like this for many minutes. I had just saved its life and we were very curious about each other.

-Simone Forti¹

¹ Forti, Simone. *Handbook in Motion*. The Nova Scotia Series Source Materials of the Contemporary Arts. Halifax: The Press of the Nova Scotia College of Art and Design [u.a.], 1974. p.13

Introduction

This moment of alignment that Forti describes – this dance synchronizing human and grasshopper movement, the resonance and curiosity present between two vastly different beings considering one another – illustrates the kind of entwinement between the human and non-human that I seek to understand through my studio making. The conceptual approach in my studio practice is to use the similarities between the cultures of humans and those of other animals to gain new perspectives. In European and Western thinking, culture has often been considered as what sets humans apart from other animals. But learned cultural behaviours, like language, creative style or use of tools are evident in other animals beyond humans. I would like to consider cultural traits that locate similarities or moments of connectivity between human and non-human populations, highlighting our entwined lives rather than use the idea of culture to distance us from our more-than-human kin. Wherever species bump up against one another there is potential for adaptation, a new learned behaviour highlighting the complexity of the interspecies entanglement. Focusing on similarities between worlds continues to be the approach in my dissertation exhibition *The Shape of Sound*, which offers an intimate and physical experience of ways of knowing gleaned from non-human species with a particular focus on toads.

When amphibians breathe through their skin under water, does it have a taste? A smell? What could we learn by peering from the liminal dwelling space of a swamp? Can toad bodies and human bodies resonate together?

The work expresses a desire for closeness to the other, for an expanded sensorium, and an understanding of our world from a perspective that is beyond human. Meech Boakye and Christina Kingsbury describe this longing as being directly linked to the climate crisis we are experiencing, in their collaboratively written article *Composition: Transplant Collaborations*. They describe that, “In the midst of climate catastrophe, there lies a strong desire to hold tightly onto the precious things that are left, which might disappear indefinitely within our lifetimes.”² A sense of longing to embrace the *umwelt*³ of the other – to physically experience those worlds that are inaccessible to, but which are often damaged by humans – is an underlying concern of my work. The slow process of making studio work and the creative speculation it requires allows for a sustained consideration of what other animals might experience or sense. My studio methodologies create a shifting relationship between imagination, attention and awareness, similar to Pauline Oliveros’ use of sound meditations.

Oliveros, in the preface of her collection of *Sonic Meditations*, describes her intent as a balance of attention and awareness, something that she diagrams as a circle (awareness) with a single point at its centre (attention). “Attention is narrow, pointed, and selective. Awareness is broad, diffuse, and inclusive. Both have a tunable range. Attention can be honed to a finer and finer point. Awareness can be expanded until it seems all inclusive.”⁴ My research methods usually employ sustained attention until some detail or experience moves that single point beyond my circle of awareness, forcing this circle to expand. Through sustained attention and the slow-time

² Boakye, Meech, and Kingsbury, Chrisitna. “Composition: Transplant Collaborations.” *C Magazine*, no. 152 (August 15, 2022). <https://cmagazine.com/articles/transplant-collaborations>.

³ The world as it is perceived by a particular organism, shaped by its sensory capabilities and lived experiences.

⁴ Oliveros, Pauline, and Bourne, Anne. *Sonic Meditations*. Kingston, NY: PoPandMoM Publications, 2022. p. i

processes of making, I find connections between ideas I had previously considered unrelated, slowly push at the boundaries of my awareness.

In my dissertation exhibition, *The Shape of Sound*, and in the written summation of my research, I describe the new sensory possibilities and experience I've considered. Of course, sensations are different for each individual and no singular sense is ever acting alone. My research does not investigate taste or smell, (nor expanded variations adjacent to these senses) but provides additional sensory nuances that expand and extend sight, hearing, and touch but also incorporating collectivity and speculative thinking as sensory contributors in that they further blur the boundaries of what we believe we know and open areas of new possibility. Working collaboratively often generates outcomes that individuals wouldn't arrive at independently. This is a method of combining different points of view to generate new ways of perceiving, making collaboration worthy of consideration as part of the sensory spectrum. Likewise, speculative thinking dreams new possibilities, often intuiting a connection that is not yet understood rationally. All sensory experiences inevitably entwine and have murky areas of overlap. My studio research over the past five years of my PhD program has focused on sound-sculpture, serving as a starting point to explore areas of expansion in sensory experience. The type of sound-sculpture I'm interested in offers sonic, visual, and tactile possibilities, connected through conceptual relationships. Sound has a physical presence which humans commonly experience, though hearing and touch are often considered to be very different forms of sensation. This muddy relationship between sound and touch is where many of my investigations have taken place, but my interest has also grown to include other concepts that could be considered senses beyond the limited five that Western culture typically acknowledges.

I attended a panel discussion in conjunction with Lisa Hirmer's exhibition *We Are Weather* (2019) at the Art Gallery of Guelph, which included the artist, Madhur Anand, a poet, writer and scientist, and Elwood Jimmy, an artist, writer, and member of the Thunderchild First Nation.⁵ The conversation turned to those moments of the creative process where the maker is following a hunch, an intuitive sense that is difficult to articulate or rationalize in the moment, yet ultimately turns out to be the right path. Those trails taken that can't be explained until, upon arrival, the proof is there that you were heading in the right direction all along. Jimmy said that in some Indigenous cultures there are more than 100 senses, that artists are using these senses, but we just don't have the words to articulate them. This idea of an expansive sensorium that I am unable to name has had a strong influence on my thinking and studio-based research.

As I write about my research in the studio, in poetics, in conversations, and the wider sphere of cultural producers, themes that I have observed inevitably become entangled. I have divided this text into chapters each with an overarching theme but the ideas of one inevitably reappear in other parts of this paper. Beneath each chapter heading I have listed some of the synonyms that I associate with the chapter themes, though these too may become snarled or suddenly diverge.

⁵Lisa Hirmer: *We Are Weather* January 17, 2019 - April 7, 2019, curated by Shauna McCabe <https://artgalleryofguelph.ca/exhibition/lisa-hirmer-we-are-weather/>

Twining

twisting, wrapping, braiding, blending, splicing, harmonizing, echoing, mirroring, fraying...

How best to assemble these unruly lines and weave them into a cohesive whole? Lines of text, strands of thought, networks of community and materiality that must knit together with conceptual patterns. The hands-on, embodied knowledge of materials, media, and methodologies in a transdisciplinary studio art practice mixed with threads of inquiry – research, reading, conversation – become entangled. I have tried to parse and separate chapter themes – distinct of thought – only to have them twist and wrap together. And so, I had an ulterior motive when I registered for a plant fibre workshop to learn how to make cordage. Could this workshop called *braiding, weaving, threading, holding*⁶ offer a way to synthesize and assemble ideas? Could entwining become a structure for written text? The event was hosted by Musagetes as part of Seed School – a series of events intended “to cultivate wiser and more accountable artistic and life practices.”⁷ Participants worked collectively, twisting fibres of milkweed and dogbane, wrapping them together, chatting and making, splicing and joining the cords into a collaborative weaving. Twist, twist, wrap – we noticed how conversation flows differently when hands are busy, when eyes are averted. We spun pairs of waxy strips taken from the inner bark of American Basswood and wrapped the strands into a strengthened cord. Slowly the fibres bind to become a new, sturdier line.

And so, into the fray.

⁶ Braiding, weaving, threading, holding – A plant fibre workshop. Sunday October 29, 2023

⁷ Musagetes is an organization that “promotes the arts and artistic creativity as tools for social transformation... The name “Musagetes” was the Greek god Apollo’s title as protector and supporter of the Muses.” <https://musagetes.ca/about/mandate/> accessed Jan. 21, 2024



Figure 2 Materials, twining, weaving - workshop images

Interviews & Ecopoetics

*conversation, dialogue, collaboration, opinion, understanding...
aesthetics, Anthropocene, kinship, environmentalism...*

My primary focus in the research-creation program in Visual Arts is studio-based making supported by reading and writing that contextualizes my artmaking within a contemporary philosophical framework. Over the past five years, I have consciously introduced two new forms of written research to support my transdisciplinary practice – a series of interviews and the use of ecopoetics. As I have mentioned, I believe that collaboration and speculative thinking could be ways of generating sensations as sensory experiences. These two new approaches to writing bring this belief into my written research. A conversation or interview is a collaborative process and ecopoetics brings a speculative approach that parallels the process of making artworks – the produced work or poetic text can hold more than one meaning simultaneously. While interviews and ecopoetics may initially seem to be outliers, they are a way of applying my existing studio approaches to writing.

In 2020, I initiated a series of interviews with women artists based in Canada who work with both sound and object. Gender identity and locale are criteria that may shift as this series progresses, but for now it offers access to voices I feel are typically underrepresented. The interviews are a series of sustained conversations conducted via written correspondence. Initially, this primary research came out of a frustration with the lack of published texts that focus on sound-sculpture, particularly by women artists. Existing publications on sound art are often missing strong female representation or the work represented lacks a conceptual drive. Both qualities are ones I look for in texts to contextualize my work with sound-sculpture. The interviews became an opportunity to translate collaborative or community-based methods of

studio artmaking into a polyphonic voice for my dissertation. Each of the interviews is a written conversation conducted in Google Docs. I chose this format in part because of pandemic restrictions on primary research mandated by York University, but also because of the durational quality of correspondence. Letter writing, collaboration, and art exchange through the mail have been formative processes for my studio practice. This method of interviewing is slow and – as with the process of making cordage – becomes an intimate and introspective together-apart conversation. I post a question in the document and tag the interview subject, then wait for a response which could come in hours, days, or weeks. It is a sustained engagement – what has been discussed can be carefully reviewed and built upon, and a text-based conversation negates the need to translate modes of speaking into written style. The interviews are an enquiry into how other artists think about the questions I am engaged with: how can we shape space, offer hope, and learn from imagining new possible relationships between people, non-human species, our shared world?

Sound-sculpture fascinates me because both the object and audio components shape space in different ways – it can be both a touchstone of the present and incantation of future possibility. This medium asks a more fulsome engagement of an observer through visual, tactile and sonic experience. To build this experience and introduce both sound and object to a project requires a broad range of technical skill. As a result, artists working in this discipline often approach making with a collaborative methodology. These relationships that allow the work to be developed technically also shape its conceptual evolution in many instances. This relationship building, this negotiation between individuals contributing to the development of a project, are part of a rewarding and generative process. The interview series I conducted is another way to

have a community of artists influence my making and thinking. Within these first five conversations I have found my own descriptor ‘sound-sculpture’ too narrow to describe all the work discussed. It does not encompass all the artistic explorations I am interested in engaging with in this interview series nor in my studio practice. While the relationship between sound and object in artmaking is still a criterion I use to select participants, these artists are better described as transdisciplinary makers rather than sculptors or sound artists. Through their diverse practices they engage in performance, visual aesthetics, social and haptic engagement, science, and technology. Their work expresses a wide range of invention, humour, and storytelling. As with sensory experiences that can expand beyond the five senses I have inherited, I want to remain open to a range of practices in the interview process, rather than be restricted to the narrow category of sound-sculpture. A broader range of artistic practices engaging with sound and object may offer more opportunity to discover where new sensory experiences become articulated.

The interviews are a conversational collaboration that begin with the process of me researching and carefully reflecting on the art practice of each subject. Reflection is a quality that I write more about later in this text as I describe and contextualize my artwork, and it is present in these conversations with other artists too. Understanding and articulating the complex ideas embodied in their work is a process of linguistic mirroring. In this back and forth, I try to reflect what I’ve understood from an artist’s previous comment. Sometimes my interpretation doesn’t align with the artist’s perception, and they clarify their position. In other instances, our different experiences and ways of understanding fall into a syncopated rhythm, building a more complex interaction. These interviews are conversations that reverberate back and forth, rather than

answering a predetermined list of questions. The interviews in their entirety can be found in the appendix, but passages that contribute to the concepts central to my studio practice are quoted throughout this text.

Within this network of artists there have been reoccurring themes of conversation, such as the importance of community in the practical and conceptual production of work, engagement with physical and social space, and the ability of sound to influence bodies and spaces. I am grateful to these artists who have endured this long process and so generously shared their thoughts and practices with me. My initial investigation into sound-sculpture has broadened into something much richer and varied because of these multi-faceted conversations. Although we have never been together in the same physical space – and some I have never met in person – I think of the participants as forming a kind of community of people who work and consider similar use of sound as material. This network of artists and their sometimes-surprising approaches to sound, object, and space have supported my own articulation of a more comprehensive sensory and conceptual understanding.

I have interviewed five artists to date in the following order: Helga Jakobson, Jessica Thompson, Rita McKeough, Marla Hlady and Maria Hupfield.

Helga Jakobson is a Winnipeg-based artist. To describe her practice she says, “I like to think about ways of existing in relation with the natural world, and am very drawn to witchcraft, ecofeminism and queer ecology, as well as worldmaking and storytelling.”⁸ We discussed the

⁸ Helga Jakobson, interview, p. 116 in the appendix of this document

richness of liminal spaces and myth which inform her project *Arachne's Sonifier*. This sound-sculpture is a portable player that converts harvested spider webs into sound. Through this work Jacobson reconsiders the potential of being together with the more-than human. In some instances of its presentation, collaborations with a dancer who interprets the sounds of the webs played through the sonifier into movement, adding another dimension of cross-species interaction to the work.

Jessica Thompson, Associate Professor in Hybrid Media at University of Waterloo, investigates the ways that sound reveals spatial and social conditions within cities. She states, "I consider sound to be a social phenomenon and my work has always taken place in urban environments."⁹ We talked about her use of play in the project *Soundbike*, how this work resists marginalization and was initiated as a way to hold space for Black residents of Toronto. *Soundbike* is a series of bicycles that can be borrowed from a gallery during the work's exhibition. When the rider reaches a certain speed, a recorded laugh-track springs to life. The rider can adjust the sound by controlling the speed of the bike and creates a unique intervention in urban space with every trip.

Governor General's Award winner **Rita McKeough** uses the fascinating term *performing object* to describe her kinetic sculptures. "In my performance work I act as a conduit between the audience and the narrative – my tasks and activities unfold part of the narrative, and the objects perform other parts. I was very interested in using technology to manifest actions that were not possible for me to perform."¹⁰ In our conversation we explored the importance of community in producing her rigorous artworks and the reoccurring symbolism of roads. For McKeough, roads

⁹ Jessica Thompson, interview, p. 128 in the appendix of this document

¹⁰ Rita McKeough, interview p. 142 in the appendix of this document

behave as divisions in a landscape but also as spaces for activation. They may act as lines that separate wilderness from urban life, they are conduits between spaces and are also places where activist interventions often occur. Roads become unique liminal spaces in which to insert new meaning.

Marla Hlady is a cross-disciplinary artist working with sculpture, sound, performance, and interactive media, often exploring site and engaging in collaborative practice. She is Associate Professor at the University of Toronto in Studio Art. We discussed in depth the collaborative project *Swan Song*, made with Christof Migone during their three-month residency at the Glenfiddich Distillery in Scotland. This work is intrinsically linked to the location in which it was made; the sculptural elements come from a decommissioned whiskey still, and the recordings from various sounds of the distillery. The chorus is a key element of sound in this work. Staff contributed short voice recordings that were manipulated to durationally indicate how long they had been employed by the distillery. The length of the entire composition relates to the age of the distillery itself. Hlady describes, “The chorus compositional strategy is in a conceptual frame, the voice choice in a social-politics of people and labour frame. But in stretching the voices, we were also interested in the idea of stretching time.”¹¹ The durational aspect of the chorus is “...to convey a single collective mass in constant labour, and reflect that their shift work enables the clear spirit to shift to whisky as it ages in the casks.”¹²

Maria Hupfield is a transdisciplinary artist who works with industrial felt, jingles, performance, and community and land-based experiential knowledge. She is Assistant Professor at the

¹¹ Marla Hlady, interview p. 155 in the appendix of this document

¹² Ibid.

University of Toronto (cross-appointed in the Departments of Visual Studies and English & Drama) and a Canada Research Chair in Transdisciplinary Indigenous Arts. She is Anishinaabek, belonging to Wasauksing First Nation. In our interview conversation Hupfield and I discussed her use of industrial felt and tin cone jingles in her practice and how these materials contrast each other and create movement. She describes felt as an ideal material to use with jingles because it is sturdy enough to support them and is silent. While tin cone jingles are traditionally found on pow wow dresses, Hupfield takes them out of this context to explore new relationships to sound and movement. When discussing her felt *Jingle Boots*, she explains, “I wanted to move through the feeling of wearing sound. I was curious if jingles changed the way I moved. I wanted to be less in my brain and more in my body. Jingles do that.”¹³

The interview series with artists who use both sound and object in their artmaking is an ongoing project that will continue for several more years. As I expand the series, I will be looking to ultimately publish the conversations as a book – one whose realization would enrich theory, production, and methodology by adding new voices to the discussion of contemporary practices using sound and object.

¹³ Maria Hupfield, interview p. 167 in the appendix of this document

Ecopoetics

As I think and write about sound-sculpture I have been drawn to ecopoetics as another approach to express the concepts and methodologies I use in the studio. My interest in investigating areas of cultural overlap between human and non-human species with an intent to pursue hybrid ways of knowing relates strongly to this form of poetry that investigates the human relationship with our environment without ignoring our impact upon it. Imagining and learning how other species experience the world offers new possibilities for an expanded sensory understanding of our world and can shift how we imagine possible futures. Is a creative approach to writing about art more attuned to informing work that is primarily visual, tactile, and sonic? I find that writing about art is always somewhat paradoxical, an attempt to put into words what I have already tried to express through making.

I began to attend poetry readings as part of my research. One of the first I went to was held on-line by my undergraduate university, Mount Allison. The theme, *Back to the 90s* meant that the poets who were reading all attended Mt. A at the same time as I did. It is a small school in a small town. The reading was part reunion – all three poets were friends from that time: Triny Findlay, Rob Winger and Judy Halebsky. Judy's reading engaged with environmental concerns and the landscape, capturing my attention. I had lost touch with Judy, but we reconnected after this event, and she invited me to attend a hybrid, in-person/on-line lecture with guests Lynn Keller and Forrest Gander which she was organizing at Dominican University of California, where she now teaches. Keller is a scholar of poetry who teaches at the University of Wisconsin-Madison and has written a book defining the characteristics of this relatively new genre,

ecopoetics, a form of poetry that gained popularity in the early 2000s. Gander is a poet working within this genre, one that continues to gain relevance as we confront our current climate crisis. This lecture was an excellent place to start my research into ecopoetics. It was a primer in how Keller defines and differentiates it from nature poetry with examples of romanticized nature poems and ecopoetic examples provided by Gander. An accompanying hand-out to the lecture from Keller lists the characteristics she feels are important to this genre:

[My] six general traits of the ecopoetics of the self-conscious Anthropocene:¹⁴

- Recognition of the thorough entanglement of nature and culture
- Exploration of discrepancies in scale, entanglements of different scales
- Exposure of environmental injustice
- Repositioning humankind in relation to other species and other constituents of the more-than-human world
- Information-based attention to environmental degradation or transformation
- Stretching or defying formal and linguistic conventions of poetry

Some of these traits I employ in artmaking, in particular: recognition of the thorough entanglement of nature and culture, exploration of discrepancies in scale, entanglements of different scales and repositioning humankind in relation to other species and other constituents of the more-than-human world.

¹⁴ Excerpt of the hand-out shared with attendees of the ecopoetics lecture, “Eco-Poetry of the Self-Conscious Anthropocene” notes by Lynn Keller, Dominican University of California, June 6, 2022

I would like to note that despite this categorization, these three traits are also entangled with each other. The entanglement of nature and culture suggests a reference to human endeavours, but with more careful observation of the more-than-human world, it becomes difficult to reserve culture as a solely human characteristic. Entanglements of scale must also include time scales – cosmic, geologic, microscopic or that which relates to the characteristics of an organism. The perception of scale is dependent upon the *umwelt* of the creature who is perceiving its surroundings.

New materialist philosophies extend this complex relationship even further to include non-living objects. Ada Smailbegović addresses this “confluence of concerns about spatial and temporal topographies through which human and non-human worlds come into contact” in her book *Poetics of Liveliness* and “argue[s] that poetics can intervene and supplement theoretical discourses of material becomings by generating a particular kind of close attention to the details of the sensuous universe...”¹⁵

It is through this close attention or speculative experience that we can glimpse some hint of what non-human organisms experience. I believe much of what Smailbegović describes can be applied to all creative forms, not only poetry. While the secret lives of objects are more challenging to imagine, the thoughts and emotions of non-human life is often speculated upon. Critics may claim that these imagined experiences of the more-than-human are plainly anthropocentric, that the consciousness of another, so different from us, unknowable. But even if we try and fail to

¹⁵ Smailbegović, Ada. *Poetics of Liveliness: Molecules, Fibers, Tissues, Clouds*. New York: Columbia University Press, 2021. p.24

conjure what another being experiences, the attempt is still of value, broadening the possibilities of how our narrow perspectives could grow.

Don McKay describes the importance of enacting this paradox in poetry, "...nature poetry should not be taken to be *avoiding* anthropocentrism, but to be enacting it thoughtfully."¹⁶ It reminds humans that our perspectives – shaped by our physiognomies, as well as our cultural and personal experiences of the world – do not encompass all the ways of knowing this shared planet. Smailbegović offers an example of this, a quotation from Jakob von Uexküll's book *A Foray Into the Worlds of Animals and Humans*. He imagines what a sunset could look like through compound eyes. "When mosquitoes dance in the sunset, they do not see our big human sun, setting six kilometers away, but small mosquito suns that set about half a meter away. The moon and stars are absent from the sky of the mosquito."¹⁷ We may not be able to confirm that this is how a mosquito perceives a sunset, but it reminds "us" as humans that our perspective is just one fragment in a kaleidoscopic picture. McKay describes the benefits of these imaginings as providing "A slight deformation of human categories, an extra metaphorical stretch and silliness of language as it moves toward the other, dreaming its body."¹⁸ It is a welcome tangle in the web of intersecting ways of knowing our world.

¹⁶ McKay, Don. *Vis à Vis: Field Notes on Poetry & Wilderness*. Wolfville, NS: Gaspereau Press, 2001. p.29

¹⁷ from Jakob von Uexküll's book, *A Foray Into the Worlds of Animals and Humans* as cited in Smailbegović, Ada. *Poetics of Liveliness: Molecules, Fibers, Tissues, Clouds*. New York: Columbia University Press, 2021. p.6

¹⁸ McKay, Don. *Vis à Vis: Field Notes on Poetry & Wilderness*. Wolfville, NS: Gaspereau Press, 2001. p.31

Opossum



Figure 3 Opossum

Apologies dear one,
for thinking you pregnant.

Just my mammalian self,
remembering the visible push of heel or hand
the one soon to be born.

But you gave birth weeks ago
tucking each tiny baby into your pouch.
how many? how small?

They've grown
you're stretched, dragging.

Sliding your belly
along the smoothness of the railway track,
you genius, you queen
you straddle the industrial
residential zones.

You renew this aging infrastructure
that politicians could not,
infuse life into this brownfill –
while developers bide their time.

In Simone Forti's description of her encounter shared with a grasshopper, she characterizes a moment of intensity as the "resonance between us."¹⁹ The mutual curiosity and willingness to move in unison is captivating, as is Forti's openness to unusual types of movement studies. This word, *resonance*, is of particular interest in my research into sound-sculpture. Resonance can be vibrational, sonic, temporal, internal, emotional. It does not happen in a contained fashion, it touches and permeates other bodies, air, and water. Materials vibrate at specific frequencies and when sound waves meet an object with the same resonance – sound is amplified, the object vibrates. Whether it is an object and a sound that become enriched when paired or Forti's experience of resonance through eye contact and synchronized movement with a grasshopper, resonance is a form of retuning and aligning. There is a proprioceptive and affective quality, strongly connected to the physical, haptic manifestations of resonance. It falls between senses of hearing and touch and conjoins the emotional and physical experience.

One of the things that interests me about sound-sculpture is that it straddles that space between tangible object and ephemeral sound; it is both touchstone and incantation of the human-nature entanglement. Sound as touch, as well as touch as sound, is something explored in my project *Toad Touch* (2021).

¹⁹ Forti, Simone. *Handbook in Motion*. The Nova Scotia Series Source Materials of the Contemporary Arts. Halifax: The Press of the Nova Scotia College of Art and Design [u.a.], 1974. p.13



Figure 4 Toad Touch, bronze 2021



Toad Touch is a sound-sculpture that consists of two, human-sized bronze toads – each can hold a bowl of water on its back. This work was inspired by a viral video of a toad, sitting in water making its mating call. In this on-line video, water ripples in concentric rings radiating from the toad’s body, and at times the harmonics seem to split the ripples, doubling the number of rings. I wanted to explore the haptic qualities of sound and seek out ways in which humans could parallel this moment of a toad vibrating in sympathy with its surroundings. The bronze toads are meant to have an ancient, magical quality. To suggest that they have been touched repeatedly over time and to encourage further touch, I gave certain areas a high polish. The metal's texture with its many rounded bumps seems as though it would be pleasant to touch. A tale I heard growing up was that touching a toad would give you warts. The “warts” of my toads are attractively tactile – they invite touch rather than repel it.

The sonic element of this work comes from the sound bowls that can be placed in the backs of the toads, which are based on Han dynasty spouting bowls from China. They contain a small amount of water, so that when a person rubs their palms on the handles of the bowl, a sound is generated, with the vibrations creating ripples in the water of the bowl. With enough friction, droplets of water can jump out of the bowl. The sculptures are accompanied in the exhibition by *Toad Touch (Performance)* (2022) an 8-minute video projection that includes an audio soundtrack of the spouting bowls being played.

My first encounter with spouting bowls was during a visit to Ottawa University for a demonstration of the physics of sound that was arranged as part of a residency, Ayatana Artists Research Program: Biophony.²⁰ We learned about the basic physics of sound waves, how they reverberate between surfaces and how the interference between moving waves can create a standing wave. In my understanding, a standing wave is an illusionary wave that seems to only move up and down. A standing wave traces where actual sound waves come into alignment with one another as they bounce back and forth between surfaces. Along the standing wave are points called nodes, that don't move at all on a spectrogram but which amplify vibration.²¹ In the spouting bowls, the nodes are the points from which water movement radiates or spouts. At Ottawa University the mathematic principles were made visual through demonstrations of cymatics – the vibrational patterns of different tones manifested physically – using a spouting

²⁰ Ayatana Artists Research Program, Biophony: May 28- June 3, 2019

²¹ My understanding of the physics is rudimentary, but I found this video helpful in explaining the concepts of standing waves and nodes. https://www.youtube.com/watch?v=jz8IIk_bps0&ab_channel=BozemanScience accessed April 23, 2024

bowl, Chladni plate,²² and a speaker filled with cornstarch and water, that showed us geometric patterns that can be generated with sound.

When I first saw the viral video of the toad – ripples on the surface of the water, radiating from its body as it made its mating call – which inspired the *Toad Touch* project, I thought again of cymatics – a term that comes from the Ancient Greek word ‘wave.’²³ I returned to experiment with the various techniques from the Ottawa University physics demonstration and began researching ways to use sound as a haptic force. Eventually I settled on using spouting bowls and after making my own in bronze, found that two types of sound can be generated – a vibrational low tone that moves water and a higher, much louder harmonic. Interaction with the sound bowls offers an illustration of the physical qualities of sound in which the sonic and the haptic become blurred. It also acts as a parallel to the viral toad video, giving humans an opportunity to enact a sound-as-touch moment of sympathetic resonance.

Every object has a resonant tone – a frequency that vibrates its materials so intensely that the physical impact is heightened and the sound shaped. This is something I have also experimented with in my sound-sculpture *Cochlea*, that takes its name from the shell-shaped organ of the human inner ear. I was curious to explore a mirroring of forms that occurs when we perform the sonic experiment of holding a shell to our ear to ‘hear the ocean.’ The sculpture consists of a cast glass snail shell that sits atop a mass of bronze cast net, as though washed ashore on a beach. The

²² Ernst Chladni an 18th C. musician and physicist developed a metal plate lightly covered in powder or fine sand which sound vibrations could move into distinct patterns. This was further development of Robert Hooke’s method of demonstrating nodal patterns on a glass surface in 1680. Wikipedia, Cymatics, accessed April 23, 2024 <https://en.wikipedia.org/wiki/Cymatics> For a visual demonstration of a Chladni Plate and other forms of cymatics, see Nigel Stanford’s YouTube video Cymatics: Science vs. Music https://www.youtube.com/watch?v=Q3oItpVa9fs&ab_channel=NigelJohnStanford accessed April 23, 2024.

²³ Wikipedia, Cymatics, accessed April 23, 2024 <https://en.wikipedia.org/wiki/Cymatics>

audio element is a recording of waves on a pebbled beach that I played into the opening of the glass shell and rerecorded with a tiny microphone at its core. This process was repeated half a dozen times until the audio track was completely eroded to the resonant tone of the glass shell. In exhibition, the progressively disintegrating audio track plays as a loop and accompanies the sculpture that shaped it. I made the shell of translucent glass to allow humans access to the intricate architecture of a snail's home and to reference the silica of beach sand where one might find a shell. I have maintained that in my sound-sculptures, both the auditory and physical elements are equally important and intertwined. Scientific research, in particular studies that indicate that the world often does not conform to empirical categories, helps shape my thinking and making. Objects made of glass, for example, appear to behave as solids but on a molecular scale are more fluid than they seem.

Pitch Drop, an experiment currently running at The University of Queensland, Australia, illustrates the fluidity of another apparent solid. It is the “longest-running laboratory experiment” according to Guinness World Records, initiated in 1927 by physics professor Thomas Parnell who “heated a sample of pitch and poured it into a glass funnel with a sealed stem. He allowed the pitch to cool and settle for three years, and then in 1930 he cut the funnel's stem.”²⁴ Since that time, nine drops have fallen over the ninety-two years, though the moment of action has never been witnessed. Camera failures, or simply stepping away to make a cup of tea, have meant that the instant of the drop has yet to be seen by human eyes. The *Tenth Watch* is being live streamed, and anyone can login and watch – though the current estimate is that the next drip won't fall for approximately eight years.

²⁴University of Queensland, School of Mathematics and Physics, Pitch Drop webpage <https://smp.uq.edu.au/pitch-drop-experiment> Accessed Jan. 1, 2023

This experiment is housed in a glass display case in a corridor. It is the middle of the night in Queensland when I watch, no students are in the halls. My eyes are quickly pulled to the three flat-screens on the wall that rotate announcements and UQ social media feeds. There is also a Casio clock that ticks next to the suspended pitch, presumably so that one can note the exact time of the drop's fall. Most interesting though is the changing number of other anonymous observers in the top corner of my screen: 15, 17, 18 others watching, together-apart, a slow-time event. Trying to watch an occurrence that is happening too slowly for our human perceptive abilities.

Pitch Drop

slow-time molecular science
suddenly quick if your attention should wander

I've heard that the human concept of speed accelerated for the first time with the invention of the telegraph and that you would have to hug a tree for three days for it to perceive your presence.

matter reset
solid, black, shiny

Now the watch for the Tenth Drop
only eight or so years

👁 55, 57, 59, 57, 60

They say that sound travels at two different speeds on Mars
one rate for high pitch
one for low
pitch
drop

NASA studies using the Perseverance Rover found that sound travels at two different speeds on Mars.²⁵ Here on Earth, we are still learning about how sound travels, how it is made and perceived by non-human species. Infrasound is a low range frequency humans can't hear but which seems geologic – the earth itself rumbles with a sonic accumulation of tides and seismic activity. Some creatures like whales and elephants who travel vast distances have tapped into this earth frequency to locate one another across great distances. African elephants have the ability to find and meet with one another over the vast territory they roam but until recently, how they achieved this was a mystery. In her book *The Sounds of Life*, Karen Bakker describes that it took a classically trained musician, Katy Payne, to discover how these animals communicate with each other. It was an experience Payne had at the Portland Zoo that made her suspect the animals communicated using infrasound. She described a sensation “like the feeling of thunder, but there had been no thunder”²⁶ when a baby elephant approached her as the nervous mother looked on. Using equipment that can record in the infrasonic range, Payne and her colleagues were able to successfully record the communications of elephants. Infrasound moves very differently than the range of sounds humans can hear but is well suited for the long-range communication required by elephants. Bakker recounts that,

...infrasound has very long wavelengths – a highly significant fact for elephants, given how sound waves interact with solid objects. Sounds with short wavelengths – such as high-pitched sounds that bats use for echolocation –

²⁵ “What Sounds Captured by NASA’s Perseverance Rover Reveal About Mars” April 01, 2022 <https://www.nasa.gov/solar-system/what-sounds-captured-by-nasas-perseverance-rover-reveal-about-mars/> Accessed July 11, 2024

²⁶ Bakker, Karen J. *The Sounds of Life: How Digital Technology Is Bringing Us Closer to the Worlds of Animals and Plants*. Princeton: Princeton University Press, 2022. Quoting Payne (1998) p. 45

reflect strongly from even small objects and travel only short distances. By contrast, sounds with long wavelengths pass through and around most objects... while air absorbs high-frequency sounds very efficiently, low-frequency sounds travel with little loss. Infrasound can thus be used for communication over long distances. It can also penetrate through objects like walls, or vibrate through the earth.²⁷

Elephants use infrasound which resonates through the earth to communicate to others at a long distance. But the earth too has a sonic life, sounds and movements that fall beyond our sensory perception and perhaps mingle with the conversation of elephants. Through scientific research we can gently push at an expanded understanding that can even include glimpses of a geologic soundscape. Even the mountains dance.

From a human perspective, mountains seem immovable and static but geologists studying the Matterhorn have shown that this famous peak sways back and forth every couple of seconds. Richard Sima's *Eos* article, *Mountains sway to the seismic song of the earth*,²⁸ describes the earth's song as a low hum that is the reverberating accumulation of sound from earthquakes, volcanic eruptions, and tides. The rumblings of continental drift are both sonic and haptic, and while for millennia these songs have been composed geologically, humans are starting to add some new notes. Did the mountains' dance mark the planetary shift caused by the Three Gorges

²⁷ Ibid. p. 47

²⁸ Sima, Richard J. "Mountains Sway to the Seismic Song of Earth." *Eos*, no. 103 (February 1, 2022). <https://doi.org/10.1029/2022EO220063>. accessed Dec. 21, 2023

Dam as it filled to capacity, making our days 0.06 microseconds longer, our planet rounder?²⁹

Did the hum of the earth become a doleful cry as the Chinese Paddlefish, River Dolphin and Siberian Crane were rendered extinct to expand shipping lanes?³⁰

These scales, from vast planetary to the minute microorganism, are entwined and entangled activity that can be difficult to observe. Ecopoetics and other forms of creative production can aid in exploring this interconnected web. Adam Nicolson's book *The Sea is not Made of Water* shifts between planetary scales and the minute life contained in tidal pools. Through a fascinating blend of scientific research, myth and poetics that describes his process of building and observing tidal pools on the coast of Scotland, he binds together what can sometimes seem to be disparate systems. Attempting to recreate the microcosm of a tidal pool, Nicolson's experiment meets with successes and failures, all of which are closely observed, with the excitement of discovery recorded as the twists and turns of the process lead to unimagined places. I think it is similar to the experimental approach I use in my studio practice – creating an elaborate approximation of what it feels like for a toad to move water with the production of sound, to experience a sonic call deeply entwined with physicality. The tidal influence on Nicolson's process of building the pools and the life sustained within them are explored in detail, the survival of tiny creatures such as limpets and shrimp, correlated to the survival of human coastal dwellers of the past. Like the radiating ripples on the surface of water, his scale of

²⁹NASA scientists calculated that this human construction has slowed the rotation of the earth making our days .06 microseconds longer. https://en.wikipedia.org/wiki/Three_Gorges_Dam#Terrestrial_impact It also caused the poles to move by about 2 cm. <https://www.businessinsider.com/chinas-three-gorges-dam-really-will-slow-the-earths-rotation-2010-6> accessed May 10, 2022

³⁰ https://en.wikipedia.org/wiki/Three_Gorges_Dam#Wildlife accessed May 10, 2022

interconnectivity broadens from the tidal pool all the way to the galactic scale of the push and pull of planets that influence the tides.

Nicolson introduces the concept of *the brim* which etymologically has a connection to sound. At its Germanic roots, brim references the "...turbulence of a breaking sea, a place where the world roars."³¹ Quoting Seamus Heaney, he describes the shore as "where 'things overflow the brim of the usual.'"³² The tidal pools he builds and observes act as models of our planet, demonstrating how a missing species can cause an overabundance of another, only to lead to a systemwide collapse. He observes tiny creatures that use the magnetic pull of an enormous planet to make their minute migrations. There are countless examples of fascinating behaviours in the pools, cultural histories tied to the shore and tales of past theories to explain the behavior of the tides. Nicolson examines the historical timelines of human life in Europe along shores, the importance of the shore for human survival in hard times. When we look back far enough, history and myth entangle. Of course, there is nothing straightforward about the lines Nicolson traces. He describes the course of observation and learning as "fractal theory" in which "...the closer you look at something, the more it remains unknown."³³ From a planetary scale down to the minute, Nicolson observes repeating patterns in nature that connect environments and the lifeforms in them. With each observation a new, smaller version of the pattern is revealed, one that becomes entangled with forces observed on both larger and smaller scales. His narrative follows threads of similarity, forming connections between the massive forces that push and pull our planet, and the movements of tiniest shore animals.

³¹Nicolson, Adam. *The Sea Is Not Made of Water: Life Between Tides*. William Collins, 2021. p.13

³² Ibid.

³³ Ibid. p.68

There is a watery theme that flows through much of this research – toads and tides, shells and shores. Beaches and banks are the liminal spaces rich with possibility of transformation, the places where worlds collide and cultures are swapped – a balancing on the edge, risk-taking – a deer stepping off solid ground to feed. Maybe there is a willingness to bridge solid and liquid lifestyles in these spaces, to muddy the water of what is expected behaviour. These liminal spaces are both physical landscapes that act as a meeting ground between worlds and are also conceptually rich spaces that fuel my studio practice.

At the end of October 2022, I was invited to attend an event collaboratively arranged by Guelph Institute of Environmental Research (GIER at the University of Guelph), Arts Everywhere Festival, and the Musagetes foundation, “to celebrate the intersections between poetry and science, the land and the environment, and the climate crisis and creative practice.”³⁴

Approximately 40 poets, scientists, artists, and musicians were invited to attend a dinner and at any point during the meal, take a few minutes to share a poem, song, reading or description of how their research and creative practice related to the evening’s theme. I played a segment of the recording of the audio element of my sound-sculpture *Cochlea*, shaped and eroded by the form of a glass shell. It was a fantastic evening of wonderful food, eclectic folks with diverse yet intersecting interests, and warm companionship. Serendipity is something I am mindful of and believe is part of the line we follow in the creative, intuitive process of making – no matter what form that production takes. Because lines twist and tangle, Forrest Gander was present, bringing my research in ecopoetics full-circle. He and Rae Armantrout were the special guests of the

³⁴ Busatto, Julia. “GIER Dinner Invitation,” email communication, October 12, 2022.

evening, each sharing one of their poems. Adam Nicolson concludes his book with a summation of how the inseparable strands entangle and bind all life together. “Life is unsealed. There is no distinction between flux and stillness; they are one. The core of being is interplay, and its give-and-take of quick and still is the animation of life.”³⁵

³⁵ Nicolson, Adam. *The Sea Is Not Made of Water: Life Between Tides*. William Collins, 2021. p. 321

Resonance & Reflection

*vibration, magnification, nodes, cymatics, emotion, relation...
mirror, echo, memory...*

Toad Touch is a sound-sculpture that is central to my dissertation exhibition. Over the four years that I have been developing this project and the related work in *The Shape of Sound* exhibition, I have gone to the river each spring to record toad mating calls. For a day or maybe a little longer, the calls reach an astonishing crescendo. Sitting in my canoe or on the bank of the Speed River near my home, I experienced an intensity of sound as one toad would begin to call and was then joined by another and another. As the sound intensity rises it reaches a cloying sense of closeness, a visceral frequency that sets my ear vibrating – the chorus of toad calls melting into my human body.

How to recreate this experience in a gallery? With an array of speakers in an architectural space, can I reenact that bodily experience on the river? Can a human body vibrate in sympathy with toad bodies?

I experienced a strange physical phenomenon as I recorded the toads; in the cacophony of calls there were brief moments during which the sound overwhelmed my hearing, producing a sensation that my ears were somehow shrouded, muffled. This experience came and went several times during the most intense moments of toad calls but at the time I had no explanation for it. I had no point of reference, making the validity of the experience seem dubious. As I sat in the canoe, I visualized this muffling as an internal cloud of grey static; humming, shifting, then dispersing like a murmuration of starlings.

In the spring of 2023, I presented my sound explorations with *Toad Touch* at the *Sound Genres* symposium at the University of Victoria in British Columbia. I briefly mentioned this acoustic phenomenon I had experienced on the river and, serendipitously, musicologist Noah Kahrs was there to describe research into this sonic phenomenon. In a paper for music theory journal *MTO*, Kahrs describes his first encounter with this:

Six years ago, I was practicing glockenspiel and heard a buzzing sound that seemed to come from inside my ears. After I reassured myself that I wasn't damaging my hearing, I realized that I could easily replicate certain buzzes' pitches by playing specific dyads. The buzzes were combination tones: my eardrum was vibrating in such a way that it supplied new, lower pitches in response to the high, loud notes from the glockenspiel.³⁶

Kahrs goes on to illustrate this phenomenon with sonic examples of the work of sound artist Maryanne Amacher, who explored these "combination tones" in compositions such as "Head Rhythm 1" and "Plaything 2," on her 1999 album, *Sound Characters: Making the Third Ear*.³⁷ Amacher's combination tones are made up of electronic, high tones that border on being painful but demonstrate how pairs of specific tones played together can generate a third tone in the ear. This should not be interpreted as a synaptic processing glitch construed by the brain as sound, Amacher was experimenting with auto-generated sounds produced by the cochlea and wrote in

³⁶ Kahrs, Noah. "Review of Amy Cimini, 'Wild Sound: Maryanne Amacher and the Tenses of Audible Life' (Oxford University Press, 2022)." *MTO A Journal of the Society for Music Theory* 28, no. 4 (June 2022). <https://mtosmt.org/issues/mto.22.28.4/mto.22.28.4.kahrs.pdf>.

³⁷ Ibid.

her notes of research by otologists who in the 1970s had recorded “spontaneous otoacoustic emissions”³⁸ by inserting a tiny microphone into the ear canal.

Amacher’s compositions employing combination tones are actively “making the third ear” a phrase she characterizes as the intentional use of a natural characteristic of the ear whereby with certain stimulation the ear emits sound. While this acoustic phenomenon occurs in our daily sound environs, it usually goes unobserved. Amacher demonstrates this sonic anomaly to her listeners, drawing attention to and generating this experience with intention. The third ear draws the listener out of the role of receiver, momentarily shifting them into a participatory role as an otoacoustic generator – the ears of the audience *produce* sound, triggered by certain combination tones. Amacher is composing for an unknown number of ears to perform as instruments stimulated by her compositions, although they may be spatially and temporally distant from each other. New sounds, played by third ears across the globe long after the album was recorded, yet each contributing sound to the composition at the precise moment the composer intended. In a concert hall setting would the collective ensemble of third ears have been audible? Palpable?

When played at the right sound level, which is quite high and exciting, the tones in this music will cause your ears to act as neurophonic instruments that emit sounds that will seem to be issuing directly from your head. In my concerts, audiences discover music streaming from their head, popping out of their ears, growing inside of them, growing out of them, meeting and converging with the tones in the room.

³⁸ Cimini, Amy. *Wild Sound: Maryanne Amacher and the Tenses of Audible Life*. New York, NY: Oxford University Press, 2022. p.203

Tones “dance” in the immediate space of their bodies, around them like a sonic wrap, cascade inside the ears and out to space in front of their eyes, mixing and converging with the sound in the room. [. . .] These tones are a natural and very real physical aspect of auditory perception, similar to the fusing of two images resulting in a third three-dimensional image in binocular perception. I believe that such response tones exist in all music, where they are usually registered subliminally and are certainly masked within more complex tones. I want to release this music which is produced by the listener, bring it out of subliminal existence and make it an important sonic dimension in my music.³⁹

Amacher’s description of combination tones is an exciting, near utopic, expansion of the human sensorium, releasing listeners from the confining silos of sensory division. Bodies absorb sound in new ways, are fully immersed in, and attuned to, their environment and even become generative sound producing environments. The audience is synchronized with the spatial acoustics and other listeners/sound generators, collaboratively accessing new possibilities of resonant sensory experience. As I was making the *Toad Touch (Performance)* video, my partner and I recorded the spouting bowl soundtrack in a friend’s sound studio. Again, I experienced moments in which the high-pitched frequencies from the bowls seemed to muffle my ears. In addition to this phenomenon, I also noticed that the sound source seemed impossible to locate. There were only two of us playing, but I often couldn’t tell if I was making all the sound or none

³⁹ Amacher, Maryanne, *Sound Characters: Making the Third Ear*. (Liner Notes) Tzadik, 1999 quoted in Amy Cimini’s book *Wild Sound: Maryanne Amacher and the Tenses of Audible Life*. New York, NY: Oxford University Press, 2022 p.175

of it. The tones filled the space coming from all directions simultaneously. Is this the “sonic wrap” or “cascade inside the ears and out”⁴⁰ Amacher describes? It was a disorienting experience – the sound seemed to be both inside my head and all around.

In her book *Wild Sound*, about the work of Maryanne Amacher, Amy Cimini writes that, “A third ear confronts the two extant ears with a destabilizing figuration, as though seeking in them some specific yet unnamed liminality of bodily matter.”⁴¹ This destabilization is key for expanding understanding beyond linear connections such as *sound + ears = hearing*. These murky abilities of bodies offer generative and expansive potential. The tantalizing possibilities of ears as both generators and receivers of sound, of bodies as resonating objects and environments overflowing with affective sound, is further extended into the realm of sight, touch, and movement – “Tones “dance” in the immediate space of their bodies, around them like a sonic wrap, cascade inside the ears and out to space in front of their eyes.”⁴² Amacher’s comparison of tonal dyad’s production of a third tone, with the way binocular vision allows us to see three-dimensionally, adds to this complexity.

Salomé Voegelin has also considered adjacent sensory understanding, seeking alternatives to dialectical thinking – an approach that attempts to reconcile seemingly contradicting information. In a 2015 interview, Miguel Isaza asks Voegelin about her statement, “the inaudible

⁴⁰ Cimini, Amy. *Wild Sound: Maryanne Amacher and the Tenses of Audible Life*. New York, NY: Oxford University Press, 2022. p. 175

⁴¹ Ibid. p. 178

⁴² Amacher, Maryanne, *Sound Characters: Making the Third Ear*. (Liner Notes) Tzadik, 1999 quoted in Amy Cimini’s book *Wild Sound: Maryanne Amacher and the Tenses of Audible Life*. New York, NY: Oxford University Press, 2022. p. 175

acts not as an opposite of the heard but the extension of its audibility.”⁴³ She responds that one of her primary reasons for writing about sound is “...a desire to find alternatives to a dialectical thought process and its quasi objectivity. The dialectical principle ‘this not that’ points to a believe [sic] that things are separate... positioned within the ‘container’ of the perceptual field, rather than generating it...”⁴⁴ The inaudible, she explains, is not something that doesn’t exist but is part of a sonic spectrum that could go unheard for reasons of physiology or even a political unwillingness to hear. In the studio, my sound-sculptures also experiment with moving beyond sensory labels. While categorization is often useful because of its simplification, it can also limit our perceptive abilities when sensory experience falls outside of them. Moments in which a new perspective expands my awareness – like Amacher’s use of the ear as sound producer – are full of exciting possibility.

The album art for *Sound Characters: Making the Third Ear* also emphasizes the $1+1=3$ encounter by including a stereoscopic photograph of a desiccated human cochlea. When the viewer holds the image away from themselves and slightly unfocusses their eyes, a new apparition of the cochlea, crisp and three-dimensional, is generated. This interplay between what appears solidly on the page and the flickering apparitions of a third dimension evoke a sense of accessing new space. Amacher applied this sense of prying at new liminal spaces within sound, conscious not only of the spatial effects of sound in a room but expanding into the generative use of the body’s own sounds to blur physical boundaries. The affective and destabilizing no-place that Amacher creates for her listeners is “...crystalized not only through the study of auditory

⁴³ Thinking Resonance (I) – Listening to Inner Voices and Sonic Possible Worlds: An Interview with Salomé Voegelin. Interview by Miguel Isaza, December 16, 2015. <https://sonicfield.org/listening-to-inner-voices-and-sonic-possible-worlds-an-interview-with-salome-voegelin/>.

⁴⁴ Ibid.

processes, but in tandem with active knowledge of stereoscopic imaging...”⁴⁵ through the work of her friend Scott Fisher. The images Fisher produced also engaged visually with constructing a state of bodily disassociation with concrete space but by using temporal shifts. In his photographs, the two images used to create a stereoscopic image of an urban location would be taken days or even years apart. The unchanged elements of the scene appear sharply in stereoscopic 3D, while objects that are new or no longer present flicker back and forth between the two eyes as less concrete apparitions, ghosts of change.

Sensory experience is capacious and entangled. There is a world of possibility just waiting for us to try new ways of being. But before we can access new areas of perception, we must be able to imagine them. Learning of and imagining the sensory experiences of non-human animals can act as a guide for seeing what is unseen and hearing what is beyond our perception. Echolocation in bats is often described as seeing with sound, maybe because bats’ near instantaneous understanding of all that is around them – what is moving or stationary – is information that most humans rely on vision to provide. In the Young Adult novel series *Silverwing*, by Kenneth Oppel, readers discover the intimate and complex relationships of a colony of Silverwing bats through the experiences of the protagonist, Shade, one of a group of newly born bats. Shade is smaller and weaker than the other young bats and because of this an outcast; but what he lacks in physical strength he makes up for with sonic ability. When a matriarch of the colony recognizes Shade’s potential with sound, she brings him to the echo chamber where the Silverwings’ history is preserved. Each year, an elder of the colony sings the year’s stories into the chamber where they reverberate in the repository for future generations to hear. Shade learns to parse the ancient

⁴⁵ Cimini, Amy. *Wild Sound: Maryanne Amacher and the Tenses of Audible Life*. New York, NY: Oxford University Press, 2022. p. 174

and faint stories from the past contained in the swirl of sound within the chamber. As he listens, words change to images. “The words faded away, and without warning, his mind was filled with pictures. A brilliant silvery world flared up before him, as clear as his own echo vision at night.”⁴⁶ Freda, the elder, explains to Shade what is happening. “We see with echoes, and with practice it’s also possible to sing echo pictures into bats’ heads.”⁴⁷ Shade and Freda are not the only bats in the colony who share sonic talent. Fearing her son lacks the strength to keep up with the colony as they migrate, Shade’s mother sings the migratory route into Shade’s mind, a map of coastlines and strange landmarks that he has never seen before, each depicted in silvery light.⁴⁸

Can studying bats and imagining their inner worlds combine with scientific discoveries to bring humans closer to an understanding of Thomas Nagel’s unsolvable question and title of his essay, *What is it like to be a Bat?* Just as generative combination tones are occurring in our everyday soundscapes, are examples of sound as sight also present and waiting for us to refocus our attention? Recent advances in digital technologies have led scientists to a greater understanding of communication within bat communities. In her studies of the greater sac-winged bats of Central America, Mirjam Knörnschild has demonstrated complex learned communication that develops over the lifetime of these bats. Baby bats’ language is learned behavior that goes through stages of development, mirroring the development of human infants. They babble as vocalization practice, their mothers use baby talk or “motherese”⁴⁹ with their offspring, and as

⁴⁶ Oppel, Kenneth. *Silverwing*. Toronto: Harper Trophy Canada, 2010. p. 33

⁴⁷ Ibid.

⁴⁸ Ibid. p. 51

⁴⁹ Bakker, Karen J. *The Sounds of Life: How Digital Technology Is Bringing Us Closer to the Worlds of Animals and Plants*. Princeton: Princeton University Press, 2022. p. 125

they grow, they learn songs unique to their immediate families, their broader colonies, as well as territorial and courtship songs.⁵⁰ With algorithms developed to analyze recordings, the researchers can determine which bat is vocalizing, and often can also distinguish which individual bat is being addressed based on the type of language used.⁵¹ “Some bats even encode information about the identity of the addressee (whether male or female) in their vocalizations – analogous to a human speaker using varying forms of address when speaking to male or female listeners. Bat calls may even encode individual, kin, and species identity.”⁵² Oppel’s silvery maps of migratory routes and generational teachings sung into the heads of young bats may not be so fantastical after all. Beyond complex communication, and echolocation, bats also use sound as a tactile force. With a quick sonic burst a bat can stun a moth, then swoop in to catch its disoriented prey. But predator and prey have both evolved functioning within the same sonic frequency ranges. Some species of moths have developed defensive strategies, “...for example, tiger moth wings have evolved in a specific shape that jams bat sonar (and it turns out that antibat ultrasound production in moths is widespread).”⁵³ So as the bat scans its environment searching for insects to hunt, it occasionally encounters a small, blurry area of its silvery map, a murmuration, an unidentifiable shape reflected in sound.

⁵⁰Ibid. p. 124-125

⁵¹ Ibid. p. 130

⁵² Ibid. p.131

⁵³ Ibid. p. 111-112 Matched filter hypothesis or acoustic niche hypothesis first proposed by bioacoustician Bernie Krause in the 1970s describes “the mechanisms for hearing sound coevolved with mechanisms for making sound.”

Reflection

Reflection can be many things; a redirection of sound, an image (often our own) projected back to us, a repeated/related form, or an internal process of memory or reconsideration. My work in *The Shape of Sound* exhibition uses each of these forms of reflection to shift and expand dimensions of sensory perception. Perhaps the most important detail of a reflection is that it is only an approximation of the original – there is always some shift. The original image or sound is altered by its journey away from and back to the perceiver: the echo is a distorted facsimile, a mirrored image is in reverse, a repeated motif might shift in scale, and memory is imprecise. What happens in this space between the source and its transmuted doppelganger? What information is blurred, amplified, gained, or lost?

Water is likely the first visually reflective surface – the original mirror. Imagine looking at your own image, reflected to you from the surface of a river. It is the image of physical self that you recognize, but more integrated into the complexity of the surroundings. It includes details from below the surface – pebbles or crayfish – and the sky or tree branches above you. A fish might swim through your features or a cloud pass, dimming the reflection. There is movement and maybe distortion if the surface of the water ripples – sometimes moments of erasure. Perception is continually shifting planes, occupying a depth of space from the bottom of the river to the sky.



Figure 5 *Toad Touch (Performance)* 2022

In the *Toad Touch (Performance)* (2022) video,⁵⁴ I use cross-dissolves of water surfaces as points of transition and integration. As the performers interact with the sound-sculptures they become woven into the ecology of the pond-side location. The cross-dissolves that occur through images of water behave as a point of integration or blurring between the cultures of humans and toads. As imagery changes over the water's surface it acts as a membrane that, when passed through, shifts time and bodily form. In the first instance, toads are mating in the river in mid-May. They startle and submerge, fading out into a new pond location one month later, green with new plant growth. In another transition the performers appear to be framed and reflected in the moving water of one of the bowls. A performer's hands dissolve into the water of the spouting bowl, shifting the video to slow-time, highlighting the vibrational movement of the water. Lastly, as the water in the bowl quiets, tadpoles appear. The performers in the video seem to play a role in the mating process of the toads. The usually quiet, terrestrial toads have shifted environments,

⁵⁴ The full video is available here: <https://youtu.be/6ASCVuoQeeM?si=A8Vf9yG-agsv0Ru4>

returned to the water where they will loudly call for a mate. The performers also appear in and alongside the pond, labouring over the spouting bowls, producing sound, moving water, appearing to scry the tadpoles into being.

Some public sculptures are touched by passersby for luck. Over long periods of time and with repeated touch, areas of these sculptures become visibly polished. The buffed areas on the *Toad Touch* sculptures are also reflective, with the intention of encouraging tactile engagement with the objects. Despite their recent fabrication, I wanted the bronze toads to convey this durational sense of interactivity and magical possibility – that, through contact, an object could transfer certain qualities to the person who touches it. To reference this transference and to make each toad a touchstone, I gave certain areas a high polish. Each touch is also a minute moment of erasure. Cumulatively, this repeated contact first erodes the sculpture's surface patina, next textural detail is worn away – it is a slow unmaking of the work particle by particle. In these instances, the shine or reflective surface of a public work is the result of a physical transition on a microscopic scale, though durationally occurring over expansive timelines. The repetition of gentle touch erodes even an enduring material like bronze.

7.

In time, a given object is not the
same from 1 second to another –

what

Connection to the principle of identity?

-Marcel Duchamp⁵⁵

⁵⁵ Duchamp, Marcel *Notes* trans. R. Loewen 2017. accessed April 17, 2024
<https://static1.squarespace.com/static/50c0c841e4b01cd9e74e3708/t/5a2c2535e4966b5dad6e6e3b/1512842559927/translation+document-FINAL.pdf>

The erosion of bronze that takes place through repeated touch over time (and its inverse – the gradual accruing of natural verdigris through atmospheric oxidation) are examples of what Marcel Duchamp termed the *infrathin* (*intramince*). His notes were originally a handwritten collection of 46 numbered examples of the *infrathin* – including a range of visual, sonic, tactile, and temporal sensory experiences – illustrating minute moments of transition or flux. Even Duchamp’s invented term shifts; sometimes he writes it as one word, sometimes two, or uses a hyphenated hybrid variation, like what I have settled on for ‘sound-sculpture.’ According to Marjorie Perloff in her book *Infrathin: An Experiment in Micropoetics*⁵⁶ Duchamp proclaimed that, “one cannot define the *infrathin*, one can only give examples” a quotation she translates from the French language published version of *Notes*, edited by Paul Matisse. Perloff’s interest in the *infrathin* is the linguistic slippage and the mutability of poetry – the same characteristics which drew me to include ecopoetics in my own research. Poetic expression opens a liminal space where multiple meanings and shifts can occur, and words themselves develop a patina of etymology as they evolve and are adopted into new languages. In the English translation of Duchamp’s *Notes* translated by R. Loewen, the *infrathin* examples themselves seem to be poems that include crossed out words, unusual line breaks, and words on strange angles indicating scribbled additions inserted as Duchamp revised his notes. Loewen includes some photographs of Duchamp’s handwritten notes, the French transcription, and the English translation in the PDF document I accessed.⁵⁷ Duchamp, I think, would be amused by these *infrathin* variations of transcription and translation of his original examples of the *infrathin*.

⁵⁶ Perloff, Marjorie. *Infrathin: An Experiment in Micropoetics*. Chicago: the University of Chicago press, 2021. p. 2 cites French language text *Notes*, by Marcel Duchamp ed. Paul Matisse 1980; Paris: Flammarion, 1999.

⁵⁷ Marcel Duchamp *inframince* notes, translation R. Loewen 2017. accessed April 17, 2024 <https://static1.squarespace.com/static/50c0c841e4b01cd9e74e3708/t/5a2c2535e4966b5dad6e6e3b/1512842559927/translation+document-FINAL.pdf>

42.
Reflections — on certain woods
light playing on
surfaces.
infra-mince driven
by perspective⁵⁸

To evoke and encourage microscopic shifts in the bronze surfaces of the *Toad Touch* sculptures, both the smooth and more heavily textured areas of my toads attract touch. Perhaps texture is a form of tactile resonance – an echo or reverberation of past interactions. Ada Smailbegović explains that texture “contains traces of previous encounters and often plays a role in shaping the possibilities for future encounters.”⁵⁹ These traces are in continual flux – as a hand touches an object it joins with those that have performed this action in the past. Does the hand leave molecules behind? Take traces of the object with it? This mobility and malleability of sculpture through tiny transmissions of particles allows concrete access to Jane Bennett’s concept of “utopian imagination” – making visible the active vitality of materials that exist outside of human timescales and the blind spots of our sensory capabilities. The intensity of engagement is both an erasure and a liberation of static material, another stage of an ongoing process of transformation.

⁵⁸ Ibid.

⁵⁹ Smailbegović, Ada. *Poetics of Liveliness: Molecules, Fibers, Tissues, Clouds*. New York: Columbia University Press, 2021. p. 24



Figure 6 *Third Ear Shells*, bronze 2023

Third Ear Shells (2023) also use areas of polish to indicate touch. Each shell opening is shaped like a human ear and, were you to hold the sculpture to your own ear, the polished surface would press against it – a mirrored pair – one ear and one facsimile. These small sculptures revisit the sound considerations of my project *Cochlea*, an in-depth sound-sculpture investigation into how sculptural form can shape sound, eroding it to the resonant tone of the object itself. Similar to *Cochlea*, they also recall the practice of holding a shell to one’s ear to explore the sonic phenomenon of “hearing the ocean” in a shell. The *Third Ear Shells* also, of course, reference Maryanne Amacher’s *Third Ear* compositions in the title. They are a set of three sculptures, yet if a person picks up one and places the sculpted ear to one of their own, it suggests another trio – two real, one sculpted. These objects have the potential to reflect both past cultural connections of shells and ears, as well as contain future, generative possibilities. They contain an expectation and a memory of sound.

There is an ancient and deep sonic connection between ears and shells, one that seems to open an ethereal link to some other realm. In his book *Luminous Debris*, writer and poet Gustaf Sobin

describes a fascinating archeological discovery made in 1955 that beautifully weaves together an account of a historical object with its potential to access other sensory planes. While excavating a tomb at Roque d'Aille in the south of France, archeologists found the skull of a young Neolithic woman. This woman had survived brain surgery, likely performed with sharpened flint tools over the course of several hours. But what intrigued them most was that she had a prosthetic ear – one of the earliest prostheses ever found – carved from a seashell. Under an electromagnetic microscope, researchers found a slight patina on the prosthetic, evidence of wear that convinced them that she had lived for years after this terrible operation. Sobin muses:

Was this the result of simple abrasion (the mechanical rub of one surface against another) or the deliberate toying, on the young woman's part, with her curious appendage? Had she fondled its slick underside so often that specialists – peering through electromagnetic microscopes five thousand years later – would pick up traces of the infinitesimal luster left there by the play of her fingertips? By the roll of her thumb and forefinger over its nacreous lip?⁶⁰

It is this minute erosion – this vestige of touch – that prompts Sobin's speculation about this object's power to provide some glimpse, some whisper, of a less tangible world to its wearer. What status and ability did this new ear bestow on her, he wonders? Did she keep her shell-ear carefully hidden by her hair, or display it with pride? Was she revered as a spiritual conduit, physically and transcendently joined with the sea? It is through a series of unanswerable

⁶⁰ Sobin, Gustaf. *Luminous Debris: Reflecting on Vestige in Provence and Languedoc*. Berkeley: University of California Press, 1999. p. 53

questions that Sobin attempts to access “...an intuitive reading of a world that itself was constituted upon an uninterrupted series of intuited postulates.”⁶¹

Sobin looks to archeological finds – material remnants of the past – to escape “...the lateral planes of our perceptions...” and access a “...more arcane set of cognitions below. That a *vertical* reading might indeed be possible.”⁶² With each stratum of excavation, the archeologist descends into the past, attempting to identify and understand the objects they encounter. In his interpretation of these artifacts, Sobin attempts to glean new modes of perception, to break from the linear and descend into another world. The artifacts he writes about span a broad swath of time; his essays are unconcerned with bridging the gaps between. The objects he writes about in this collection of essays are selected only for their ability to provide some form of self-reflection: “Nothing mattered in my choice of materials but the echoes, the mirroring images they might provide, but the reverberations they might create.”⁶³ Maybe Sobin looked to the past – digging up stories of archeological finds in archives – to root himself in his chosen home of Provence, France, after leaving the US where he was born. Do the excavated items from distant eras that offer him an opportunity for reflection – what he calls “opaque mirrors”⁶⁴ – need to be old? They do offer a glimmer of a different way of life, but they are also objects made by hand. Could the invested time and care of the maker be part of what makes this debris luminous?

An object can hold a richness of information – luminosity, luck, legacy – but its interpretation is an opaque reflection of the one who made it, and who interprets it. Its meaning – its power – can

⁶¹ Ibid. p.54

⁶² Ibid. p. 5

⁶³ Ibid. p. 4

⁶⁴ Ibid. p. 2

shift and morph; this mutability may be its strength. Perhaps the vitality of the artifacts that speak to Sobin doesn't come solely from the patina of age, but also out of a residue of touch inherent to handmade things. This connectivity between maker, the made item, and its circulation is something that artist Maria Hupfield spoke about when I asked her, "Do you think of your sculptures as co-performers? Or as instigators of your performances?" Her response considers different ways of thinking about art objects that have left the studios of their makers:

No. I just call what I make art. But I do think about my creations as a type of conversation with materials and the performances continue the conversation in another form. I have also started to think through art made by living artists as belongings vs objects, meaning a belonging of the artist that is sold or borrowed, or on loan has value beyond the financial or economics of the commercial art market within and by the communities and people who use it. Can something that is made by someone ever stop really belonging to that person? This idea depends on the understanding of ownership and belonging. Is the purchase of art simply one of caregiving rather than ownership? As a language learner and as I learn and use more Anishnaabe cultural knowledge in my work, I also think about my creations and art differently. It is possible that sometimes my work may have its own agency. There are no rules with my creations. I have lots of ideas and am constantly trying new things out.⁶⁵

⁶⁵ Maria Hupfield, interview p. 167 in the appendix of this document

Through my conversation with Hupfield and with additional guidance and references from my supervisor Lisa Myers, I'm learning of the difference between Western understandings of belongings that emphasizes legal ownership, and Indigenous perspectives that foreground the relationships implied in belonging.⁶⁶ Jordan Wilson, in his essay "Belongings" in "čəsnaʔəm: the city before the city"⁶⁷ describes the nuances of choosing this term in the context of an exhibition that includes ceremonial creations from the Musqueam First Nation. It counters the Western categorization of 'artifact' that is often used in museums and emphasizes the continued connectivity between the belonging and past, present, and future members of the Musqueam First Nation. Building an understanding of the concept of relationships within artmaking, exhibitions and care, Hupfield relates this to one of her personal gifts of creating connections between people. The artworks she makes are an important and often tangible part of how she builds community and brings people together while navigating her biracial heritage of having a Canadian father and Anishinaabe mother.

A web of connection between maker, artwork, and owner is something I have explored through the production and distribution of multiples. When multiples are distributed, I think of them as having a connective capacity – the object anchors each recipient on a fluid and shifting map, creating a network. The first dozen or so of the cast milkweed pods I made were distributed through the mail as my participation in a mail art exchange group called *Undecimals*.⁶⁸ Similar

⁶⁶ For further artworks and writings that foreground Indigenous perspectives and the relationships between making and community, see *Carry Forward, Post Script*. ed. Lisa Myers, Kitchener, Ontario, Canada: Kitchener-Waterloo Art Gallery, 2020.

⁶⁷ IPinCH: Intellectual Property Issues in Cultural Heritage: Theory, Practice, Policy, Ethics. 2016. <https://www.sfu.ca/ipinch/outputs/blog/citybeforecitybelongings/> accessed April 24, 2024

⁶⁸ "Undecimals is an artist exchange project created and organized by artists. Participants are sorted into groups of 12 and are each assigned a month or, for the BUSH Gallery mail art group, a moon cycle. On your month or moon cycle, you send a mailed item to the 11 other artists in your group. During the 11 other months or moon cycles of the

to seeds dispersed from a ripened milkweed pod, at one point all the multiples were together and bear some imprint of that origin. The travels of the multiples create a fine web of lines, mapping the together-apart commitment of sharing. This quality of connectivity is one that I associate with most multiples intended to be distributed – they become a physical point of contact in an abstract network of collective sympathies, interests, and possible future engagement, exchange, or interaction. In the case of *Milkweed Pods* (2024), this parallels the milkweed plant’s distribution of seeds. The slightest of air currents can lift and drift the floss through the air, carrying seeds far afield.

Milkweed floss is buoyant in water as well as in air. During World War Two, civilians were tasked with collecting milkweed pods. The waterproof fluff from inside the pods – six times more buoyant than cork – was used to stuff life jackets for soldiers. The US Department of Agriculture shifted the classification of the plant from “noxious weed” to “strategic wartime material” in 1942. Twenty pounds of floss is needed to keep a 150-pound person afloat.⁶⁹ I have been growing milkweed in my garden and collecting the pods for casting each fall, also amassing a collection of floss, though nowhere near twenty pounds. *Preserver* is a soft-sculpture replica of the key-hole style life preservers I remember using as a kid. Most vividly I remember how hard and tight they were, nearly tearing off your ears as the life-preserver was removed. As personal, political, and botanical memories entangle and fan out from this sculptural investigation, I have posted images on my Instagram account of the process and tangential ideas bound up in this project. Artist Katherine Knight sharpened the focus of these interwoven ideas and brought me to

year, you’ll receive something back.” “Named in 2015, the project is successive to and greatly influenced by mail groups initiated and organized by Kerri Reid.” <https://undecimals.ca/faq> accessed Jan. 24, 2024

⁶⁹ Veterans’ Breakfast Club website accessed April 11, 2024. <https://veteransbreakfastclub.org/how-collecting-milkweed-saved-lives-in-wwii/>

the important term of buoyancy when she commented that *Preserver* in conjunction with *Milkweed Pods* is “...full of past and future hopes for staying buoyant.”⁷⁰



Figure 7 *Preserver & Milkweed Pods*, cotton, milkweed floss, bronze 2024

Milkweed Pods, like other work in *The Shape of Sound* exhibition, also have polished interiors but in this collection of multiples the shine is intended as a mirror-like surface that could contain a fleeting, reflected image of the multiple's owner rather than a touch point. These multiples were cast using an organic burn-out process that allows a real milkweed pod to be burnt away and the cavity left by it to be filled with bronze. In contrast with using a mold to create near identical multiples, this process allows for each pod to be unique yet remain clearly part of a set. The large, hand-sculpted *Mother Pod* ties the multiples together as though they are seeds being

⁷⁰ Instagram comment from @katherine_m_knight April 9, 2024

released and dispersed. To me, milkweed pods have a connection to ears though I don't anticipate that someone viewing this sculpture would have the same association. When my sister and I were very small, my mom would fit a pair of dried milkweed pods over each of our ears, turning us into field elves.

Copper Bowls (2024) are another set of sculptures made with the intention of being visually reflective surfaces. These hammered copper forms are based on ancient mirrors made of polished stone, copper or brass, used before glass was available. Unhappy with a simply flat piece of copper, I gave them dimension through a process of heating and hammering. This process produces a lot of sound – though it is very loud, there are subtle shifts as the molecules of the copper tighten with each hit. You can hear the metal hardening, the pitch rising. Annealing the copper by heating it releases this tension, softens the metal, frees the copper molecules bound together by hammer strikes, and lowers its pitch. As a bowl, the copper mirror can also be a vessel to hold water, reflecting a relationship to the spouting bowls in *Toad Touch*. In addition, copper has water purifying characteristics, killing bacteria after a couple of days in contact with the metal. Josephine Mandamin, an Anishnaabekewe elder who is also known as the “Water Walker,” has walked around the Great Lakes carrying a traditional copper water pail, bringing attention to the levels of contamination in the lakes. The activist says, “Water has to live, it can hear, it can sense what we’re saying, it can really, really, speak to us. Some songs come to us through the water. We have to understand that water is very precious.”⁷¹

⁷¹ Mother Earth Water Walk website, <https://www.motherearthwaterwalk.com/?p=2845> accessed May 1, 2024

Hung on the wall with the concave side protruding outward, the polished surfaces of *Copper Bowls* act as blurry mirrors and suggest forms like enlarged warts from the skin of the toad sculptures. The purification of water through contact with copper and an amphibian ability to breathe through skin become loosely equated.

36.

Vapour — on polished surfaces (glass
— infra mince copper
you could draw and perhaps recondense
at will a drawing which would appear
in the water (or other) vapour⁷²



Figure 8 *Copper Bowls*, hammered copper 2024



⁷² Marcel Duchamp inframince notes, translation R. Loewen 2017. accessed April 17, 2024
<https://static1.squarespace.com/static/50c0c841e4b01cd9e74e3708/t/5a2c2535e4966b5dad6e6e3b/1512842559927/translation+document-FINAL.pdf>

My thoughts on reflection in its many forms has been influenced by Jennifer Roberts' A.W. Mellon Lectures in Fine Arts (2021), a video-recorded set of six, one-hour lectures on printmaking, available on-line rather than in-person, due to the pandemic. Print and sculpture are closely related. These lectures about printmaking discuss many of the same conceptual concerns as those I apply to the practice of sculpture. The correlations between sculptural and printmaking methodologies were a direct motivation to develop new, print-based elements included in *The Shape of Sound* exhibition – specifically a set of three rubbings made from the performance jumpsuits and series of copper etchings.

Both sculpture and print have an expansive array of equipment and technical approaches – near infinite variations of method and material choice. The reversal and contact involved in printmaking processes are closely tied to mold making. This intimate moment of contact and transformation seem to occur in a materially *thin space*⁷³ where slippage between what is and what can be occurs. There is transferal through touch, material exchange is possible, a patina-like residue accrues. As copper purifies water through contact, the outcome of a sculpture or print is shaped by this intimate and unseen reactive touch – a shifted perception becomes possible. Roberts describes the conceptual and emotive impact of these moments of material exchange, “Every print is the result of a process of contact and release which links it immediately to themes of touch, presence and intimacy, but also loss, separation, and memory.”⁷⁴ This holds true to the process of using molds to make sculpture as well, though mold use occupies more three-

⁷³ A *thin space* is a place where it seems possible to slip between worlds. For many it has a religious character, an access to a heavenly realm. My use of this term is to suggest moments and places that allow for an expanded understanding or shifted sensory experience, a space to speculate and reach for another version of my perceived reality.

⁷⁴ Roberts, Jennifer. “The 70th A.W. Mellon Lectures in Fine Arts.” Series of 6 lectures, 2021. Lecture 1: Pressure

dimensional space. The matrix (the surface from which a print is made) and the mold in sculpture are mirroring forms of the finished artwork; the half that is usually discarded once the creative process is complete. The maker must be able to shift their thinking between the spaces of the positive and negative form, the reversal and the print. A honed ability to make this shift opens new possibilities. Roberts describes the perceptual power of the pairing of print and matrix, and the potential of moving between the two: “To align a mirrored pair, it has to move on a hinge-like motion, occupying 3D space; it implies a third dimension.” This creation of dimension through mirror reversal is a powerful space. Roberts asserts, “It splits apart the singular viewpoint of the artist and opens up the relational circuit with some other side.”⁷⁵

35r.

Infra mince Separation –

2 forms cast in the same (mould) (?) different
~~one from the other~~ between them
an infra mince value of
separation –

All "identicals" as
identical as they are, (and
the more identical they are) become
closer and closer to this
infra mince difference in
separation.⁷⁶

Making the bronzes for *Toad Touch* required repeated processes of back-and-forth reversal: shifts between positive/ negative form, assembling/ disassembling of parts, constructing/ destroying. The first stage in making *Toad Touch* was to sculpt the toad out of polymer clay

⁷⁵ Ibid. Lecture 2: Reversal (20:42, 25:50)

⁷⁶ Marcel Duchamp inframince notes, translation R. Loewen 2017. accessed April 17, 2024
<https://static1.squarespace.com/static/50c0c841e4b01cd9e74e3708/t/5a2c2535e4966b5dad6e6e3b/1512842559927/translation+document-FINAL.pdf>

(positive). Next a rubber mold with a plaster mother mold is made (negative). The clay is removed, and wax poured into the mold (positive). The wax is coated in layers of ceramic slurry and silica sand, then the wax is melted out leaving a ceramic vessel (negative). Bronze is poured into the cavity and the ceramic layer is broken away to reveal the bronze (positive). Shifts of assembling and disassembling occur through this process: the clay toad is cut apart to make the five molds, the wax pieces are reassembled to check the fit of parts, then further disassembled into twenty separate pieces that, once cast in bronze, must be welded back together to reconstruct the two toads. There is some alchemy here in this material dialogue, this translation of form. These trace encounters also play a role in the many material shifts between states as a sculpture is created – and that some residue is carried through matter in each step of the process to the finished work. Sometimes this material dialogue may take other forms, a shift between analogue and digital states, for example. Many stages are necessary in the development of a sculpture, temporary states that will ultimately disappear – like the tail of a tadpole as it grows legs and reabsorbs its gills.

Back and Forth

What translation of material happens here
between positive and negative forms
passing back and forth
in transition from hollow to whole?

What molecular residue
transferral of touch
infuses each successive iteration?
A thin film of the former
bonded to the next.

Is it an accumulation of hours? Intent?
The slippage between each shift
carried forward

fingerprints embossed in clay that will be discarded after the mold is made.
The rubber's negative copy, flexible and spineless
keys to lock it to the mother mold.

The mold is only a step on the way
a skin that will be shed
and with its help, clay form is remade in wax
shifting again to a positive state.

What sympathetic magic
envelops this wax as it is dipped
again and again in a ceramic slurry?
Some bubbles of air will be captured too
some that will be rubbed out as flaws, others integrated.

This shell, this cocoon
encases metamorphosis, wax is lost
leaving only a vessel waiting to be filled.

Here there is alchemy
shaped by more than human hands
white heat and glow
a lava flow of molten metal
a sunset
honey-hot deepens to oranges, reds to near blacks.

Silence fills space when the furnace roar is extinguished.

Positive form emerges again
as shell is chipped away,
the uncovering of a newly minted fossil.

And then comes touch
polishing the surface over time
taking some molecules, leaving some essence?

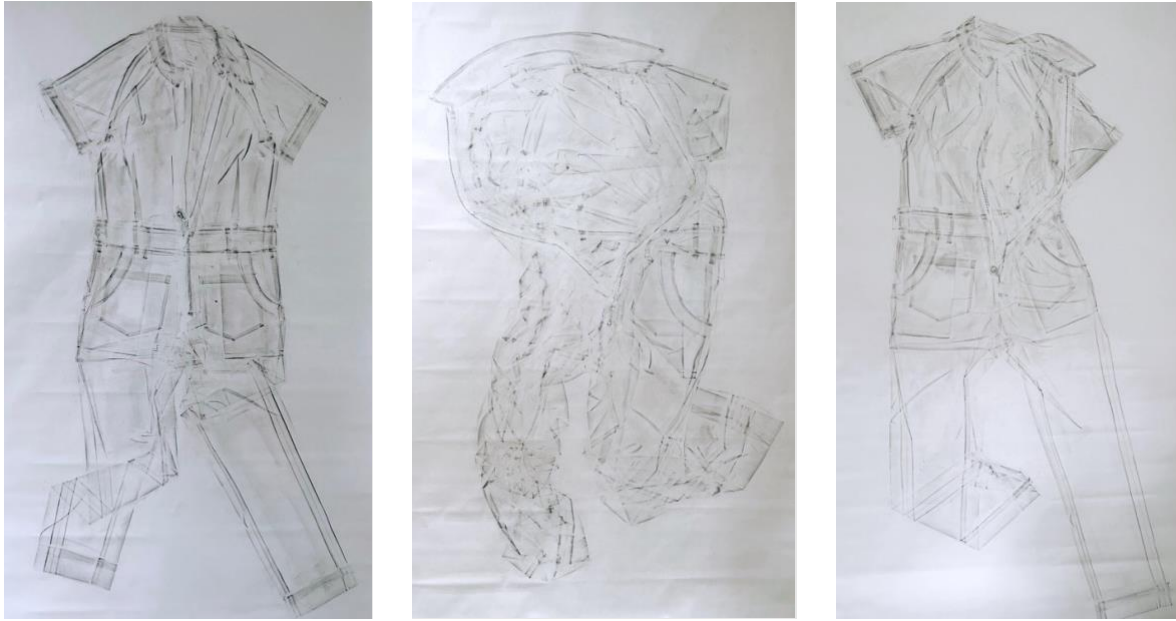


Figure 9 Rubbings, graphite on paper 2023

These back-and-forth processes of print and sculpture are a slow-time method of material reflection. Perception, alongside materials, must shift and transform. *Rubbings* (2023) are a series of three images made from one of the jumpsuits I sewed for the *Toad Touch* (*Performance*) video, and are another form of altered perception through intimate contact. A jumpsuit was made for each of the performers in a nature inspired fabric print of their own choice. Independently of one another, the performers, Steph Yates and Lisa Conway, each selected a fur-like pattern for their suits. I made a suit for myself in a pinecone patterned fabric. The jumpsuits are intended as a form of camouflage, not to hide from view but to blur the humanness of the performers. Like the back-and-forth, making and unmaking processes of producing the bronze toads, or the reversal of printmaking, the jumpsuits also involve elements of assembly and disassembly. Another slow process. Each piece of the pattern is cut from paper, pinned to cloth, cut again, and sewn. Every edge of every piece traced multiple times by my

touch. In the finished garment, these lines of touch virtually disappear, lost in the pattern of the printed material.

In *Rubbings* the labour of assembly reappears – every seam, dart and fold captured in graphite – they are an index of the original. Roberts describes the subject of a rubbing as “seen by touch” an instance of “extreme tactility with a sense of phantom-like emergence.”⁷⁷ The rubbing is the ghost of the process by which the jumpsuit was made, a visualization of the time and touch required in its making. Details of both the front and back are compressed – beltloops and back pockets on the same pictorial plane as the front pockets and zipper. These images also include the creases of wear and the crumple of fabric that occurred as I took off the jumpsuit and let it drop to the floor to make the rubbing. The reversal in this process is not a mirror image but an x-raylike ability to see both sides of an object simultaneously and with a level of detail that goes unobserved when viewing the garment itself. While the tactile qualities of the garment become visible through this process, the rubbings fail to register the printed pattern of the fabric – a pattern likely created by another printed process of image and reversal.



Figure 10 (E)Merge, varied series of copper etchings on Inshu Mitsumata paper 2024

⁷⁷ Roberts, Jennifer. “The 70th A.W. Mellon Lectures in Fine Arts.” Series of 6 lectures, 2021. Lecture 1: Pressure (25:33)

The jumpsuits make another appearance as a layer in the series of intaglio prints. This version of the rubbing images is drastically reduced from the 1:1 scale of the garment, but the drawing of the rubbing etched onto the copper plate also maintains a 1:1 scale with its printed reversal. This reappearance is another layer of repetition and removal: a print, of a drawing, of a rubbing, of a sewn garment. The intaglio print series *(E)merge* (2024) is made using six copper plates, each with a different image etched into its surface. These circular etching plates are cut from the same sheet of copper as the circles used to make *Copper Bowls*. Eventually, after the print series is complete, the plates will be hammered and polished as copper bowls so that both print and matrix can be present in the exhibition. The imagery of the prints is paired, three images from the human world and three representing toads. The images for the print series are: camouflage – the jumpsuits paired with a soft-ground etching of the grasses that hang over the edge of the riverbank, concealing mating toads, bodies – a mating ball of toads and an image of toads and humans entwined, and chains – a tangle of toad spawn paired with gold chains. Each print will be a combination of imagery from two or more of the copper plates.

45.
right-up-against.
in trying to put 1 flat surface
right up against another flat surface
we pass through infra mince moments.⁷⁸

⁷⁸ Marcel Duchamp inframince notes, translation R. Loewen 2017. accessed April 17, 2024
<https://static1.squarespace.com/static/50c0c841e4b01cd9e74e3708/t/5a2c2535e4966b5dad6e6e3b/1512842559927/translation+document-FINAL.pdf>

Mirrors, Myth & Magic

*reflections, reversals, doppelgangers, twins...
stories, fables, teachings, parables, superstitions...
mystery, touchstone, incantation, scrying, alchemy, wonderment...*

Mirrors are physical objects that are common and practical in day-to-day use, but they can also be a tool that offers a moment of access; a *thin space*, an opening or portal into a world less tangible, less firmly explicable, that can shift and fragment the viewer's perspective, complicating understanding and allowing different realities to exist side-by-side. A mirror and its potential for kaleidoscopic imagery can jar perceived truth, add new facets to it, hint at a shift in social space, or create a parallel worldview. Like a house of mirrors, reflection disorients; what is real? what have I accepted blindly? what are other possible points of view?

In Western art history, *mise en abîme* is a technique of inserting imagery into an artwork using mirrors to add complexity, or in some cases an infinite and shrinking series of images created by an object between two mirrors. It creates a story within a story. In direct translation, *mise en abîme* means “placement into abyss.”⁷⁹ The abyss is certainly a marginal space, even a place of despair. *Mise en abîme* can recentre what is marginal, shine a light on the less considered. The painting *Las Meninas* (1656) by Diego Velázquez is an example of this technique. Velázquez creates a destabilizing triangulation of perspective – the focus of the painting is what is happening behind the scenes of another painting in progress. The view depicted is from the back of the canvas; the artist is shown working on a large portrait of the king and queen of Spain, who, in terms of social hierarchy, should be the focus. Their formal portrait – stiff and static – is included in *Las Meninas* as a small reflection in a mirror at the back of a room, that is otherwise

⁷⁹ Mise En Abime Wikipedia https://en.wikipedia.org/wiki/Mise_en_abyme

overflowing with liveliness. Children, animals, servants, dwarfs and the painter overshadow the king and queen. The stability of who is the subject of the painting teeters further – a person viewing *Las Meninas* seems to be positioned where the king and queen must sit, receiving the gaze of the painter and some of the other characters depicted. *Mise en abîme* as a method of expanding dimensional space likely draws on techniques that go back to the earliest mosaics and patterns – patterns which often reflect those that occur in nature. My interest in this painterly technique is one based on materials – how the shift from polished metal or stone mirrors shaped perceptual habits – and how the mirror can be used as a *thin space*.

Las Meninas was painted near the end of the era when Venetian glass mirrors were highly refined and the process of making them a guarded secret. This made them extremely costly and popular symbols of wealth.⁸⁰ Was being reflected in a mirror as valuable as this enough for the king and queen of Spain to feel elevated? Is this when mirrors, materially like the ones we use today, became not only tools that can expand space dimensionally but also a tool to slip between social spaces? In the era Velázquez made this painting, Euro-Western superstitions attributed power to mirrors (ideas that continue today), suggesting that part of a person's soul is contained in a reflection. After a death in a 17th century household, all the mirrors would be covered so the soul of the deceased would not become trapped inside one of them. Going back even further in time, the Romans believed that the soul took seven years to regenerate, which is why breaking a mirror is said to cause seven years of bad luck.⁸¹

43.
the polished

⁸⁰ Joukowsky Institute for Archeology website https://www.brown.edu/Departments/Joukowsky_Institute/courses/13things/7306.html accessed July 23, 2024

⁸¹ Mirror History website <http://www.mirrorhistory.com/> accessed Jan. 11, 2024

infra
mince
phenomenon⁸²

I first encountered the term *mise en abîme* in Daniela Cascella's book, *En Abîme: Listening, Reading, Writing – An Archival Fiction*. Cascella uses poetic prose to slip between personal childhood memory and the spirit of Italy that seems to haunt her through sound, writing and history. Most fascinating to me was the structure of the book, which uses various, repeated sections of text to induce the reader to experience a sensation of descent. "Persevere – Stay close to the abyss."⁸³ is advice given by a friend by way of a postcard, one of several sections of repeated text, that reoccurs with increasing frequency as the reader moves through personal and musical histories that are complicated by the nuances of attachment, memory, and loss. It is as though, by descending through the strata of histories, time accelerates and space becomes compressed – the reader swirls down a funnel into the abyss, all the while slipping between what is sound, what is memory, what is history, what is myth.

As I read, as I listen and as I write I'm engulfed in an assonant riddle. It hovers between *chi sono?* – in Italian meaning both *who am I?* and *who are they?* – and *chi suono?* – *whom do I sound?* – voicing the aural universe where my research moves. Many questions, infested by many *who*. These pages swarm with the

⁸² Marcel Duchamp *inframince* notes, translation R. Loewen 2017.
<https://static1.squarespace.com/static/50c0c841e4b01cd9e74e3708/t/5a2c2535e4966b5dad6e6e3b/1512842559927/translation+document-FINAL.pdf> accessed April 17, 2024

⁸³ Cascella, Daniela. *En Abime: Listening, Reading, Writing: An Archival Fiction*. Alresford, Hants: Zero Books, 2012. p.7

voices of those questions, and when I say *I* it is in fact *they*: my archive of voices, of words, of sounds, outlining the landscape in which I move.⁸⁴

With each retracing of the riddle, with each repetition of text, there is a shift or fracture – duplicates slightly offset – as though an image reverberates between two mirrors, ever shrinking, in a never-ending illusion of space.

Sound too, reverberates and shapes space, reflecting off surfaces in an environment. Artist Jessica Thompson is concerned with urban space and “reclaiming those spaces through temporary intervention.”⁸⁵ In our interview conversation, Thompson speaks of the experience of her father who grew up in downtown Toronto at a time when there were very few Black residents. Sound is key to bringing attention to the relationships between people and urban space in her work, raising questions about belonging. “My mobile and wearable artworks are ways for users to articulate their physical presence in shared public spaces by amplifying their movement through it.”⁸⁶ As *Soundbike* users pedal bicycles through the city, a laugh-track recording springs to life when they reach a cruising speed.

I think the piece is very much an intervention – they are incredibly loud and because the piece is so responsive, you can use it in almost a musical context, mixing the levels of laughter, and usually people start laughing with it. In spite of *Soundbike* being a novel object, the fact that you are broadcasting sound into the

⁸⁴ Ibid. p.24

⁸⁵ Jessica Thompson, interview p. 128 in the appendix of this document

⁸⁶ Ibid.

space of others is a form of sonic encoding. When we broadcast sound into a space, that broadcast serves as an extension of the user's body and identity. That context can change depending on how comfortable you feel in a space.⁸⁷

Soundbike is a pronounced sonic gesture referencing boombox and lowrider culture, which announces the presence of the user and lays claim to space. Sound reverberates off urban, concrete surfaces – this reflecting sound touches streets, buildings, and infrastructure, making a durational claim of ownership. Could these moments of assertion continue to reverberate, radiating at a sub-sonic level long after the performer has left? Are there lasting vibrations that shake up social space? In his book *Sinister Resonance*, David Toop asserts, “If we expect sound merely to give, or invade, just like the earth digger on the building site or the bass drum, then we miss the other side. Better we should think of sound as an ear, a mirror, a resonant echo, a carrier, a shell.”⁸⁸ Can this sound intervention lay claim to city streets for marginalized populations and reflect a more inclusive use of public space?

Juan Geuer, a Dutch-born, Canadian artist and scientist, used mirrors in several of his sculptural works. He was a deeply curious person whose research attempted to expand perceptions of planetary understanding and human experience. In some of his sculptures, mirrors become a means to address social divisions and through reflected image, transgress those divides. The National Gallery of Canada website notes,

⁸⁷ Ibid. p. 130

⁸⁸ Toop, David. *Sinister Resonance* as referenced by Cascella, Daniela. *En Abime: Listening, Reading, Writing: An Archival Fiction*. Alresford, Hants: Zero Books, 2012. p. 72.

For Juan Geuer science is an activity as creative, inspired, and dependent upon perception as art. He is interested in the parallels between scientists and artists and their respective involvements with observation — their attempts to view nature in ways ever more complete, the scientist with apparatus, formulae and statistics, the artist by attention and understanding of the filters that colour perception.⁸⁹

The filters that coloured Geuer's own perceptions were heavily influenced by the utopic pursuits of his parents and siblings, as well as the political turmoil he experienced before arriving in Canada. Juan lived the latter half of his life in my hometown of Almonte, Ontario. He was born in 1917 in Soest, Holland, into a family of artists and innovators: his mother designed the family home *Zonneveld* (Sunshine Meadow)⁹⁰ in which he was born, a house that was very different from the traditional thatched homes surrounding it. His youth was bookended by the two World Wars and as a young adult he saw the effects of the traumas people sustained during World War I. His family decided to leave Holland prior to World War II and move to the jungle of Bolivia, where they envisioned a simple and happy life, living off the land. At the age of 21, Juan became the legal guardian of his six younger siblings, as his parents and three older siblings went ahead to the forest of the Yungas to prepare a home on a plot of land there. During this time, he met Els Vermeij, who would eventually become his wife. After about a year, Juan and his younger siblings joined the rest of the family in Bolivia.⁹¹ Living off the land in the jungle proved to be a difficult challenge. Love of nature, science, art, and innovation became necessities of survival; weaving and glasswork brought in some extra money. In his autobiography, Geuer wrote:

⁸⁹ National Gallery of Canada website <https://www.gallery.ca/collection/artist/juan-geuer>, accessed Feb. 17, 2024

⁹⁰ Geuer, Juan. Unpublished autobiography, 1997. p.1

⁹¹ Ibid. p.3

From the white shiny quartz embedded in the solid rock mixed with ashes and limestone we made glass to produce the stained glass windows we were committed to deliver to a church in La Paz. My Father and Heins and Mieke were the artists, they had the same artistic ‘paw’. Fritz had made the goat skin bellows to fan the fire and he knew how to make the refractory bricks and crucible to melt the glass. But I was the inventor, the chemist, I had to make the glass and the stains and the colors from the scarc[es] materials available.⁹²

I remember Juan telling the story of his family collecting urine in a bucket to make ammonia, which he needed for some element of the glass production process. Virtually every element of the glass making process had to be extracted from raw resources.

During World War II, Els left German occupied Holland to join Juan in Bolivia, where they were married. Civil unrest was a constant in their lives: during the fourteen years his parents and family spent in Bolivia, there were sixteen revolutions.⁹³ During one of these revolutions Juan and Els had to cover their windows with mattresses and put their children in the bathtub to protect them from flying bullets.⁹⁴ Juan and Els decided to move countries again, immigrating in 1954 or 55⁹⁵ to Canada, where they lived for the remainder of their lives. After about a year, he started working as a draftsman at the Dominion Observatory of Natural Resources Canada.⁹⁶

Although he didn’t have formal training or the permanent residency status required to work as a

⁹² Ibid. p.4

⁹³ Geuer, Juan. Unpublished autobiography, 1997 p.5

⁹⁴ Ibid. p.7

⁹⁵ National Gallery of Canada website <https://www.gallery.ca/collection/artist/juan-geuer> There is some discrepancy regarding the year he and Els arrived in Canada, in his autobiography he records the date as May 6, 1955 but on the NGC website and in the video recorded interview with Caroline Langill he gives 1954 as the year of their arrival.

⁹⁶ Ibid.

civil servant, his curiosity, observation, and innovation impressed Dr. C. S. Beals, who was then head of the Dominion Observatory. Dr. Beals asked Juan to paint a series of science-themed murals, which he did, but he also went on to invent research instruments and make geographical discoveries. In one instance, he was asked to do some work drawing a map of Reindeer Lake in northern Saskatchewan from aerial photographs. He became very curious about the roundness of the lower portion of the lake. He borrowed a stereoscope and found that there was a raised “halo” around the shore, of which he calculated the elevation. “With the help of a stereoscope I had found somewhere, I could see that indeed there was a rim around most of the lake. Now driven by curiosity I drew a radial section every 15 degrees through that rim and I managed to calculate the elevations.”⁹⁷ He concluded that the roundness of the lake and ridge around the edge suggested that it was an impact crater made by a meteorite. He did not immediately share this new perspective – this new way of looking at the information – it was not the task assigned to him.

It was sitting in a drawer for some time but one day I showed it to my supervisor.

He grabbed the papers and left, to come back with Dr. Beals.⁹⁸ Somebody slapped me on my shoulder and said, Juan do you want to write a joint paper with us about this? My English was still so poor that I did not exactly know what that meant but

I understood that I was not fired.⁹⁹

⁹⁷ Geuer, Juan. Unpublished autobiography, 1997. p.8

⁹⁸ Dr. Carlyle S. Beals initiated the Dominion Observatory’s search for impact craters in 1955. This early research was the beginning of what is now The Earth Impact Database (EID) which contains 190 confirmed impacts from locations around the world. EID is now housed within the Planetary and Space Science Centre at the University of New Brunswick. It was Dr. Beals who hired Juan Geuer as a draftsman at the Dominion Observatory even though Geuer lacked formal training or even the residency requirements to work in the civil service. Part of the employment agreement was the Geuer would paint a series of murals at various research institutions. Beals believed that art was key to conveying science to the public.

⁹⁹ Geuer, Juan. Unpublished autobiography, 1997. p.8

With onsite measurements and study it was concluded that Deep Bay, at the southern end of Reindeer Lake, was a meteorite impact crater.¹⁰⁰

Juan said that his aim was “to study our perception beyond science and art and to investigate our creative ability for adapting new visions.”¹⁰¹ In this pursuit, his sculptures blended scientific instruments with artmaking. He made several works using mirrors that complicate perception. *Eye to Eye* (c. 1990) is a sculpture with a human-shaped face suspended in an armature. The face is mirrored on both sides, save for the eyes where the glass is transparent. The sculpture is intended to mediate between two people who look at the work, one from either side. Each person will see their own face reflected but with the eyes of the other in place of their own. It is a strange (often humorous) experience that incites questions around individualism. How autonomous are we? How much of me is you? When I visited his studio in the late 1990s, Juan spoke of the controversy this work provoked in areas where populations were divided by ethnic or religious conflict; that some could not bear the idea of seeing their own image reflected with the eyes of their perceived enemy in place of their own.

46.

— Mirror and reflection in the
mirror maximum of
this passage from the 2nd to the 3rd
dimension — (incidentally
why do the eyes "adjust

¹⁰⁰ "Deep Bay crater". Earth Impact Database. University of New Brunswick Planetary and Space Science Centre. http://www.passc.net/EarthImpactDatabase/New%20website_05-2018/DeepBay.html

¹⁰¹ National Gallery of Canada website <https://www.gallery.ca/collection/artist/juan-geuer>

themselves" in a mirror?)¹⁰²

Myths, like mirrors, can also be a portal between worlds, a *thin space* with access to another world view. They are stories, or histories, told and retold, that go back far in time and in many cases continue to permeate and weave themselves into the world now.

In Greek myth, when the Muses first created song, some men became so enraptured with this new art that they spent all their time singing. Harmonizing and resonating together – I imagine their voices combined to create overtones and harmonics that could be felt deep in the body. A vibrational trance. The men were so consumed by singing that they neither ate nor slept, and so they died. The Gods took pity on these men and transformed them into cicadas.

Magicicada spend 17 years underground, sipping the juices from plant roots, then emerge as adults for one, solitary summer. The males sing incessantly in the treetops to attract their mates. In July, the cicadas will start to sing, their combined calls resonate through the hot, humid air and hypnotize. This year Brood X is emerging, the largest of the 17 different broods. After the adults die, their eggs will hatch in the treetops and the nymphs will drop to the ground, bury themselves in the soil, then wait until 2038 to rise and sing.

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Figure 11 *Undecimals Almanac 2021*

¹⁰² Marcel Duchamp *inframince* notes, translation R. Loewen 2017. accessed April 17, 2024 <https://static1.squarespace.com/static/50c0c841e4b01cd9e74e3708/t/5a2c2535e4966b5dad6e6e3b/1512842559927/translation+document-FINAL.pdf>

¹⁰³ My contribution to *Undecimals: Almanac, 2021 Almanac* was a mail art exchange group within *Undecimals* in which each member would produce a digital file within their month that would be printed out on a laser printer by group coordinators and sent to all the other members of the group.

In *En Abîme*, Daniella Cascella describes Plato's account of the birth of cicadas as told in *Phaedrus*. She describes how this myth encompasses her feelings toward music and listening: "I have always been inclined to draw a parallel between this myth and the delirious quality of listening: the disclosure of sound within the exhilarating experience of listening, and within every account of such experience in words."¹⁰⁴ The depiction of sound as an inducer of delirium is not difficult to relate to; this myth is an origin story of the emotional responses that music can inspire.

In my conversation with Helga Jakobson, we discussed her sound-sculpture *Arachne's Sonifier* and the roles that myth and sound play in this investigation of thinking-with spider and human culture. In Greek mythology Arachne, a mortal, boasts that her weaving ability surpasses that of Athena, the goddess associated with handcraft. When the two compete and Arachne weaves a better tapestry, the goddess is enraged; she tears up the weaving and beats the girl with her shuttle. Arachne hangs herself in shame for daring to challenge the goddess. When Athena sees this, she feels pity for the girl and turns her into the first spider so that Arachne and her descendants can continue to weave forever.¹⁰⁵ While these Greek myths anthropomorphize insects by making them transformed humans, they also highlight similar behaviors between species and spark some curiosity to *think-with*¹⁰⁶ these creatures. Scientific studies also inform Jakobson's work. From our interview conversation, I learned that not all spider webs are built to

¹⁰⁴ Cascella, Daniela. *En Abime: Listening, Reading, Writing: An Archival Fiction*. Alresford, Hants: Zero Books, 2012. p. 82

¹⁰⁵ Wikipedia, Arachne <https://en.wikipedia.org/wiki/Arachne> accessed Jan. 11, 2024

¹⁰⁶ a term used by Donna Haraway to emphasize interspecies connection. Haraway, Donna Jeanne. *Staying with the Trouble: Making Kin in the Chthulucene*. Experimental Futures: Technological Lives, Scientific Arts, Anthropological Voices. Durham: Duke University Press, 2016.

catch food. The Orb spider makes a web to produce sound. Jakobson interprets these webs as expressive objects: “I view them more as these magical harps that the spiders play, than excellent traps. The structure and form are drawings of the emotional landscape or mental state of the spider...”¹⁰⁷ Jakobson describes how science and myth connect to sound and inform the intent of *Arachne’s Sonifier*:

Upon beating Athena, Arachne’s voice was silenced through Athena turning her into a spider. This connection between voice and loss, science and myth, and human/non-human experience also led me into thinking about sound as a great medium to explore expression from a balance of human/non-human positioning.¹⁰⁸

Arachne’s Sonifier is a sculptural device that plays harvested spider webs as sound; according to Jakobson, this is also “reimagining resonance.” We can never fully know the experience of a more-than-human creature. Through scientific research and observation, we might catch a glimpse of the other’s experience, but in artworks such as *Arachne’s Sonifier*, the audio becomes what I would position as a kind of incantation; creating space for the knowledge of two species to entangle and combine.

Imagining how our worlds intersect – how sharing space shapes lives, entwines our paths and stories – helps to clarify the interconnectedness of our world. Jakobson’s research and studio production combines information from scientific understanding, technical learning and

¹⁰⁷ Helga Jakobson, interview p.122 in the appendix of this document

¹⁰⁸ Ibid. p.118

invention, the power of stories, and an empathetic desire to know other species more intimately.

“Resonance is a phenomenon that occurs when an object or system is subjected to an external force or vibration that matches its natural frequency. When this happens, the object or system absorbs energy from the external force and starts vibrating with a larger amplitude.”¹⁰⁹ For Simone Forti, her sustained resonance with the grasshopper came from synchronizing her movement with that of the insect. Jakobson uses sound to reimagine this potential for connection with other creatures, opening up possibilities for adaptation, innovation, and finding common ground.

The transformative territory of myth is one that Barbara Hurd explores in *Stirring the Mud: On Swamps, Bogs, and Human Imagination*. This poetic exploration of the liminal spaces of bogs and swamps – not quite water not quite land – emphasizes the generative qualities of transitional landscape. Hurd describes a creation story from Mongolia, that tells of a world that was once all liquid until a celestial being stirred the pool.¹¹⁰ This has similarities to the Haudenosaunee creation story in which Sky Woman falls from the sky. Her descent is slowed by the help of birds and Turtle surfaces in the watery world to provide her a place to land. Together Turtle and Sky Woman make the land, which grows and extends from their bodies.¹¹¹

¹⁰⁹ Wikipedia, Resonance, accessed Oct. 23, 2023. <https://en.wikipedia.org/wiki/Resonance>

¹¹⁰ Hurd, Barbara. *Stirring the Mud: On Swamps, Bogs, and Human Imagination*. Athens: University of Georgia Press, 2008. p.17

¹¹¹ Watts, Vanessa. “Indigenous Place-Thought & Agency amongst Humans and Non-Humans (First Woman and Sky Woman Go on a European World Tour!).” *Decolonization: Indigeneity, Education & Society* Vol. 2, no. 1, 2013. p. 21.

Hurd also recounts the Egyptian story of Osiris (god of the dead) and Isis (goddess of motherhood), twins said to have been in love with each other even in the womb.¹¹² Osiris is killed by Set. Isis lies with his body in a swamp to conceive their son Horus. In her retelling, Hurd underscores the magic of the swamp, its ability to straddle the boundaries of life and death. This story reiterates the fecundity of the swamp, a site of rebirth and renewal as well as death and decay. This myth may also include the birth of silence, Hurd suggests. She illustrates this by describing the experience of trying to get close to swamp dwelling creatures, only to have the chorus of frogs fall silent upon her approach. “I learn that what I approach in the swamp deflates its throat, withdraws its song.”¹¹³ This watery domain is not always a comfortable place for humans but again can shift one’s perspective by offering a different view of the world. Hurd muses, “The mud of the swamp reminds me of what I daily forget: something is always stirring, nuzzling, and trying to lick us into shape. We are more malleable than we know, more flexible and lithe, still 90 percent water, still pliant enough to be stirred, congealed into something we can only guess at.”¹¹⁴

Liminal spaces are both physical landscapes that act as a meeting ground between environments and conceptually rich spaces that fuel my studio practice. As I developed *Cochlea*, I discovered the idea of the shell as a bridge between the world of the living and the spirit world. In Victorian times shells were the tools of spiritual mediums, a listening device to hear the messages of the dead; particularly those who had died at sea. The shiny, polished, ear-edge of my *Third Ear*

¹¹² Rosicrucian Egyptian Museum website <https://egyptianmuseum.org/deities-osiris#:~:text=Osiris%2C%20god%20of%20the%20deceased,other%2C%20even%20in%20the%20womb>. accessed Jan. 1, 2023

¹¹³ Hurd, Barbara. *Stirring the Mud: On Swamps, Bogs, and Human Imagination*. Athens: University of Georgia Press, 2008. p.24

¹¹⁴ Ibid. p.26

Shells sculptures evokes the gesture of shell-to-ear touch and the reaching toward imaginative and speculative realms. Creatures like frogs, toads and snails straddle the divide between water and shore, common yet extraordinary creatures that make me wonder about their world.

Sunk into muck under ponds, lakes and streams, our metabolisms slowed to a state of suspended animation, we wait. Oxygen passes through skin, sustaining organs and cells, this membrane that barely separates beings from the surroundings that pass freely through our bodies. The cool mud keeps heartbeats slow, the spring light strengthens, cutting through the winter chill. Fingers of sunlight or a warm current quickens our metabolism. We stir. The nights are cold, but the day's heat calls us to the surface. We are frogs and spring peepers, the first of the amphibians to wake and call. From brackish depths we rise, separating ourselves from our surroundings, feeling the incremental warming as we near the yellow-green of surface water. Like an annual rebirth we divide from the collective soup that has sustained us, flowed through us all winter long, our skin now containing individual selves as we push through the tension of the water's surface and take the season's first lung-breath in.

Maybe the pulsating chirps of the spring peepers help rouse their terrestrial kin.¹¹⁵ Toads hibernate on land, or more precisely under it, digging down into the earth each fall using the hard knobs on their hind feet. They must dig below the frostline to survive winter, often more than 50cms below the surface. It would be a macabre re-emergence to witness, the warmth reanimating their bodies, the heat of the sun bringing them up from the soil. No wonder they are symbols of renewal, rebirth and fertility in cultures around the world. As toads wake, the pull of streams, rivers, ponds, and swamps draws them. The toads born in water return each spring to

¹¹⁵ Cable Natural History Museum, Cable Wisconsin, website https://youtu.be/CVi_0DHOUoY Accessed Sept. 24, 2021. While the dates may not align with the timing of frogs and toads in this region, this is a good indication of the progression of amphibian sound through spring and summer.

find a mate and spawn the next generation. As the spring peepers fall silent the toads take up the call, each with a long, sustained trill rather than the peepers' short, rhythmic chirrups. Cognizant of others nearby, each will adjust their tone to differentiate themselves.

Spring Songs (2024) is an audio composition of field recordings of toad calls, that plays in the gallery and mixes with the sounds of the spouting bowls coming from the video with the intent of having toad and human sounds mingle in the gallery. Making field recordings is an interesting way to listen, one that sharpens the listener's attention to the sounds all around them. Yet what is recorded is also shaped and mediated by the presence of the person recording. R. Murray Schafer coined the term 'soundscape' to describe the sonic environment, and while I find it useful to have a descriptor of the auditory landscape, it is somewhat tainted by what many see as a biased and appropriative approach to the sonic realm.¹¹⁶ My own approach to recording is usually to isolate a sound from the soundscape rather than capture the entirety of what can be heard. With *Spring Songs* I selected recordings that focus on the calls of toads with the least amount of sonic interference from cars, birds and people talking. While I'm not trying to capture a soundscape, listening through headphones for a specific sound brings an intense awareness of the semi-truck using its air brakes on the distant highway, or an angry blue jay's screams. My intention is to isolate a voice, to bring the toad calls into the gallery and pair them with the sounds generated by the *Toad Touch* sound bowls audio that is playing as the video soundtrack. It is a manufactured dialogue and also an experiment; how will these two types of sounds, which have triggered third-ear experiences for me, intermingle?

¹¹⁶ For sound theory that addresses Schafer's racist and appropriative approach to Indigenous music, see Robinson, Dylan. *Hungry Listening: Resonant Theory for Indigenous Sound Studies*. Indigenous Americas. Minneapolis: University of Minnesota Press, 2020.

Each May over several years, I collected sounds near the grassy shore among the singing toads and double strands of black bead-like strings of toad eggs – toxic to fish, but not immune to the children who scoop them into jars to bring home. Two to three weeks later, those eggs hatched into schools of tiny black tadpoles. The tadpoles who survived in the grassy shallows then grew a strange combination of tail and legs, neither fully committed to land nor water. Finally, the toadlets will leave the water behind. The shore is a liminal space where terrestrial life can tentatively dip a toe or leap bodily in. From the other, swampier side, who ventures onto the muddy banks testing the air or clings to the plant life that bridges these worlds?

Barbara Hurd describes how life tests its boundaries in these rich places. “Swamps and bogs are places of transition and wild growth, breeding grounds, experimental labs where organisms and ideas have the luxury of being out of the spotlight, where the imagination can mutate and mate, send tendrils into and out of the water.”¹¹⁷

My head is as heavy as a peony flower, drooping and soft as I listen to spring recordings collected on the river. A month has gone by since the toads sang their mating calls. The peonies in my garden loll their heads, drinking in the heat of the sun. The blooms are so heavy some of the stems have broken under their own weight and I gather them in the evening for the kitchen table. By morning their intoxicating scent fills the house. At breakfast, my son can't resist gently squeezing the huge blooms in his hands, "they just feel so good!" Tomorrow, their scent will still fill the air, but the heavy silk slips of petals will begin to pile on the dark wood. I will gather them gently in handfuls. Is breathing in scent like breathing through skin underwater?

¹¹⁷ Hurd, Barbara. *Stirring the Mud: On Swamps, Bogs, and Human Imagination*. Athens: University of Georgia Press, 2008. p. 7

There are also myths associated with toads, the creatures at the centre of the explorations of *Toad Touch*. In Japan and China, they are a symbol of return or redirection. Near the city of Ise, Japan, where I lived for two years in the early 2000s, is the Shinto shrine Meoto Iwa (the Wedded Rocks). It is comprised of two large rocks offshore that are tied together by an enormous rope. On shore is Futami-Okitama Shrine that is filled with seemingly interchangeable frog and toad sculptures and charms, many that are left by visitors hoping for the return of love, people or things. In Japanese the word for ‘frog’ sounds the same as the word for ‘return,’ influencing the association.¹¹⁸ In Chinese culture, this return is usually financial – three-legged toad talismans are present in shops in Toronto’s Chinatown, facing away from the door according to feng shui to ensure that money is flowing in. Jin Chan, the three-legged toad, holds a coin in its mouth and is the animal companion of one of the mythical immortals in Han culture, a monk who is said to have perfected alchemy.¹¹⁹

Toad

Stop looking like a purse. How could a purse
squeeze under the rickety door and sit,
full of satisfaction, in a man’s house?

You clamber towards me on your four corners –
Right hand, left foot, left hand, right foot.

I love you for being a toad,
for crawling like a Japanese wrestler,
and for not being frightened.

I put you in my purse hand, not shutting it,
and set you down outside directly under
every star.

¹¹⁸ Japan Guide website <https://www.japan-guide.com/e/e4303.html> accessed Jan. 14, 2024

¹¹⁹ Wikipedia, Jin Chan https://en.wikipedia.org/wiki/Jin_Chan accessed Feb. 17, 2024

A jewel in your head? Toad,
you've put one in mine,
a tiny radiance in a dark place.¹²⁰

Norman MacCaig's poem perfectly describes his encounter with a toad. He conveys the strangeness of the creature and its movements and captures the joy this moment of connection brings. The absurd description of the toad as a purse that crawls like a Sumo wrestler seems filled with a loving humour expressed toward the small creature. A purse is an object that contains something valuable, a quality that is transferred to the man when he holds the toad. In a few short verses it is expressed that the author has been transformed by this chance meeting with a toad and is better off for having experienced its radiance. MacCaig simultaneously references and dismisses the myth of toadstones, highlighting the magic of the encounter with the toad as the true gem.



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Figure 12 *Ortus Sanitatis* 1491

¹²⁰ MacCaig, Norman, ed. Ewen McCaig and Alan Taylor. *The Poems of Norman MacCaig*. Edinburgh (GB): Polygon, 2010. p.365 (poem written December 1978)

¹²¹ Unknown author, *Ortus Sanitatis*, Mainz 1491. <https://commons.wikimedia.org/w/index.php?curid=79019464> accessed Jan. 14, 2024

In Medieval Europe, toadstones were thought to be a useful detector of poisons. These semi-precious stones, supposedly harvested from the heads of toads, were meant to “sweat, change colour or even heat up in the presence of poison.”¹²² If bitten by a venomous creature, placing a toadstone on the wound was thought to draw out the poison. The *Ortus Sanitatis* (The Garden of Health), published in 1491, describes this use and contains a woodcut illustration¹²³ of gems being extracted from a toad. Dish-shaped toadstones are, in fact, fossilized teeth of a long extinct fish, likely found along the liminal shoreline. As one would collect toadstones, I have collected “lucky stones” along the shore of Lake Erie – pearly white stones that are really bones. These are the ear bones of *Aplodinotus grunniens*,¹²⁴ a fish more commonly known as the Freshwater Drum or Grunter. A fish with ear bones, naturally marked with an indentation that looks like an L on the left bone and a J on right,¹²⁵ that makes a grunting sound – for what purpose is unknown. Maybe somewhere there is a story or myth that tells of this grunting fish and its very special ears.

¹²² National Museums Scotland website <https://www.nms.ac.uk/explore-our-collections/stories/natural-sciences/fossil-tales/fossil-tales-menu/toadstones/> accessed Jan. 14, 2024

¹²³ Unknown author, *Ortus Sanitatis*, Mainz 1491. <https://commons.wikimedia.org/w/index.php?curid=79019464> accessed Jan. 14, 2024

¹²⁴ Wikipedia, Freshwater Drum, accessed Feb. 1, 2024. https://en.wikipedia.org/wiki/Freshwater_drum

¹²⁵ Wikipedia, Lucky Stone, accessed Feb. 1, 2024. https://en.wikipedia.org/wiki/Lucky_stone

Liminal space & Transitional Tools

*edges, margins, the brim, infrathin, outskirts, shores, boundaries...
mirrors, roads, sounds, touchstones, incantations...*

The shore is a rich liminal space, the line where water and land meet shifting and moving with every wave, ripple or rising tide. This indistinct space, *the brim*, where overflow is filled with the imminent possibility of cross-contamination, where one life system can pour into another. Other natural environments also butt up against one another, producing cross-over exchange. In ecology, *edge effect* describes an area where two distinct landscapes or habitats are adjacent to, or overlap each other, creating a space of unexpected encounters between species that can lead to the adoption of new behaviours. This liminal space offers the most potential for the creation of new hybridity, behavioral or even cultural changes, due to the influence of the newly encountered. Here, along these edges, a being observing a new use of a tool or hearing a different song variation can lead to a cultural shift in behavior. It is a concept that applies to ecology and to the arts, as we often look to the fringes and margins for artistic innovation. In cities we construct similar transitional spaces that sometimes sprout new cultural growth. Alleyways – not quite streets – are where graffiti blossoms.

Artist Rita McKeough has repeatedly used imagery of roads in her work, with roads as sites that can embody multiple meanings and implications. In our interview conversation, McKeough explains the use of this device in the projects *Veins* and *Outskirts*:

In *Veins*, the road is one of the veins of transportation snaking through the landscape: the road for the cars and viewers, the railroad track with the train carrying oil cars and the pipeline full of oil pumping through the bodies of the

snakes that followed the track of the pipeline. They are all veins of potential contamination to the landscape from oil leaks, resource extractions and possible environmental accidents. The audience is only able to move through the exhibition on the road, so the perspective of the land is possibly a mediated, distanced perspective from a car window. The edge of the road is lined with sandbags to prevent the contamination from the road leaking into the landscape and this sets up a division between what creates the contamination and what is damaged by it.

I also used a road in *Outskirts* and many times in my early prints, drawings, installation, and performance work. In the earlier works, the road was an open public space where social encounters and protests etc. could be enacted but always with the unspoken threat of being run over. I always felt that the road was a social space that we are all implicated in. A public space that everyone seems to be constantly gauging our relationship to. In *Outskirts* it was the division between the subdivision and the disturbed, uneasy landscape that lines the edges of suburbia. The road was inhabited by a motorized car that was only controlled by my actions in the performance, dragging behind the car, trying to keep it from crashing into the pedestrians crossing over from the subdivision to the landscape. I wanted to implicate myself into the work and it was the road as a transitional space that positioned my responsibility to control the problematic potential of the car that was almost out of control.¹²⁶

¹²⁶ Rita McKeough, interview p.146 in the appendix of this document

Roads, as McKeough states, can be perceived in many ways. Predominantly we use them as conduits, a means of getting from one place to another. This movement makes them seem as though they are in a non-place – the traveller in a suspended location – despite roads being intensely mapped and geolocated by satellite. The road functions as a division but also as a kind of erasure – a strip of the landscape removed – a blacktop void. A corridor or conduit, the road is also a line. It can trace the coast of a body of water or range of mountains, it can dissect/bisect urban and wild spaces. The road can become a transitional space in a political sense when occupied by bodies. Protests, blockades, or demonstrations voice the desire for change (transition, movement, progress...) but not without personal risk, as McKeough cautions. Any bodies that enter the road without the protection of a vehicle do so at their peril. When performing within *Outskirts*, an installation of partially built suburban homes uncannily occupied by former forest dwellers and lines of mechanical trees that fling cigarette butts at gallery visitors, McKeough wrestles a go-cart sized car in front of onlookers. She is dragged along the road dividing suburbia and the forest into which sprawl encroaches, her physical exertion apparent. McKeough remains on the edge of losing control of the vehicle until the point of exhaustion, at which point the performance ends. For Rita McKeough the road encourages layered and complicated understandings of a familiar space and how we are implicated in the consequences of its various uses.

Whether it is a mirror, a road, or other material device, a shifting and entangled interpretation of what the transformational capacity of the object might be leads to new potential in how we engage with them and they with us. In my own practice I have been considering the sculptural

object as a *touchstone* – a physical object that can occupy more than one space, one meaning, at a time. As with a *thin space* or *the brim*, a touchstone is a point of multiplicity and potential variation, containing many ways of being simultaneously. I would assert that as an extension of the touchstone, the sonic elements of a sound-sculpture become an *incantation* – invoking possible ways of being through an experience that vibrates, resonates, and penetrates bodies.

Theories of new materialism frame the influence of the object in various ways. For Jane Bennett, this is *thing power*, the call of the object. Bennett’s philosophy, with similarities to those of other proponents of Object Oriented Ontologies, resists “mechanistic, and often causally determined, inert and passive understanding of the material world...”¹²⁷ The agency that Bennet and likeminded philosophers attribute to the non-human is critical to reshaping and resisting dualist philosophies that advocate for a clear divide between humans and all that is not. While it may be easy to see agency in non-human animals that we have close relationships with, this becomes more difficult to imagine the further the creature’s reality is from that of a human’s. More complex still is understanding the agency of matter that has been considered inanimate in Western thought. Yet we can be inexplicably drawn to objects or observe how a substance like copper acts to purify water – moments that suggest agency.

Ada Smailbegović’s approach to new materialist thinking, proposed in relation to poetics, is one I find compelling because it finds strength in instability. She proposes a triangular relationship in which three components can never all firmly exist at once. She describes this as a “triangulation

¹²⁷ Smailbegovic, Ada. *Poetics of Liveliness: Molecules, Fibers, Tissues, Clouds*. New York: Columbia University Press, 2021. p. 19

of concerns between language, matter and time.”¹²⁸ I think we could substitute *expression* in place of language and expand this understanding to the sonic and visual arts. “This triangulation avoids dualistic relationships, maintaining a kinetic, ever shifting relationship.”¹²⁹ It is this state of flux that is so interesting; that we can never know something completely or unequivocally.

Smailbegović references Karen Barad who advocates for feminist, queer, non-dualistic ways of considering materiality. Barad, “...in “Meeting the Universe Halfway,” insists on an *entanglement* of matter and meaning, as well as on a sense that agentive liveliness permeates all matter.”¹³⁰ An understanding of this liveliness that remains flexible, which includes multiple ways of being, leads to potential discovery, surprise encounters, and expanded awareness. A capacious approach to interpreting the world, whether through poetics, artworks or developing new ontologies, encourages an ever-broadening relationship to the world. “Offering an alternate ontology of matter, one in which the generative sense of activity arises out of materiality itself, so that it becomes a site of indeterminate complexity and creative possibility, holds a particular significance for feminist thinkers.”¹³¹ It gives voice to a more collaborative way of understanding and resists a hierarchy that favours the few.

In my own sound-sculpture work, I have posited that the object becomes a *touchstone* and the sound an *incantation*. This helps suggest the magic and possibility of the world, the myriad ways it can be interpreted. These terms invoke a mutable connection of artwork and information – a flexible means of braiding together the scattered dimensions of “...language, matter and

¹²⁸ Ibid. p.15

¹²⁹ Ibid.

¹³⁰ Ibid. p.16

¹³¹ Ibid. p. 44

time.”¹³² An artwork can contain multiple meanings. Multiple perspectives can be infused into a single artwork. A collaborative studio methodology is one way of ensuring that different viewpoints are included. The existence of multiple realities that can overlap, intersect, or even oppose, can become apparent through collaboration which combines perspectives and ideas, layering them into an artwork.

¹³² Ibid. p. 19

Collaboration

collective, interactive, compromise, conversation, dialogue, more than...

Collaboration has been an important influence on my studio practise, beginning with the decade long project *The Mail Order Catalogue*, that I made with Maura Doyle, spanning some years of both of our undergraduate and master's degrees in visual arts. This series of roughly annual artists' books took inspiration from the growing popularity of dollar stores that were rapidly popping up at the time of our first issue, and the Sears Catalogue that was in its final years. Each issue of *The Mail Order Catalogue* had a theme, with each collaboratively drawn page advertising a product that could be purchased by mail. The advertisements are vague and funny, and for a small price, customers could order and receive a surprise, hand-made item through the post. The catalogues themselves were distributed through zine fairs, our mailing list, and art galleries. This project impacted each of our art practices significantly through its use of humour, the creation of a network, and its ten-year duration. This project continues to have a presence in our studio practices: in 2021 The Library and Archives of the National Gallery of Canada purchased a complete set of *The Mail Order Catalogue* books, and products and catalogues continue to be exhibited. Currently a display of this work is included at the *Audain Gallery*, Simon Fraser University, British Columbia, as part of Maura's retrospective exhibition, *Dear Universe*.¹³³

¹³³ Doyle, Maura. "Dear Universe" exhibition January 19-March 9, 2024. Audain Gallery, Simon Fraser University <https://www.sfu.ca/galleries/audain-gallery/maura-doyle.html> accessed Feb. 11, 2024



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Figure 13 The Mail Order Catalogue, artist books & sample items 1999-2006 in collaboration with Maura Doyle

Collaboration is a term that is often used too loosely to encompass a range of relationships that are co-creative, but the word's true meaning is an equal partnership that negotiates the shaping of a creative endeavour. This is a difficult balance to achieve. Beyond collaboration in its purest sense, there is a full spectrum of relationships that impact the creative process – a vast array of interactive or participatory entwinements that are sometimes referred to as collaborative, but which don't always depend on equal contribution and intent yet remain essential. Mentors, studio assistants, the membership of a collective, technicians, and participants can all help shape an artist driven project. These interactive relationships contribute to a sense of community or network and enrich the created work through conversation and/or technical development. I consider this array of collaborative, interactive and supportive relationships that propel creative practises forward as an area of expanded sensory experience. These networks of individuals generate ideas that are augmented by virtue of passing through many hands and minds. The connective processes of networks acts as a failsafe for myopic overstep, they ground and broaden the richness of an artwork. There are not enough terms in the English language to express the

¹³⁴ Photos by Rachel Topham Photography

variety of nuanced relationships at play in creative methodologies. In my conversation with Maria Hupfield, we discussed the publication of her recent book *Breaking Protocol*, a collection of conversations with Indigenous performance artists. I asked her if this book came out of her collaborative studio methods:

In the intro to the book, I mention that the book is informed by my collaborative process but at the time I didn't have the words to break down what that process was. I was still working through the specifics and finding the language. I am told that one of my gifts is how I bring people together or *maawaanji'iwe*, *getting people together*. I would say that sums it up well.¹³⁵

This skill of bringing people together, of being a conduit for relationship is a generative quality of Hupfield's practice. She excels at explorative relationship building with people and environments – objects or performances she creates can become the connective agent between individuals. Conversely, relationships and participatory approaches also generate her sculptural objects and performances. I asked about the importance of bringing others into the process of making her work.

I like to be in conversation with others. There is no one approach. I change how I work every time and each performance informs the next one. I am always learning. I don't really have a strategy; my approach is more of a process. For example, working with my family came naturally and started with a painting by

¹³⁵ Maria Hupfield, interview p. 170 in the appendix of this document

my mom along with my goal to show who I am and where I come from for my first major solo at the Power Plant in Toronto in 2017. Alternatively, in 2015 I made a performance for *Sakahan*, National Gallery of Canada which was staged at Saw Gallery, and it also started with a painting by the late Carl Beam. The painting said, “Contain that force, you never know when you will need it” and had an eagle feather. With that in mind I approached his widow, artist Ann Beam, and asked her about using the title *Contain that Force* for an artwork. For the artwork I ended up soliciting seven objects from seven different people. I created a performance with the objects and in the end, I made replicas of the objects in felt. It wasn’t collaborative but I was curious to try working with objects that were connected to people and how I would relate to their objects.¹³⁶

Rita McKeough also uses performance and objects in her work, often in a capacity where the kinetic sculptures she builds become her co-performers. The connectivity she explores is between herself and the mechanical performers, building a narrative that grapples with larger societal issues. She calls these sculptures *performing objects* a term that I feel extends a sense of collaborative agency to the sculptures which I asked her about.

I agree with you that this can definitely give the objects agency as they respond to the presence of the viewer and execute performative gestures, sounds, and movements in a very different way than a human performer. The possibilities of controlled, exact patterns and repetitions of actions is, for me, a very exciting and

¹³⁶ Ibid. p. 169

stimulating context where I can respond to the objects and develop other patterns and sounds to create a live performance that builds off the presence of the viewer and the context of the narrative that is unfolding with the actions of the objects. An example would be my work *Outskirts* where the kinetic objects performed with me for 17 days with all of us enacting the tasks and chaos of the conflicting survival of nature and urban development.¹³⁷

McKeough's *performing objects* are complex machines that use a variety of electronics and circuitry. Developing this type of work is a challenge that several of the artists I interviewed addressed. Transdisciplinary artists who move between materials and methods often rely on the expertise of others to move a project forward. The acknowledgement of the people in these networks and the impact they have was a reoccurring topic of conversation in my interview series, each artist contributing perspectives on the importance of these relationships. The need for technical support is particularly great in the area of electronics and kinetic design. There is an ever-growing range of parts and micro-controllers useful to artistic projects, which also require knowledge of coding languages and technical assembly. Jessica Thompson describes how she overcame this electronic hurdle:

Because my imagination usually exceeded my technical ability, and there weren't a lot of resources online, I found that the easiest way to learn was to take my engineer friends out to dinner, pay them with grants or pay them out of my own pocket. I learned a lot from working with Gordon Hicks, Dave Kemp and

¹³⁷ Rita McKeough, interview p.144 in the appendix of this document

Rob Cruickshank (for the *Soundbike*), and Ranjit Bhatnajar (for the *Freestyle Soundkit*, and more recently for *DoubleBind*).¹³⁸

As a professor at the University of Waterloo, Thompson makes a conscious effort to allow her students the opportunity to gain experience and credentials by participating in her projects. This participation is different relationship than what a gallery visitor experiences when they take one of the *Soundbikes* out for a ride through the city. Rather than a tool to activate and reclaim space, the projects her graduate students help her develop become a “container” for their own research interests. She describes the difference between the interactions between those who activate a sound-sculpture and the students she works with for research development:

My Research Assistants are involved with producing the work, rather than receiving it. The ones I have now are working on finding, analyzing and mapping data, and doing the back-end development on the *Borderline* app. When you do exploratory research, there are often discoveries or curiosities emerge, and because this is a research-creation project we are able to follow those trajectories. For example, some of my geographers were interested in food security within racialized neighbourhoods, so our data maps include grocery stores, markets and big box stores that sell groceries. Other times students can be motivated by a technical challenge related to the app infrastructure, like how can we organize the back-end database so that the app works just as well for 1 person as it does for 1000, and doesn't cost hundreds of dollars in server space? I also try to think

¹³⁸ Jessica Thompson, interview p.133 in the appendix of this document

about what sorts of skills would help them in their own research, or to get a job in their area and I like connecting them with others.¹³⁹

This concept of a research project as a container for experimentation, networking and knowledge building is a fascinating approach that is both generous and generative. It illustrates the complexity of reverberations that can take place through interactive methodologies and the capacious nature of artworks. When Helga Jakobson and I discussed the technical production of *Arachne's Sonifier*, she described the importance of the work others contribute to her projects and the effect that many hands have on the outcome of her projects.

It's something I think about quite often and how to cite support and resources and labour. There are very, very few people who are able to create and make all of the components in transdisciplinary works, like sound-sculptures. This is something that makes them more whole, more rounded and such interesting works. For me, I do a lot of the building, coding, sound creation and conceptualizing of my work on my own, but it's rare that I am the only one who sees the code, hears the sound, etc. before it's produced. I feel like the last sort of note that I'll make is that I love the community aspect of creating sound-sculpture and I love the community of individuals who also make sound-sculptures.¹⁴⁰

¹³⁹ Ibid. p.134

¹⁴⁰ Helga Jakobson, interview p.127 in the appendix of this document

This sense of community that Jakobson mentions is key. However loose the network may be, it extends between individuals and creates relationships that are full of the potential for new growth and direction. The endless possibilities of dialogue or material collaboration between individuals who want to share and express their admiration for the work of the other. Marla Hlady also discusses her interest in working with others, its generative capacity, and the sense of gratitude that these projects contain.

I think I have always leaned in the direction of employing collaboration, participation, interaction for several reasons...to disrupt carefully constructed, often seemingly precise systems; to inject the lived/social element of a site; to fulfill my desire to be in a band (laughter). I first started to say this (being in a band) when I began to experiment with kinetic objects that were more broadly thought of as instruments. *The Instrument Project* is based on an on-going premise for sound collaborations where I respond to some element of a collaborator's practice and mechanize it. These responses were based on some sense of wonder I felt about my collaborator's practice. Could I (humorously) reimagine a performed action through mechanized language even if the reimagining was impractical as a machine, better as a non-mechanized performed action? Originally, I did this out of my self-consciousness as a performer...why would I perform when I could make a machine to do the performing? The reimagination is homage, but also about opening up a new space for collaboration-as-conversation.¹⁴¹

¹⁴¹ Marla Hlady, interview p.157 in the appendix of this document

This idea of “opening up a new space for collaboration-as-conversation” is exciting – collaboration is a kind of conversation, some parts in language, computer code, object, or image – and the initiative of an art project that involves more than one person creates this space of opportunity. Similarly, conversation-as-collaboration is a shaper of thought and expands exploratory potential. I am so grateful to the five women artists who have participated in the interview process, who have shared their practices with me, and who have given me an expanded and more nuanced perception of the potential of collective creative processes.

But what if the interaction is between species? Can a human claim to collaborate with an animal that is unable to confirm its consent or role in a project? I believe that collaboration with a non-human animal is possible, but more often the activity is human-led. *Adaptive collaboration* is a term I use to describe shifts in the cultures of humans and non-humans that come about through living our lives in proximity to each other. This is a cultural co-evolution that comes from our lives and habitats bumping up against each other – interspecies edge effect. Adaptive collaboration acknowledges the entwinement of cultures between species and the incremental shifts over time that shape our lives in a shared habitat. These behavioural changes can be key moments for a perceptual shift. My sound-sculpture, *House on Fire*, uses an example of this adaptation to bring a poignant message of climate crisis urgency to human ears. During the devastating forest fires in Australia in early 2020, a magpie was recorded mimicking an emergency siren. The sound sculpture plays this recording on repeat from an assembly of outdated and salvaged means of communication.

These fragments of cultural entwinement between human and non-human agents are reminders of our mutual influence on space and on each other. Many of these instances of overlap are likely overlooked; these investigations are made with the intent of continually relearning that the human world is one strand in a larger tangle. And how to imagine the perspective of the non-human other in human terms without over-stepping, over-stating? Perhaps by focusing on the sense of wonder an encounter can generate, acknowledging that it will always come from a human-centred point of view. Don McKay describes the value of thoughtful curiosity:

Anthropomorphic play, along this trail, is a gift to the other from the dwelling you will never build there. How? A slight deformation of human categories, an extra metaphorical stretch and silliness of language as it moves toward the other, dreaming its body. There is danger in this gift, because language, in this poetic mode, compromises its nature, dismantling itself in a gesture toward wilderness.¹⁴²

This dismantling of language, the deformation of the human perspective, is a blurring of divisions between species that comes from time in proximity with one another, learning from one another. Perhaps there is a flux in the perceptions on both sides of the interspecies relationship; a sense that is conveyed in a momentary connection. "...when a lake or a pine martin looks back, when we are – however momentarily – *vis à vis*, the pause is always electric. Are we not right to sense, in such meetings, that envisaging flows both ways?"¹⁴³

¹⁴² McKay, Don. *Vis à Vis: Field Notes on Poetry & Wilderness*. Wolfville, NS: Gaspereau Press, 2001. p. 31

¹⁴³ Ibid. p. 101

Interactive creative process with other people, objects and other species all have potential to shift and expand perspectives. Scientific understanding also contributes to this expansion and fluid movement towards an ever more interwoven system of being. For a long time, in the taxonomical classification of living things, lichens were thought to be plants. In the 1860s it was discovered that lichens are a partnership between fungus and algae, a relationship that was described as fungi farming algae as food. Poet Don MacKay remarks that this metaphor of agricultural practice extended to a living thing vastly different from a human is an “implied homage or gift,”¹⁴⁴ an example of bending perception towards something more inclusive that equates human activity with that of a very different form of being. Lichenologist Trevor Goward continues to expand the parameters of how lichens are perceived through ongoing study, a process he calls “the spread of enlichenment.”¹⁴⁵

What you think lichens are might depend on your perspective. Lichens have the scientific names of their fungi, which can create an implicit bias toward seeing the fungus as in charge, a limited perspective that Goward admits to having once upon a time. Today he sees lichens as a kind of koan. “The lichen by its very nature exists at a portal, a doorway,” he says. “If you look in one direction, it's an organism. If you look in the other direction, it's an ecosystem.” Goward's essays argue for seeing lichens not as their fungal or algal parts or even as ecosystems or organisms. Rather they are all these things, biological systems encapsulated in a membrane: lichens as emergent property.¹⁴⁶

¹⁴⁴ Ibid. p.106

¹⁴⁵ Ibid.

¹⁴⁶ Gies, Erica. “The Meaning of Lichen.” *Scientific American Magazine* 316, no. 6 (June 2017): p.28. <https://doi.org/10.1038/scientificamerican0617-52>.

Emergent properties in biology “...are properties that become apparent and result from various interacting components within a system but are properties that do not belong to the individual components themselves.”¹⁴⁷ Collaboration could be a synonym for emergent properties. Looking back through issues of *The Mail Order Catalogue*, I find it very difficult to decipher where ideas originated. Most often they develop in between Maura and me, ricocheting back and forth through conversation, drawing, and making, taking on new character by belonging to neither of us individually.

¹⁴⁷ Study.com website <https://study.com/academy/lesson/emergent-properties-definition-examples.html#:~:text=Smaller%20parts%20combine%20to%20make,increase%20their%20chances%20of%20survival>. accessed Feb. 18, 2024

Murmuration

collective, emergence, strategy, entity, sonic...

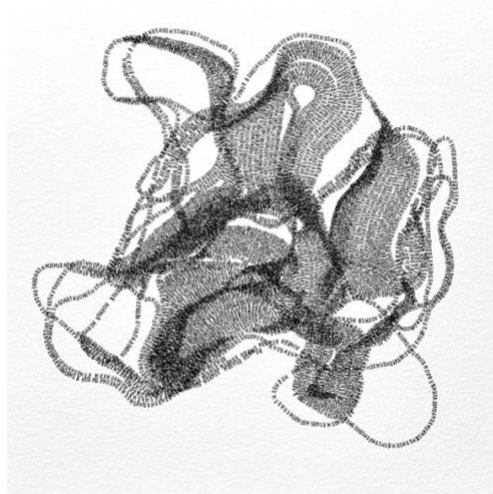


Figure 14 Murmuration, ink on paper 2024

If twining is a metaphor for interconnectivity – a recombining of ways of knowing and learning – could we also imagine the world’s connective tissues in the form of a murmuration? Twining is tactile, hands-on; a concrete process that strengthens the individual strands by twisting and weaving them into a new collective. This happens on a human scale, in relation to one’s own hands – an intimate yet solitary meditation. Murmuration describes a phenomenon of huge groups of starlings that fly and tumble together in a spectacular rolling pattern. The collective appears fluid, pouring and spilling through the sky in undulating waves – a flexible being made up of many. The name murmuration comes from the sound of tens of thousands of wings beating, blended into an audible murmur – an onomatopoeic word referencing a broad range of low, indistinct sounds, from boiling to grumbling, muttering to roaring.¹⁴⁸

¹⁴⁸ Online Etymology Dictionary accessed April 11, 2024 <https://www.etymonline.com/word/murmur>

Imagine is a word rooted in *image*. Can we imagine twining in the expanded form of a murmuration – a sonically located term – that augments the image with a sonic cascade of wing beats that swell and fade according to distance and movement?

Jan van IJken captures the fluidity of thousands of starlings moving collectively in seemingly random yet coordinated patterns, generating an elemental sound similar to ocean waves flowing over the shore, in his short film *The Art of Flying*.¹⁴⁹ Ornithologists don't know why starlings perform these arial acrobatics but there is speculation that it might confuse predators such as hawks or be an invitation to other starlings to come together to roost – additional bodies adding additional warmth. These are very practical reasonings – but could it simply be the thrill of thousands of individuals collaborating to generate a much larger, singular entity? Another interesting question about murmuration is *how* individuals perform in such synchronicity. Researchers studying the phenomenon believe that each individual pays attention to seven other birds in its immediate vicinity, matching their positioning and movements.¹⁵⁰ Author Lyanda Lynn Haupt wonders about how starlings perform these seemingly impossible coordinated flight patterns in her book, *Mozart's Starling*, citing studies led by theoretical physicist, Giorgio Parisi, who:

...found that starling murmurations function in the same way as various natural systems on the cusp of a shift, described by scientists as “critical transitions.” These are systems poised to tip into a sheer transformation, like metals becoming

¹⁴⁹ Two-minute film excerpt with sound of a starling murmuration, filmed by Jan van IJken accessed on YouTube April 11, 2024 https://www.youtube.com/watch?v=V4f_1_r80RY&t=92s&ab_channel=NationalGeographic

¹⁵⁰ Behavioral Ecology Magazine, Vol. 21 Issue 6, Nov. – Dec. 2010 accessed April 16, 2024 <https://academic.oup.com/beheco/article/21/6/1349/333856?login=false>

magnetized, liquids turning to gas, or gathered snow in the moment before an avalanche. In such transitional moments, the movement or velocity of one particle affects all the others no matter how many others there are, in what is called a “scale-free correlation.”¹⁵¹

Can a murmuration – a seemingly joyous collective of individuals that move as one body – model collaboration as a sensory tool with the potential to generate something beyond the capabilities of the individual? A new way of being in which countless bodies weave themselves together yet remain autonomous? Can humans imagine a multidimensional speculative future that includes dreaming with an expanded sensorium, by using a sonic metaphor that cascades into the visual, spatial, temporal? Like the surface tension of water, the starlings’ pattern is held together until a sudden rupture causes them to spill in a new direction. Twining is a useful consolidating of strands of ideas or senses; murmuration is an expansive and fluid network that bridges the individual and the collective.

Whether this more-than-the-sum-of-its-parts entwinement is described as *murmuration*, Adam Nicholson’s *fractal theory*, Marcel Duchamp’s *infrathin*, Trevor Goward’s *enlichenment*, as *edge effect* or the scientific study of *emergent properties* – each is grasping toward a similar understanding of all that connects human life with the elements and non-human beings on this planet. In my own thinking and research these forms of entwinement have led to the consideration of an expanded range of sensory possibilities as a way of enacting the knowledge

¹⁵¹ Haupt, Lyanda Lynn. *Mozart’s Starling*. First Back Bay paperback edition. New York: Back Bay Books: Little, Brown and Company, 2018.

of the so-called ‘natural world’ in a human context. Adrienne Maree Brown has taken the term *emergent properties* and shifted it to *emergent strategies* to succinctly describe methods of implementing these characteristics for sustainable social justice.¹⁵² Starling murmuration is one of the patterns she encourages readers to consider emulating, to create a cascading effect that flows from individual behaviour to the collective.

Murmuration (2024) the image, (concrete poem? drawing? print?) is the result of my hands-on process of thinking through what such a fluid, three-dimensional form of togetherness could inspire. The word ‘murmur’ is repeated over and over to form lines of movement, areas of overlap create both depth and erasure. Each word is itself a repetition of three letters, each individually rubber-stamped onto the page.

¹⁵² Brown, Adrienne Maree. *Emergent Strategy: Shaping Change, Changing Worlds*. Emergent Strategy Series, no. 0. Chico, CA Edinburgh: AK Press, 2017.

¹⁵² Oliveros, Pauline, and Anne Bourne. *Sonic Meditations*. Kingston, NY: PoPandMoM Publications, 2022. p. i

Conclusion

Moments of resonance that can offer new ways of thinking are full of potential for a broader understanding and empathy. This circular diagram with a point at its centre, that Pauline Oliveros uses to demonstrate attention and awareness, is one in which the circle is continually expanding. Oliveros states, “Attention can intensify awareness. Awareness can support attention. There is attention to awareness; there is awareness of attention.”¹⁵³

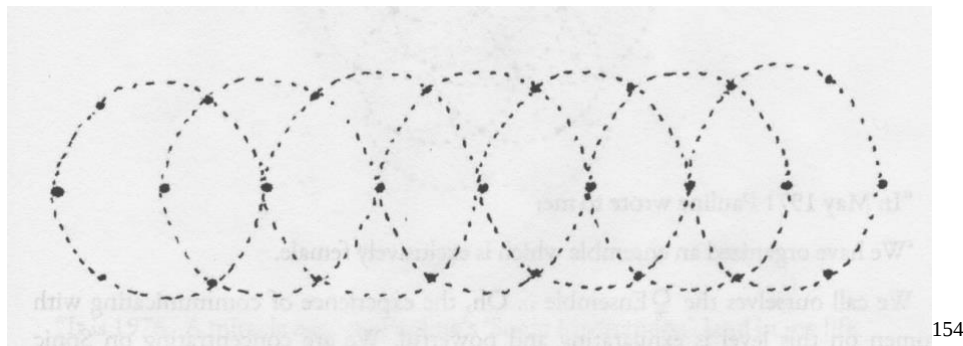


Figure 15 from *Sonic Meditations* by Pauline Oliveros

Between sections of her small book, *Sonic Meditations*, are undescribed diagrams that appear to be multiple copies of the attention/awareness diagram but made of dotted lines. It is as though through collective attention, awareness becomes permeable. The circles overlap like Venn diagrams, sometimes in a linear formation, sometimes a circular arrangement. There is a point at the centre of each circle indicating attention, but in the collective arrangements, additional points

¹⁵⁴ Oliveros, Pauline, and Anne Bourne. *Sonic Meditations*. Kingston, NY: PoPandMoM Publications, 2022. p.19. I had the opportunity to hear Anne Bourne speak at ArtsEverywhere Festival in the panel conversation, “Sound, Vibration and Wellbeing” Sunday, May 5, 2024. She mentioned that this was an image she drew and gifted to Pauline Oliveros, who was having a problem with pain in her foot. Seeing this image appear in Bourne’s mostly text-based slides was a nice moment of resonance as I had just written about this image a few days earlier.

mark each crossing of circles – nodes of resonance – an indication of heightened awareness or some newly generated form of understanding that comes from collectivity. Just as nodal points of a standing wave amplify sound and vibration, these diagrams indicate the potential amplification of collective attention and awareness. These nodes of intersection, whether between people, or glimpses of thinking-with more-than-human kin, offer opportunities for wonder and new perspectives – factors I want to be part of my collaborative approach to studio practice. I have not expanded my sensorium to 100 nameable senses but by starting at the intersection of object and sound, have found moments that hint at other possibilities: intuition, curiosity, twining, speculative thinking, temporal shifts, connectivity, resonance, the un-seen/ un-heard/ un-touched/ un-tasted/ un-smelled, myth, storytelling, collaboration, community, slow-time, geologic hum, vibrancy of matter, transient elements of the permanent, murmuration...

There are liminal spaces that entwine with possible senses, some physical and some conceptual, and tools that could be used to blend ways of knowing or learning new forms of perception: the swamp, shoreline, road, alley, the brim, mirrors, reflection, infra-thin, thin spaces, third-ear sounds, en abîme, nodes, opaque mirrors, belongings, multiples, an index...

When I first started plans to construct the sound bowls for what would become *Toad Touch*, I was thinking about making the two bowls conjoined – a sculptural version of a mobius strip - as an indicator of connectivity and continuity. I reached out to the great Professor Burnaby Q. Orbax, self-proclaimed sideshow freak and edutainer¹⁵⁵ (also known as Jason Thomas, professor

¹⁵⁵ On Instagram he is @the_great_orbax and is the holder of 26 Guinness World Records, including most times driven over by a motorcycle while lying on a bed of nails.

of physics at the University of Guelph) to ask if a two-person version of the bowl, a figure-8 shape with four handles, could demonstrate the same cymatic properties as a circular one.

“Sadly,” he responded, “The closed circle is vital to establishing that resonance.”¹⁵⁶

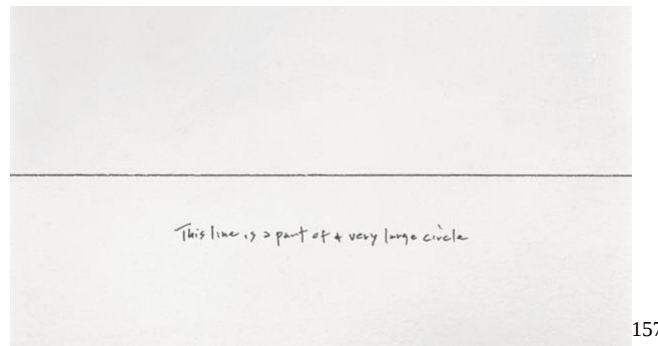


Figure 16 by Yoko Ono

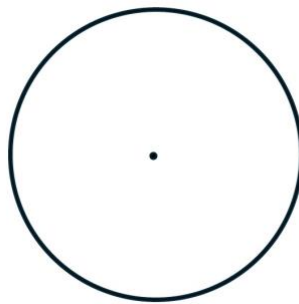


Figure 17 from Sonic Meditations by Pauline Oliveros

¹⁵⁶ Personal email from Jason Orbax Thomas, Dec. 20, 2020

¹⁵⁷ Artwork by Yoko Ono, 1963. Image from the Yoko Ono official Twitter site <https://twitter.com/yokoono/status/1281271934509092870?lang=en> accessed April 29, 2024

¹⁵⁸ *Figure 1*, Diagram of attention and awareness, Oliveros, Pauline, and Anne Bourne. *Sonic Meditations*. Kingston, NY: PoPandMoM Publications, 2022. p. iii

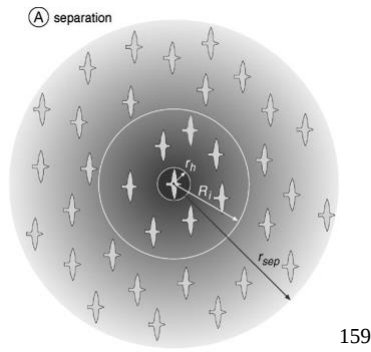


Figure 18 spatial separation of starlings

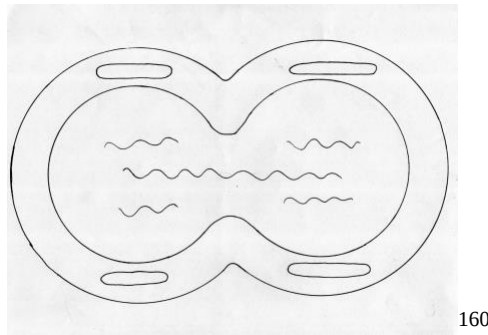


Figure 19 sketch of conjoined bowls

My thought at the time was that the bowl would be an instrument to cooperatively generate sound and movement. And, while I went on to construct two separate sound bowls that each have cymatic properties, the mobius or figure-8 shape remains loosely present in the positioning of the two bowls – the intention of two performers working together to generate resonance persists.

¹⁵⁹ Diagram of spatial separation of starlings in a murmuration. Behavioral Ecology Magazine, Vol. 21 Issue 6, Nov. – Dec. 2010 accessed April 16, 2024 <https://academic.oup.com/beheco/article/21/6/1349/333856?login=false>

¹⁶⁰ Sketch of my proposed, unrealized, conjoined sound bowls, sent to Orbax.



Figure 20 *Toad Touch (Land)* bronze 2024

A second pair of *Toad Touch (Land)* sculptures, completed in 2024, is also part of *The Shape of Sound* exhibition. These toads are made from the same mold as the earlier *Toad Touch* sculptures but without openings in their backs for sound bowls. This pair is the completion of this project, the end of the annual cycle of toads emerging from under the soil and migrating to water to mate. The eggs will hatch into tadpoles which will grow and transform from aquatic creatures to terrestrial ones. These sculptures mark a return to land. My hope is that this new pair of *Toad Touch* toads will leave the gallery and be installed outdoors as public sculptures one day. That they will be outside in contact with all kinds of beings and weather yet remain an index of my studio research present in *The Shape of Sound*.

Exhibition Documentation

The Shape of Sound
September 16-20, 2024
Special Projects Gallery
York University



Figure 21 *The Shape of Sound*



Figure 22 The Shape of Sound



Figure 23 The Shape of Sound



Figure 24 *The Shape of Sound*



Figure 25 *The Shape of Sound*

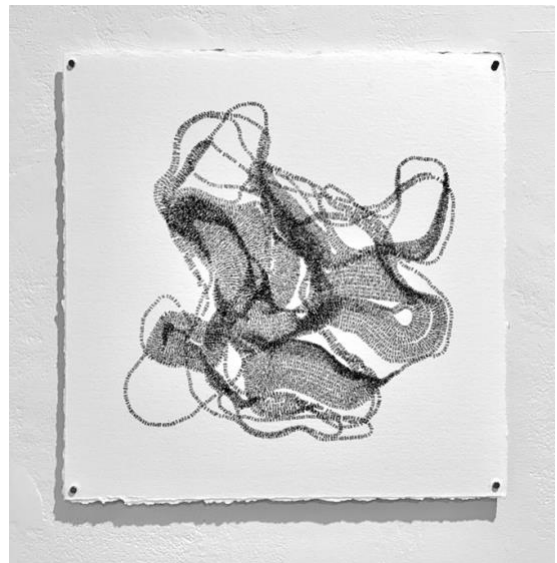
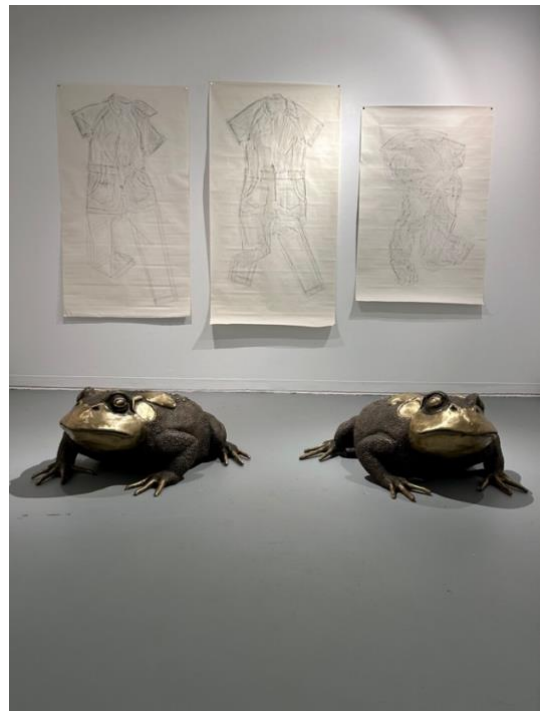




Figure 26 *The Shape of Sound*



Figure 27 *The Shape of Sound*



Appendix of Interviews

Helga Jakobson

Helga Jakobson is a transdisciplinary artist currently based in Winnipeg, Manitoba. She graduated with an MFA from AKV St. Joost, The Netherlands and took courses at the Paris College of Art, France in the Transdisciplinary New Media Program as part of her studies. Her work encompasses a broad range of materials, techniques and concepts, and she often works in sound-sculpture. Our conversation took place on-line between the first and second wave of the Covid-19 pandemic, from August 14 to November 10, 2020. <https://www.helgajakobson.com/>

AD: Helga, your artmaking is quite diverse both conceptually and materially. Your work draws from scientific research but also delves into myth and superstition – territory that science doesn't typically acknowledge. How do you describe the core interests of your studio practice?

HJ: I would say that the core of my practice is rooted in an interest in liminality, in researching spaces between binaries.

Particularly, I'm interested in death and dying, and the moments between life and death, but this also extends to the divides between organic and inorganic, self and not self, skin and air, etc. Lately, I've been thinking a lot about death culture and this mass extinction that we're in. I've been looking at bees and bee eco-culture, as well as the dying out of songbirds.

In researching these topics, there is a lot of room for thinking-with, and I'm not trying to find some sort of truth, but rather a way of reflecting and sympoietically existing. I like to think about ways of existing in relation with the natural world, and am very drawn to witchcraft, ecofeminism and queer ecology, as well as worldmaking and storytelling. When Donna Haraway¹⁶¹ talks about the need for another narrative, one not rooted in capitalism, patriarchy and colonialism, to name a few; she talks about the Carrier Bag Theory¹⁶² put forward by Ursula K. Leguin. The idea of a changed narrative in the troubled time we live in resonates with me, and I like the idea of art as a medium with which we can discuss and think about the ecological crisis and find ways of creating change.

I like using technology and scientific research as a starting point and expanding from this point in a way to create reflections on how to make-with and think-with different organisms and natural forces. For instance; bees, birds, plants, spiders, etc.

AD: I think you and I are on the same page in our artmaking in many regards! Liminal spaces are such fertile places to push at what we have considered rigid “fact” for so long. Making space for different kinds of knowledge to coexist is so important – more than one truth can be true. Edge effect¹⁶³ is a concept I'm fascinated by. It is the idea that where two ecosystems meet is the most fertile place for new life to be generated. The natural world is full of magic, inter-species alchemy and collaborative, co-species cultural development. There is so much that we don't

¹⁶¹ Haraway, Donna J. *Staying with the Trouble*. Duke University Press, 2016.

¹⁶² Le Guin, Ursula K. *Dancing at the Edge of the World: thoughts on words, women, places*. 1989.

¹⁶³ I first heard of edge effect in a podcast episode of the Hidden Brain with cellist Yo-Yo Ma. He spoke of the rich possibility of collaboration with the *Silk Road Ensemble* and the exciting possibilities of generating new ideas by mixing diverse instrumentation and styles of music from around the world.

know. Is this what you are getting at when you say you are drawn to witchcraft or is it a more defined practice? Or a sympathetic return to a pre-commerce-based relationship to the natural world similar to what Silvia Federici¹⁶⁴ describes?

HJ: Yes! Totally!! Edge effect is such a great concept and so true. Those spaces in between are so rich. Donna Haraway talks about the banks of bodies of water, specifically to illustrate exactly this. I like to think about the stage between tadpole to frog, that strange in between with legs and tail. That awkward teen that doesn't quite fit either classification.

This is a part of what I mean when I say that I'm drawn to witchcraft, but there's a bit more. In the same way that liminal spaces push past or queer a sense of rigid "fact", witchcraft has a similar feeling of being beyond static definition. The practice of witchcraft can look so different depending on the practitioner and has a murky/muddy history. It is such an adaptable and fertile term. I'm a practicing Neo-Pagan, which informs my practice, but am drawn to many aspects of magick and witchcraft conceptually, as well. For instance – connection to nature, reverence and acknowledgement of the death cycle, feminism, power within one's own self, manifestation, etc. I'm also drawn to a pre-commerce-based relationship to the natural world, but I think I'm drawn more to what Sabrina Scott writes of in *Witchbody*¹⁶⁵, and also a lot of what Timothy Morton¹⁶⁶ talks about; forming a new relationship with the earth now. I'm also very interested in the Gaia figure of chaos that Bruno Latour¹⁶⁷ talks about.

¹⁶⁴ Federici, Silvia. *Witches, Witch-Hunting and Women*. PM Press, 2018.

¹⁶⁵ Scott, Sabrina. *Witchbody*. Weiser Books, 2019.

¹⁶⁶ Morton, Timothy *Dark Ecology*. Columbia University Press, 2016

¹⁶⁷ Latour, Bruno. *Facing Gaia*. Translation Cathy Porter, Polity Press, 2017.

I feel like I'm rambling a bit, but I guess what I'm trying to say is that I am interested in a pre-commerce based relationship to nature, but I'm much more interested in how to build a better relationship with nature right now, in the complexity of the Anthropocene.

AD: When did you first use sound as a component of an artwork?

HJ: I first started using sound in my work when I moved to Paris in 2015. I lived near the base of the Sacre Coeur, and in the park around it there were all of these beautiful spiderwebs. I became absolutely obsessed with them. They're these creations that are anti-Darwinian and exist as impressions of the spider's emotional landscape, as well as a response to the environment. They're made of the strongest polymer on the planet but are also so temporary. I started to research them from a scientific perspective and the more I found out, the more fascinated I became. I started drawing them and considering time. I would collect them extensively and draw them for the duration of an hour, which is the average amount of time it takes to spin a web.

They also reminded me of records, and in my research, I realized that spiders pluck the stabilimenta of the web to create sound to communicate with. I wanted to know what this would sound like and decided to create a "spiderweb player". This eventually became *Arachne's Sonifier* and led me to think-with sound in relation to the environment.

The research that I was doing also led to thinking-with storytelling and myths around spiders. One of the more interesting myths that surrounds spiders is that of Arachne, who wove a better tapestry than Athena, the Goddess of weaving. Upon beating Athena, Arachne's voice was

silenced through Athena turning her into a spider. This connection between voice and loss, science and myth, and human/non-human experience also led me into thinking about sound as a great medium to explore expression from a balance of human/non-human positioning.

AD: *Arachne's Sonifier* is an incredibly beautiful sound-sculpture that I'd love to discuss in more detail. Sound by its very nature is impermanent; once we stop hearing it, it becomes something other. The connection between voice and loss is illustrated in the myth of Arachne that you describe and reminds me of another myth I read this summer: the creation of the cicadas¹⁶⁸. When song was first created by the Muses, some humans fell so in love with singing that they forgot to eat or drink. When they died, the Gods took pity on them and transformed them into cicadas so they could continue to sing. Both of these myths embody voice and loss, but also renewal. I think *Arachne's Sonifier* also extends this offer of renewal or transformation through the process of thinking-with sound. Do you think the audio in this piece plays a particular role in creating this proposition for a new way of being? Can you describe the process you went through as you figured out how to sonify spider webs?

HJ: I hadn't heard this myth, and I'm so thankful that you shared it!! I'm going to have to look more into it. It's funny, in the last site-specific sound installation I created, cicadas featured prominently.

¹⁶⁸ I encountered this myth described in *En Abîme: listening, reading, writing: an archival fiction* by Daniela Cascella 2012. I found further philosophical examinations of it in an abstract by Pauline LeVen, *Mythologies of the Voice: Plato's Cicadas and the Nature of the Voice*. <https://classicalstudies.org/annual-meeting/146/abstract/mythologies-voice-plato%E2%80%99s-cicadas-and-nature-voice> accessed Nov. 18, 2020.

I do, indeed think that sound plays a unique role in this work. The machine/instrument itself is entirely wireless. It also folds neatly up so that you're able to take it on a walk with you, out into the forest – wherever you'd like. You can harvest a web and listen to it in the space that it was built. In playing webs, you're reimagining resonance, and in creating this work (as well as many of my other audio works/instruments) I'm interested in proposing a way of being that is more mindful, imaginative, and playful while still being reverent of the environment and companion species.

When I first started thinking about this work, I would wander around figuring out how to collect spiderwebs, both ethically and physically (they are quite difficult to harvest!) While I was working out how to harvest, I was researching myths about spiders as well as why/how spiders make webs. All of this while studying technology, new media and design at the Paris College of Art. In tandem with this research I was also in courses where I was learning how to code and was thinking about the lack of females in technology/STEM fields, and about handcraft and production. It was interesting to be reading all of these myths about women's work, storytelling, seduction – all of these ways in which women and spiders are connected. It was also fascinating that there were recent articles coming out at that time from different labs working to understand how spiderwebs function, how they're instruments, how they're made of the strongest polymer on the earth, how they're anti-Darwinian, etc.

While collecting the webs I found that on average, a web is created over the course of roughly an hour. I would do durational work where I would film myself tracing projections of spiderwebs over the course of an hour, as an exercise in understanding/paying homage to the labour of these

creatures. One of my classmates would then take the drawings and try to understand them through a system that would track points on the web drawings and treat them kind of like sheet music. This was a fun experiment but felt to me as though it didn't reflect the production or existence of the web in the way that I wanted. I continued to research and collect and think-with the webs while working on other projects.

I was playing with different Arduino sensors and found a very very simple one that reads light: phototransistors. It brought me back to the process of projecting the webs in the dark to draw them. (I found that this was the best way to catch a clear image of the web; setting them up with a light behind them to project their shape onto paper.) I thought, if I can spin the web with a motor and a light behind it, I could project the web onto a wall and have the phototransistors act as the triggers for the web, like keys of a piano.

I started problem solving, and learning more about coding and 3D printing, finalized a prototype, built an output to MIDI and was able to listen to the webs through a Korg Volca.

It was a big learning curve for me, and I received a lot of help and advice along the way. I could speak more to the scale of the work, and its progression to the version of it that I've been using to collaborate with dancers to expand?

AD: The reimagining of resonance that you mention is a really important part of sound-sculpture I think, particularly when thinking-with companion species. Through science and observation, we get little glimpses of how spiders use sound but can't ever experience sound as they do. I've

been playing with the idea that the audio of these sound-sculptures is a kind of incantation; creating space for the knowledge of two species to combine.

I'd love to hear more about the scale and collaboration within this work, but first I was wondering if you could parse why spider webs are anti-Darwinian? It's funny that the spider with the strongest known web polymer was named for him, Darwin's Bark Spider (*Caerostris darwini*)!

HJ: I love that! I think you're right, it is an incantation.

Orb spiderwebs are anti-Darwinian in that they are precarious structures that do not aid the evolution nor survival of the spider. They're built between structures out in the open where they are most vulnerable. At any moment, they could be knocked down by human, animal, wind or rain. I view them more as these magical harps that the spiders play, than excellent traps. The structure and form are drawings of the emotional landscape or mental state of the spider (think of the depictions of the different webs built by spiders under the influence of different drugs). Some species even adapt and reshape the strands as their mood changes. The act of building the web leaves the spider itself quite vulnerable to birds and other predators, but they build multiple webs and tend to them. This need to build multiple webs due to their vulnerability and the lack of productivity of the webs as tools, showcases how these structures fail to aid the spider in its survival and evolution.

AD: Before our conversation I didn't know that spiders use their webs to create sound! These glimpses into other realities are so exciting to me. I often encounter these observations when reading about scientific studies, but science can also be limited by a need for empirical proof. As artists, we have freedom to incorporate intuitive, speculative and other knowledge forms into our research that can reimagine our relationship with companion species. You mentioned that you have been collaborating with dancers to develop new aspects of *Arachne's Sonifier*. Could you tell me more about that and what these collaborations have contributed to the project?

HJ: Absolutely! It occurred to me during the process of creating sound with the webs that there was a static sense to my process. The web, through my system, could only be a representation of the sound of a singular loop. The web that I was playing would repeat the same input, circling around the same set of sensors and I wanted to create a more temporal and responsive soundscape. By incorporating a dancer who was responding in real time to the sounds they were hearing (which was live, but also looping) I could increase the sound in the room, and also create a sense of interactivity. By bringing in a live and responding entity, especially a human, I felt that I was able to expand my research and create a more human-companion species response system. I love the idea of relay and echo that happens when there is a more active response in the space. The feedback between human and nonhuman amplifies the work into a realm which queers the boundary in coexistence. There is a living/nonliving, moving/static relation that is being seen and heard in real time. I love finding and playing with systems that are suprahuman and leaving room for a non-verbal expression of the space between.

AD: It is quite lovely and evokes a time and space where a spider and human might dance together under a full moon! Are you working on any new sound-sculptures currently?

HJ: I am. At the moment, I'm in early stages of working on a new sound-sculpture that is more of a kinetic sculpture. I'm very interested in the new research around how birdsong is adapting to sound more digital. I'm also (as always) interested in entropy in this era of mass extinction and the loss of songbirds. I found a box of unlabeled and dried bird feet. I'm developing a piece around them. I'm getting them identified by an ornithologist and building a machine that moves the feet in a sort of dance/danse macabre. There will be birdsong playing behind each of the sets of dancing/moving feet that plays at a volume determined by the rate of extinction of each bird, which will create a sort of polyphonic experience of decline.

I've also been working for some time to create a piece titled *Entropic Symphony* in its final form. It will be a 45-minute-long symphony based on bioelectric data that I collected at the Assiniboine Park Conservancy¹⁶⁹ before the plants were displaced and cut down when the building had to close.

Without any reason or project attached, I'm also working on FM transmitters. I suppose in thinking about social distancing, anticapitalist means of dissemination and broadcasting sound; to use in the future. Also, because, who doesn't love pirate radio?!

¹⁶⁹ <https://www.cbc.ca/news/canada/manitoba/assiniboine-park-conservatory-plants-symphony-1.4592800> accessed Nov. 18, 2020

AD: Your sound intervention at Assiniboine Park was the first of your sound projects I learned of. I'm glad to hear that a requiem of sorts is going to continue the vibrations of that space! The kinetic sculpture using bird's feet and song makes me think of the automaton birds made in 18th century Europe, though with a macabre twist. This may just be because I'm a bit obsessed with these intricate wind-up mechanisms; the delicate bellows, gears and whistles that go into trying to animate these replicas! You are taking it even further to a type of reanimation. Will this kinetic work connect with your research about the developing digital quality of birdsong?

HJ: I absolutely love that connection. They're so beautiful. It's funny, I was in a residency working on *Arachne's Sonifier* in France in 2018 and one of the other artists in residence was the Saudaá Group (Alexis Paul)¹⁷⁰ who was presenting a work that combined a travelling barrel organ and synthesizers. Until you mentioned the bellows of the automatons, I hadn't connected the influence of that piece on this new work. I've always been interested in handcraft and the power of the handmade, as well as DIY tech and the intersection of the two.

This new work, the working title of which is *Danse Macabre*, will certainly relay between handcraft and digital craft. The components will be made mostly of wood with the real bird feet. The digital aspect will come into play with the motorized system, and the volume/rate of movement will relate to data reflecting the position of each species on the Red List Index. There will be a connection to the developing digital quality of bird songs in the research, but if it comes into the work it will likely be indirect.

¹⁷⁰ <http://orguepaysage.com/> accessed Nov. 18, 2020

I was looking at your website and was really drawn to your *Sapsucker Sounds* work. The playful and responsive nature of your explorations are so engaging and beautiful!

AD: Thanks Helga! I had so much help with this project from musician Ben Grossman¹⁷¹; I really couldn't have made it without his technical expertise. Something that the *Sapsucker Sounds* project really crystalized for me is that there is something special that happens through back and forth shifts between states – in this case between analogue and digital forms. I see this shift in *Arachne's Sonifier* too; the spider's web/instrument mechanically 'spun' and digitally read by the sonifier, which then in turn generates the movements of a human dancer. It's as though a patina accrues through this process of inversion and new entanglements are imagined. It sounds like Saudaá Group's *Barrel Organ* also works along these lines, inviting analogue and digital collaboration and connecting past to present.

I'm so excited to see what possible ways of thinking you will broaden with your new work, *Danse Macabre*! I've found it quite difficult to make work since the pandemic began but this conversation has truly been a joy and has inspired me to get back into the studio. Is there anything more about your work with sound-sculpture that you wanted to add to our conversation?

HJ: I agree entirely, there is a bit of magic in the places and spaces in-between.

¹⁷¹ <https://www.macrophone.org/> accessed Nov. 18, 2020

I feel the same way. It's been interesting conceptualizing this new work, while having this conversation. The pandemic has most definitely left me a bit less interested in making, but I'm feeling the pull back to my studio.

It feels funny to add a final note, so in lieu I'll respond to your point about receiving help. It's something I think about quite often and how to cite support and resources and labour. There are very, very few people who are able to create and make all of the components in transdisciplinary works, like sound-sculptures. This is something that makes them more whole, more rounded and such interesting works. For me, I do a lot of the building, coding, sound creation and conceptualizing of my work on my own, but it's rare that I am the only one who sees the code, hears the sound, etc. before it's produced. I feel like the last sort of note that I'll make is that I love the community aspect of creating sound-sculpture and I love the community of individuals who also make sound-sculptures. Including you! Thanks for reaching out and for this conversation!

AD: Thanks Helga, it's been really great speaking with you.

Jessica Thompson

Jessica Thompson is a media artist working in sound, performance and mobile technologies. Her practice investigates the ways that sound reveals spatial and social conditions within cities, and how the creative use of urban data can generate new modes of citizen engagement. She is an Associate Professor in Hybrid Media at the University of Waterloo.¹⁷² Our conversation took place on-line between May 25 and November 11, 2021.

<https://jessicathompson.ca/>

Annie Dunning: The work you make is deeply engaged with the urban landscape. The projects are often playful, sonic insertions into the cityscape that observe and shape spaces. What is it about cities that you are drawn to?

Jessica Thompson: I consider sound to be a social phenomenon and my work has always taken place in urban environments. I started making large scale line drawings in public spaces during the final year of my undergraduate degree (1998). My father grew up in downtown Toronto during a time when the city had very few Black residents, and those first projects were a way of reclaiming those spaces through temporary intervention.

My mobile and wearable artworks are ways for users to articulate their physical presence in shared public spaces by amplifying their movement through it. I am fascinated by how these temporary sonic interventions transform the social space of the city by facilitating performative situations, so cities afford an opportunity to engage with a wide variety of people at any given

¹⁷² <https://jessicathompson.ca/about/> accessed Dec. 9, 2021

time. The use of play is deliberate in that it creates a situation where we can engage in actions that we otherwise would never consider doing in public.

AD: Using sound to hold space for Black residents or others who may not feel the city was made for them is such a lovely way to resist marginalization. I like to think that, even though the audible presence of a sound intervention is temporary, there is a lasting imprint on the bodies and spaces it resonates through. Was *Soundbike* one of those first projects that you used to stake a claim to space? I haven't had the opportunity to experience this work in person but understand that it is a fleet of bicycles that emit laughter as the rider pedals. The faster the cyclist pedals, the louder and more hysterical the laugh-track becomes. When I'm out walking in the city, I often encounter people on bikes playing their music. I suppose they are claiming a piece of public space too, as well as broadcasting a bit of their identities. Do you feel that your *Soundbike* project has a relationship with this mobile music of the streets?

JT: Yes, *Soundbike* was the first project that deliberately generated sound outside of the body. I made four of them and have exhibited them all together and as single pieces. The piece definitely has affinities with the people you see riding with portable players, as well as boombox and lowrider culture. The very first prototype actually used a wheel mounted generator plugged into an old tape deck that I duct taped to my handlebars. I hadn't settled on the sound yet, but I remember the moment when I drove down an alley and finally hit 6V – the sound sprung on, and suddenly I was surrounded by music. I wanted the sound to change with speed, so the piece ended up using a Basic stamp and a Parallax Sound chip (iPods and Arduinos hadn't been invented yet) but the part that I kept was that moment when the sound springs out of the speaker.

This is why when you ride the *Soundbike*, the sound doesn't start right away – you need to pedal to a cruising speed, and then you start to hear giggling.

I think the piece is very much an intervention – they are incredibly loud and because the piece is so responsive, you can use it in almost a musical context, mixing the levels of laughter, and usually people start laughing with it. In spite of *Soundbike* being a novel object, the fact that you are broadcasting sound into the space of others is a form of sonic encoding. When we broadcast sound into a space, that broadcast serves as an extension of the user's body and identity. That context can change depending on how comfortable you feel in a space.

AD: I love the idea of sound as a body extension, like a temporary, invisible prosthesis. I think this extended body merges with other bodies in the space too, through the contagious nature of laughter. *Soundbike* seems to give the rider a near superpower – expanded impact on space and, because of the bike's required speed, an escape from witnesses. There is never a need to give any explanation or justification. It must be very exhilarating and liberating, while giving a sense of risk-taking since a lone individual is drawing the attention of everyone on the street. I'm curious how you define the role of the *Soundbike* rider. I like the generosity embodied in the word *collaboration*, but as in many situations where this sense of together-making is required, it perhaps isn't quite accurate because of the implication of co-authorship. How do you describe the part played by the rider and the importance of this role to the artwork?

JT: I consider the rider to be more of a composer. The piece becomes social through the contagion of the laughter, but the rider really does have sonic agency over the space. *Bike Hack*

and Soundride is definitely more of a collaborative piece in that there is a mutable soundscape that is generated through a swarm of amplified bikes, but the collaboration is between the participants. If the *Soundbike* generates sound in a singular direction, the shape of the sound when *Soundride* is performed is more flexible and can swirl around in multiple directions simultaneously.

AD: Could you briefly describe *Bike Hack* and *Soundride*? Are these opportunities for people to convert their own bikes into sound generators and compose together?

JT: Yes, exactly. My first one coincided with the first showing of the *Soundbike* at Art Interactive in Cambridge MA in 2005, and I've repeated it in several different cities.

Bike Hack + Soundride is a workshop and performance where participants contribute to the acoustic ecology of the city through simple sonic experimentation. During the workshop, participants are invited to construct bicycle-mounted noisemakers made of contact microphones, playing cards and mini amplifiers, and to take part in a large-scale sound ride through the city. The hacked bikes, now transformed into clattering machines, activate the urban environment – changing frequency as the group speeds up and slows down, undulating as riders spread out and converge in parks, squares and other public spaces.¹⁷³

¹⁷³ <https://jessicathompson.ca/projects/bike-hack-soundride/> accessed Dec. 9, 2021

To date, the project has taken place in Toronto, Buffalo, Cambridge, MA, Calgary, Copenhagen, and Sibiu, Romania. The interpretation of the project shifts according to local politics – in cities where there are collegial relationships between cyclists, motorists and police, the project is seen as celebratory, in cities where the relationships are strained, the project is seen as a form of sonic activism.

AD: It is wonderful how this act of amplification can so succinctly highlight the cycling politics of the city in which the *Soundride* is taking place! It reminds me of Jennifer Allora & Guillermo Calzadilla's 2004 work, *Returning a Sound* for which they replaced the muffler of a motorcycle with a trumpet. Residents of the Puerto Rican island, Vieques (occupied by a US military base at the time) were given the motorbike to ride around the island as a way of transgressing and protesting the presence of and restrictions the military imposed.

Many people are familiar with putting playing cards in their bike's spokes as kids, but not everyone has had the opportunity to learn soldering or connecting electronic components together. The *Bike Hack* workshops become a real opportunity for skill sharing and grass roots agency. As you mention in workshops, by adding a contact microphone and a mini amplifier to this childhood playing card bike hack, the bicycles take on a motorized sound. This really underscores the relations between motorists and cyclists, whether it is friendly or confrontational. While *Bike Hack* is an introduction to electronics skills, many of your other works require much more complex systems. How did you learn to work with electronics and programming?

JT: I know! I love that piece and still remember when I saw it at the Power Plant Gallery.

I started learning electronics in 1999 through a combination of workshops at InterAccess Artist-Run Centre and a course that I was able to take through the Independent Study Program at the Toronto School of Art. Simone Jones taught the course and Marla Hlady was my studio advisor. Simone is really great at making technology accessible, and Marla encouraged me to start to pursue sound, asked me hard questions and always had my back.

Because my imagination usually exceeded my technical ability, and there weren't a lot of resources online, I found that the easiest way to learn was to take my engineer friends out to dinner, pay them with grants or pay them out of my own pocket. I learned a lot from working with Gordon Hicks, Dave Kemp and Rob Cruickshank (for the *Soundbike*), and Ranjit Bhatnagar (for the *Freestyle Soundkit*, and more recently for *DoubleBind*). I took courses in physical computing and locative media during my MFA at the University at Buffalo. For sound, I remember taking some workshops through InterAccess, New Adventures in Sound Art and LIFT, but I learned the most during my time at UB. At the time TA positions were more like sessional or adjunct positions, so when I started in 2007, I was given a course title, and that was it. Even though Tony Conrad was faculty, and the department was instrumental in the development of artist film and video in the 70s and 80s, they had never offered a sound course, so I developed the first.¹⁷⁴ Sound artists like Duncan MacDonald, Betsey Biggs and David McCallum shared some readings and ideas and I focused the course on acoustic ecology, Fluxus, hardware hacking and creating works for public spaces.

¹⁷⁴ This still seems really weird, but that's what I was told by my Chair, who had been in the role since the 80s.

I have been fortunate in my current position to have received larger grants, which means that I can use my work as an opportunity to work with students from across disciplines. I strongly believe in creating meaningful learning opportunities for students – *that is literally why they give us the money* – and I think that students should be able to use my projects as a container for exploring ideas that are important to them, I love it when they are able to use their experience to get internships, jobs, or to pursue further education.

AD: Working with other people with diverse skill sets, whether artists or someone from another discipline, is such a valuable way of developing work. Each project is a prototype of sorts, with its own set of problems to troubleshoot. I'm always amazed by, and grateful for, the generosity of people who share their knowledge and skill. The conversations with someone assisting with a technical challenge also have the potential to advance the conceptual content. You are extending opportunities of experiential learning and new ways of seeking information to your students when they interact with your projects. Can you describe how students have used your work as a “container” for exploration? Is this something different than considering urban environments through the experience of composing with *Soundbike* or *Freestyle Soundkit*?

JT: Yes, it is different – my Research Assistants are involved with producing the work, rather than receiving it. The ones I have now are working on finding, analyzing and mapping data, and doing the back-end development on the *Borderline* app. When you do exploratory research, there are often discoveries or curiosities emerge, and because this is a research-creation project we are able to follow those trajectories. For example, some of my geographers were interested in food security within racialized neighbourhoods, so our data maps include grocery stores, markets and

big box stores that sell groceries. Other times students can be motivated by a technical challenge related to the app infrastructure, like how can we organize the back-end database so that the app works just as well for 1 person as it does for 1000, and doesn't cost hundreds of dollars in server space? I also try to think about what sorts of skills would help them in their own research, or to get a job in their area and I like connecting them with others. One of our librarians at University of Waterloo, Jordan Hale, has a PhD in Geography and has been an amazing resource for one of my students who has developed our data collection policy and guidelines for metadata. This week, my students joined me for a meeting with a curatorial team in Spain, where we will be leading a remote soundwalk in a couple of weeks. They had designed routes using street view, and during the meeting we sent each of the organizers to follow them so we could understand what was actually on route and to hear what they were hearing.

AD: This sounds like a really generative and inspiring way to work with a very diverse range of spin-off projects as a result!

Borderline, the soon to be released app that you have been developing in recent years, explores another layer of the urban landscape: the unseen, digital data network of urban spaces. We tap into this landscape so often and without much consideration of what our participation means, but of course it is as politicized as the networks of streets and neighbourhoods. I'm wondering, have you come up against the control of power in finding a platform for your app? With huge corporations like Apple and Google dominating app hosting, is it difficult to launch an app that points to how our data shapes space instead of following the template of game-type apps that mine data and generate ad revenue?

JT: Not yet, but this is most likely because we use municipal data and aggregate any point data that deals with personal information. I am also deeply committed to providing avenues for people to access their own data, so one of the more important parts of the project is the relatively unglamorous ‘export your data to a .csv file’ function which enables users to export all of their sound tags and notes to a spreadsheet. This lets you create your own sound maps, or to put your data in dialogue with other data.

Another, related challenge is that the project has the most impact when users share their sounds with us – I’m not concerned with the recordings themselves, but how often do you hear sirens? or traffic? In order to identify patterns in cities, I have to be able to look for patterns in the types of sounds that people notice, however I can only use these sounds with permission and the people who are most likely to contribute sounds are those that are interested enough to download the app and engage with this part of the project, rather than just using it as a mobile instrument. This means that we may not have as much data as we would like, when we would like it, and there is a potential for that data to reflect the preferences and in some cases the biases, of the contributors. If I can *attempt* a full circle moment here, in the same way that the integrity of my early artworks is based entirely on interaction with audiences, this project relies on those that care about the sonic city to engage in a process that has the potential to shape it.

AD: I can see how participant demographics and possible biases could impact the project. A case that really illustrated the potential for data to cause real world inequity for me was when municipalities introduced apps to detect potholes in their cities. The app on a mobile device

detects the specific movement of a car driving over a pothole, then reports pothole locations to the city's road maintenance department as users drive around doing their regular activities.

Inadvertently, municipalities were directing more road repair resources to wealthy parts of the city because the people in those areas were more likely to travel by car, own expensive devices, have time to participate and be willing to share their data with local governments. Despite the risks, so much of our data is being collected and used already; I think it is really important that artists design projects to help shape this territory!

Before we conclude our conversation, I wanted to ask you about *Swinging Suitcase* because it is the sound-sculpture that introduced me to your art practice and is one that I have been thinking about in new ways since the start of the Covid-19 pandemic. In the exhibition *Interaction* (2018) co-curated by Jane Tingley and Alain Thibault at The Museum, Kitchener, visitors could borrow *Swinging Suitcase* and take it for a walk. The red, hard-bodied case has a speaker embedded in its side, and as the performer walks along the streets and swings the case, recorded sparrow sounds start to play. When the performer carries the case, it gives them a sense of purpose or destination and at the same time surrounds them with a joyful chirping. Were you intending that the performer make space for other urban species as they move through city streets? The European Sparrow is a species that has spread to nearly everywhere in the world and made themselves at home, as have humans.

During the pandemic, travel has been curtailed and there was a sudden upswing in bird watching. I heard author, poet and biologist Drew Lanham speak on a podcast about his lifetime love of birdwatching and the new attention this activity was getting as people were quarantined at

home.¹⁷⁵ He remarked that, “birds bring us the world.” This is a beautiful observation, but also made me think of birds as transgressors of boundaries, particularly in relation to racial barriers Lanham points out in his writings such as, *9 Rules for the Black Birdwatcher*.¹⁷⁶

What were your intentions of shaping urban space with this work?

JT: *Swinging Suitcase* was very much an extension of *Soundbike*, and the basic interaction design is similar – there are three ‘states’ that trigger combinations of sounds, which combine randomly to make a conversational chitter as the ‘birds’ react to being swung. The main difference with this piece though is that there is a time element – if a state is repeated for more than 7-8 seconds, the circuit times out and there is a moment of silence. Because a change in sound will trigger a change in gesture, as you are learning how the piece works and attempting to play the ‘birds’, the ‘birds’ are in fact playing you.

The piece extends the body of the user through sound, but also through gesture – so the performative element is highlighted through the visual quality of the performance. It also does contain a reference to the fact that House Sparrows, which are originally from the Middle East and Africa, were brought to North America as part of a deliberate effort to make the new world ‘feel like home’. They were also one of the pests eliminated during China’s *Four Pests Campaign*¹⁷⁷ in the 1950s. Sparrows themselves are ubiquitous in urban spaces, and while we tend not to notice them, most of the chattering we hear when we come near them are ‘social

¹⁷⁵ Judge, Phoebe. “Prairie Warbler.” This Is Love. accessed March 28, 2021. <https://thisislovepodcast.com/episode-22-prairie-warbler/>.

¹⁷⁶ <https://orionmagazine.org/article/9-rules-for-the-black-birdwatcher/> accessed March 28, 2021

¹⁷⁷ https://en.wikipedia.org/wiki/Four_Pests_campaign accessed Dec. 9, 2021

songs’ that are used to communicate – essentially, they’re talking about us. When the piece is used in the spring you can often use it to ‘talk’ to birds. Most of them ignore it, but occasionally you will get some dialogue.

At about the same time that I started making the *Walking Machine* in 2002, I created a postcard series called the *DIY Birdguide*, which contained an informal inventory of Toronto-area Home Depots that had birds (usually house sparrows) living in them. In September of that year, there had been a mass eviction¹⁷⁸ of people from a Tent city that stood on property owned by Home Depot. So, while the *Swinging Suitcase* is technically about sound, affordances, and embodied interaction (a phenomenon that I call ‘performing from the edge of the body’), it is also about reclaiming space, who gets to make sound in space, marginalized sound, and how we can use critical play as a way of subverting public space.

AD: So, if I understand you correctly, the experience of “performing from the edge of the body” indicates an interaction with other urban dwellers (human or non) and gets at the reciprocity of sound, which builds on the ideas of broadcast as an extension of the performer’s body explored with *Soundbike*. (I can’t help thinking of the other definition of broadcast in relation to interacting with urban birds – the spreading of seed!)

JT: It indicates an interaction between body, artwork and ‘site’, which I consider to be the social space of cities. (And your reference to birds is very fitting as I started using the phrase to

¹⁷⁸ <http://tdrc.net/projects/tent-city.html> accessed Dec. 9, 2021

contextualize what was going on with the *Swinging Suitcase*!) Here is a more formal definition, paraphrased from my MFA thesis:

Performing from the edge of the body is an itinerant state defined by three parameters: that peripatetic artworks position the body as the primary state of reception, that embodied action through portable and wearable media facilitates new modes of cognitive engagement, and that generating sound through gesture activates space outside the body through the physical manifestation of voice.¹⁷⁹

AD: Wonderful, thanks for that definition! I want to thank you for being so generous with your time and for so thoughtfully describing your practise to me. It has been such a pleasure to get to know more about your work through our conversation.

JT: Thanks so much for your thoughtful insights and questions.

¹⁷⁹ Thompson, Jessica. *Performing from the Edge of the Body* / Jessica Thompson. State University of New York at Buffalo, 2011.

Rita McKeough

Rita McKeough is a multi-disciplinary artist based in Calgary, Alberta. The breadth of her practice is difficult to encompass but includes printmaking, performance, activism, collaboration, immersive installation, kinetics, sculpture, and sound. She holds an MFA from Nova Scotia College of Art and Design and is Associate Professor of Media Arts at Alberta University of the Arts. Her work has been exhibited widely throughout Canada and the US and has garnered many awards including the 2009 Governor General's Award in Visual and Media Arts and the Canada Council for the Arts International Residency in Sydney, Australia, 2014. My conversation with Rita took place on-line over the course of a year, May 29, 2021 – May 10, 2022. <https://www.ritamckeough.com/>

Annie Dunning: Through your career as an artist, you've worked across many disciplines and continue to employ performance, sound, video, and sculpture in your immersive installations. I'm curious, how did you get started with motors and circuitry to construct your *performing objects*?

Rita McKeough: The first installation that had kinetic elements and was the very beginning of my interest in *performing objects* was *Destruct* 1983.

In this work, a motorized excavator and a house were enacting a narrative that pointed to the extensive and irresponsible demolition of older homes in Calgary for the large-scale urban development that was taking place in the early '80s to support the oil boom. The objects performed the narrative and activated the installation, and the viewers inhabited the space and

were implicated in the context. In my performance work I act as a conduit between the audience and the narrative – my tasks and activities unfold part of the narrative, and the objects perform other parts. I was very interested in using technology to manifest actions that were not possible for me to perform.

My first project where I used *performing objects* controlled by electronics and programming was *Wave Over Wave* which was a sound installation that was presented at the Earful Audio Festival in Halifax and later at the Sound Symposium in St John's Newfoundland in 2000, and Grunt Gallery in Vancouver in 2003. Twenty-four motorized drumsticks played rhythms against the floor in the installation, accompanied by a video projection of the surface of the Atlantic, and several pre-recorded audio tracks of layered vocals and percussion. It was the beginning of my interest in using electronics to allow objects to perform in the installation work. I am very grateful to my friend Peter Flemming who helped me to realize the work and who shared his extensive technical knowledge of electronics and kinetics.

I am also grateful to the amazing vocalists who performed on the audio work that accompanied the *performing objects*, Janice Jackson, Melodie Leach and Alyssa Robichaud, and to the Halifax percussion ensemble Squid, (Mathew Bradbury, Mathew Guest, Daniel St. Pierre, Mark Jamison, Ian MacMillian) who provided the rolling percussive swells of the ocean which also played in the installation.

I was interested in using the precision of the programmed motor control for the 24 drumsticks to create a pause or gap in the audio composition that was so exact and precise that in my mind it

captured the depth and intensity of a sense of loss when someone is lost at sea. In the case of *Wave over Wave* which at one point was installed at the Immigration Museum at the Halifax Port, I was referencing a history of the Halifax harbour as a place of arrival and departure if someone was trying to immigrate to Canada. I was also focused on integrating the incredible risks of arriving by sea to Halifax as well as the risks of working on the sea. My father had been a lobster fisherman when he was young – he had passed away that year so the sense of loss in the work also touched on a personal loss.

I was so excited by the potential of continuing to develop my technical skill with electronics to integrate *performing objects* into all my subsequent work and to eventually create *performing objects* that would interact with the audience. I am so grateful to my amazing friends who helped me to develop the technical side of the kinetic work and who patiently shared their skill and knowledge: Peter Flemming, Robyn Moody, Grant Webber, Graeme Patterson, Cal Patterson, Ariel Ty, Wade McGregor, Richard McDowell.

AD: I don't think I've ever heard anyone else use the term *performing objects* before, but it fits so well with the immersive nature of your installations and site-specific works. It is a generous phrase that seems to give the sculptures more agency. What do these mechanical performers provide your art projects? How is it similar or different from what a human performer provides?

RM: In *Wave over Wave* the objects were executing the programming and as a result of that precision, it was possible to create much more complex rhythms and interrupt them with a harsh, precise, gap and then to immediately execute another rhythm with a different time signature, that

allowed an incredible potential for composing the sound in the installation. When all the 24 sticks came in at exactly the same time it was a startling moment which I think added a great deal conceptually and emotionally to the work by embodying a profound sense of loss in the moment of that precise silence in the rhythm.

I agree with you that this can definitely give the objects agency as they respond to the presence of the viewer and execute performative gestures, sounds, and movements in a very different way than a human performer. The possibilities of controlled, exact patterns and repetitions of actions is, for me, a very exciting and stimulating context where I can respond to the objects and develop other patterns and sounds to create a live performance that builds off the presence of the viewer and the context of the narrative that is unfolding with the actions of the objects. An example would be my work *Outskirts* where the kinetic objects performed with me for 17 days with all of us enacting the tasks and chaos of the conflicting survival of nature and urban development.

AD: I remember seeing this exhibition at the Owens Art Gallery; it may have been one of my first experiences with immersive, kinetic installation! It was a strange and destabilizing landscape that blurred the lines between forest life and suburbia. Unusual animals seemed to have taken up residence in the cookie-cutter houses, and construction materials abandoned jobsites to get back to the forest. In the midst of it all, you were being dragged behind a small car as though tasked with the impossible role of stopping both the car and the impact of urban sprawl. I also remember that the work was very funny, despite your genuine concern for displaced creatures and polluted landscapes. The construction material trees that threw cigarette

butts at the viewers sparked a lot of laughter even though the audience was being implicated in the degradation of the forests. Can you tell me a bit about the role of humour in your work?

RM: Yes, I agree, Annie. There is so much power for me in the humour of those trees throwing the cigarette butts out of the forest and back into the subdivision where they came from. They are taking action and turning the tables on the invasive houses which suddenly become vulnerable as well.

When I was young, I loved listening to amazing storytellers in Nova Scotia where I am from. They were so convincing in the story that it was almost impossible to tell what was true and what was fiction. I was fascinated by the performative quality of telling the story which is often a mix of tragedy and humour. When I look back on my own work, I realize that so much of the work seems to be about sorrow, but it is also humorous and playful at the same time. I feel that it is the humour that seems to temper the intensity and captures the complexity of the propositions in the work. No matter how serious I am in my intentions, it is through humour that I can develop the work and maintain my commitment to the concepts and hopefully allow the viewer to respond to the work through laughter which is possibly saturated with criticality and emotion.

AD: Humour also mediates the interaction between the performing object and viewer. It is unusual to be so directly engaged in confrontation by an artwork! I think the gallery visitors are also implicated in the environmental destruction and the humour is what allows the observer to spend time with this accusation. The viewer is in a precarious place between humour/sorrow,

laughing with/being attacked by the work – it parallels the precarious place of wildlife when urbanization expands.

I'd like to ask you about your installation *Veins* that was first exhibited in 2016. *Veins* shares some of the characteristics of *Outskirts*, most notably each installation is bisected by a faux highway. In *Veins* the highway is where gallery visitors stand rather than a performance space as in *Outskirts*. It is also the only large-scale inorganic element portrayed in *Veins*. Could you describe your intent with the reoccurring use of the road?

RM: Great Question. In *Veins*, the road is one of the veins of transportation snaking through the landscape: the road for the cars and viewers, the railroad track with the train carrying oil cars and the pipeline full of oil pumping through the bodies of the snakes that followed the track of the pipeline. They are all veins of potential contamination to the landscape from oil leaks, resource extractions and possible environmental accidents. The audience is only able to move through the exhibition on the road, so the perspective of the land is possibly a mediated, distanced perspective from a car window. The edge of the road is lined with sandbags to prevent the contamination from the road leaking into the landscape and this sets up a division between what creates the contamination and what is damaged by it.

I also used a road in *Outskirts* and many times in my early prints, drawings, installation, and performance work. In the earlier works, the road was an open public space where social encounters and protests etc. could be enacted but always with the unspoken threat of being run over. I always felt that the road was a social space that we are all implicated in. A public space

that everyone seems to be constantly gauging our relationship to. In *Outskirts* it was the division between the subdivision and the disturbed, uneasy landscape that lines the edges of suburbia. The road was inhabited by a motorized car that was only controlled by my actions in the performance, dragging behind the car, trying to keep it from crashing into the pedestrians crossing over from the subdivision to the landscape. I wanted to implicate myself into the work and it was the road as a transitional space that positioned my responsibility to control the problematic potential of the car that was almost out of control.

AD: The road is such an interesting device within your work and is so layered. It gives us access to spaces but simultaneously erases a strip of the landscape it bisects. It is an empty, nowhere place in some contexts – a conduit between locations – but as you mention, can also be an activated space of demonstration. It is simultaneously a liminal, banal, dangerous, and politically charged space.

Your work is filled with the complexities and precarities of altered landscapes and the dualities of constructed spaces which you weave together so powerfully. Do you think shifts of scale are another way you draw an audience into the narratives of your work? I'm thinking of the small, mechanical oil derricks you set up in parking lots next to people's parked cars for the performance *Alternator* compared to their reappearance in *Veins* where they fit into the background as though seen from a distance or as part of a model landscape.

RM: Yes, scale is a really interesting apparatus.

I think sometimes the changes in scale of the objects and places represented in the work are about creating a more complex or more complete view of a speculative location or to create an imagined image of a landscape from a propositional future. Sometimes it is to create a very specific perspective for the viewer – from above or from a distance. It is also often because I want a gathering of objects and allow them to inhabit the entire space with the viewer, surrounding the viewer or interacting with the viewer.

In my installation *Veins* I used scale to amplify the extent of the work the land is doing to protect itself from the risk and potential damage caused by pipelines leaking oil and contaminating the land. The leaves under the pipelines have risen and expanded in size so they are holding the pipelines above the land. The pipelines flex and squirm like snakes trying to get back down but the leaves have grown to be gigantic, and they hold them above the earth protecting the other plants and animals from the leaking. The oil pumps scattered around the landscape are smaller than in real life as the plants and animals work together to isolate them and the reduced scale hopefully reads as a lessening of their impact. In my recent work at the Walter Phillips Gallery *darkness is as deep as the darkness is*, I used an increased scale of the 20 singing roses that greet the viewers in the lobby of the gallery. The roses have been affected by the toxic contamination of the soil through resource extraction and development and they have grown to address the audience with intensity that I hope reads in the expanded scale. They are addressing the viewers with their call to action to work together with the people to help the land. Their voices are distorted as they sing because of the toxicity of the soil but they are growing to be seen and heard and to be as tall as people, so the dialogue can be face to face.

AD: These scale shifts are a powerful way of allowing viewers to occupy two places at once; one foot in the world that has been degraded, the other in a propositional world of the future where the damage is mediated through non-human agency. As Donna Haraway famously says, “it matters what worlds world worlds.”¹⁸⁰

The destabilizing rift in time and space that you create helps viewers to imagine alternate realities. I think this dovetails nicely into what you do with sound. Sound also extends space in many ways and gives voice. Some of the sounds in your work come from the *performing objects*’ movements, such as the mechanical drummers in *Wave Over Wave* or the animated houses in *Destruct*, while other sounds are recorded vocalizations. Do you always use human voices to articulate the concerns of your non-human subjects? I’m thinking of the roses in *darkness is as deep as the darkness is* and the hybrid animals of *Veins*. Is this an extension of collaborating with other musicians to add choral voices to *Wave Over Wave* or your opera, *in bocca al lupo- in the mouth of the wolf*?

RM: Yes, it seems like the sound in my installations and performances is always multiple layers and in the recent work, one or more of the layers are human voices which function as live translations of what is being said by my non-human collaborators.

When I started using sound in installations, I was working from a feminist position and focused on the crisis of violence against women. I believed that having multiple soundtracks all playing

¹⁸⁰ Haraway, Donna Jeanne. *Staying with the Trouble: Making Kin in the Chthulucene*. Experimental Futures: Technological Lives, Scientific Arts, Anthropological Voices. Durham: Duke University Press, 2016.

simultaneously was a way to use that chaos to articulate everything that was not being said, from voices that were not normally heard or understood. I felt that language should be capable of allowing the internal voices, the external voices, the stutters and doubts, the spitting and cursing, to articulate the chaos, emotion, and complexity of what needed to be said to allow a voice to speak itself fully. I wanted to have multiple voices all speaking from different perspectives with syncopated, dissonant relationships to each other but working as a chorus. I was interested in trying to use rhythm as another language that I felt gave access to a subversive and emotional voice. *Tremor*, *Shudder*, *Shiver*, *in bocca al lupo*, and *Blind Spot*, were examples of some of that work.

In *Veins*, the multiple voices were coming from the land and included the hissing, snaking, leaking pipelines, the rustling, brittle, spitting leaves, the knocking and shaking trees and the rhythm of growling, barking, screeching, howling, and scraping sounds of animals and plants from the surface of the landscape. They were speaking as a chorus trying to communicate with the audience as a call to action, to join together, to fight back against the contamination of the land from oil extraction. These voices and sounds were translated and spoken by human voices. This carried on into my installation *darkness is as deep as the darkness is*.

The intensity of the often-chaotic layering of sound components in my installations was influenced by the bands I had the pleasure of playing in and the supportive and experimental environments of the music communities I have had the honor of being a part of. I have always been so fortunate to collaborate with amazing musicians and vocalists who contribute so much to the work. I have so much gratitude, love, and respect for all of them.

AD: There is something about the multiplicity of voices that is both unsettling and a powerful way to remind us to consider others (including animals, plants, objects) outside of ourselves. I really admire this act of kindness and see it also in your methodology – you invite other makers and performers to help you shape these complex projects – and are so careful to acknowledge the important communities that participate in realizing your work.

As you are an accomplished drummer, it makes a lot of sense to me that you dedicate so much attention to syncopation and rhythm in your installations and are so adept at using these techniques to create affect. Are there other ways that sound is important in your practice that you'd like to describe?

RM: I have always loved using rhythm as a structure and a system for organizing the layering of voices and recorded sounds. I love the idea of syncopation as a way to integrate interruption as a disruptive interference and a way to destabilise my own relationship to text within my work. Once a rhythmic structure has been activated, I find I am more willing to lose control of the text and let language and emotion construct the meaning in the overlapping of the words and gaps and hesitations. There is a subversive quality sometimes in the way this strategy allows an open reconsideration of the impact of the chaos and intensity that results from multiple rhythms overlapping.

I am interested in the possibility of using sound to bring other locations and contexts into the exhibition space, to allow the work to exist in multiple places and in a variety of relationships

simultaneously. I am also interested in using the acoustics of the space and the idea of multiple speakers allowing voices and sounds to be positioned in a specific location in the gallery or exhibition space. It allows the sound to engage in dialogue within the specifics of location and the speculative suggestions of alternative locations. There is also a very visceral quality of listening to sound that is moving within a space from speaker to speaker. It seems to activate a sense of embodiment in relationship to the sound and the space and I find that I am challenged to acknowledge the perspective from which I listen and speak.

Using sound in the installations and performances allows me to bring my interests as a musician into the construction of the work. I try to think about dissonance, cross rhythms and polyrhythms in the scripting of the sound work. I am drawn to the feeling and sound of things almost being torn apart – yet resolving themselves as they progress. I think it goes back to that idea of allowing an unfamiliar or destabilizing experience which I find gives me access to a chaotic and empowering freedom in relation to language and music.

AD: Thank you Rita, I really appreciate you taking the time to share these valuable insights into your practice with me. I'm so glad you are here in this world that feels so precarious right now, making work that is filled with empathy, love and urgency. It is an inspiring and complex combination for thinking through human responsibility and possible, multi-species, future relationships.

Marla Hlady

Marla Hlady is a cross-disciplinary artist working with sculpture, sound, performance, and interactive media, often exploring site and engaging in collaborative practice. She is Associate Professor at the University of Toronto in Studio Art. Our conversation took place on-line between July 2022 and January 2023. <https://www.marlahlady.com/>

Annie Dunning: Much of your work integrates sound and object, and I'm curious to know more about how you perceive the relationship between the physical and sonic elements. Is one the impetus for the other? What types of observations typically set you on the path of developing a new work?

Marla Hlady: It's true that I rarely make sound-only works. Sometimes a piece starts with the sound and at other times the sound is a result of the object or the movement. Almost always there is some kind of entanglement, although I'd say this entanglement is multifarious. Typical observations? My observations are mostly rooted in embodied cognition, place-situation, and function. For example, in *Swan Song*, made with Christof Migone during a three-month residency at the Glenfiddich Distillery in Scotland, the work started with listening to the place. We spent a great deal of time making field recordings on site— the water source, the various processes of distilling, the labour of maintaining the facilities, the voices of workers, etc. – to understand the processes of distilling, but also to make social connections, to understand the community and the people who worked there. A distillery is infused with copper. And even though the location was central Scotland and bucolic, the distilling process is industrial with an industrial infrastructure. This work could have remained sound-only, but during our time there

we were interested in the seduction of the forms and materials of the distillery. These fed into choices made when developing the kinetic sculpture: a chance encounter with the coppersmith gave us the opportunity to use two decommissioned stills. At that point, it made sense to make a sound sculpture.¹⁸¹

AD: *Swan Song* is a fabulous sound-sculpture and one that I really wanted to discuss with you. The Glenfiddich Artist in Residence program where this work was developed is such a unique opportunity. It is interesting that you mention you were thinking about seduction while there. Copper is such a gorgeous, seductive material as is the form of the swan neck from the still. In part I think this seduction comes from a timelessness or sense of antiquity – perhaps nostalgia – that is also part of the heritage of whiskey making in Scotland. It is so fitting that the sculpture is made from decommissioned copper stills; just as the copper of the stills or the oak of the casks is infused into the whiskey, you have infused the distillery into this work. Could you describe ways in which this material timelessness or seduction is carried over into the audio elements of the piece?

MH: I'd like to start with the importance of how the sound was shaped physically: the copper stills were cut to favour the necks as we were looking for visual references to the phonograph. There is a definite nostalgia with this reference. Importantly, the necks are also functional as they focus and extend the sound coming from some of the speakers.

¹⁸¹ Christof and I have mined the sound research material and have developed sound-only works since leaving, and are in the process of publishing a compilation.

Timelessness isn't really a frame we used with the sounds themselves. In terms of our relationship to time, we'd describe it more in terms of duration. Seduction is another interesting reference for me as I find the voices of the chorus seductive, but I don't think that's a word Christof would use.

The chorus is made up of staff working at William Grant & Sons (which houses Balvenie and Glenfiddich distilleries). In our recording sessions, we asked each staff volunteer to contribute two short voice recordings, one the highest pitched sound they could produce, and one the lowest. They were asked to hold the sound for as long as possible. The resulting recordings were arranged using a system-based approach—according to how long each had been working at the distillery, 2 months being the shortest, and 39 years and 5 months being the longest (their collective average years of service: 10 years and 2 months). In terms of duration of the voice recordings, the transposition was one month equals one second. The overall duration was based on the age of the distillery, founded in 1886 (so, its 133 years equals 26:36 using the same logic of 1 month = 1 second). The treatment of the voices is simple: stretching and repeating. Added layering and panning effects add some edge to the recordings that were otherwise intentionally kept monolithic to convey a single collective mass in constant labour, and reflect that their shift work enables the clear spirit to shift to whisky as it ages in the casks.

The chorus compositional strategy is in a conceptual frame, the voice choice in a social-politics of people and labour frame. But in stretching the voices, we were also interested in the idea of stretching time. The activities associated with the labour it takes to prepare whiskey for the casks

is short compared to the amount of time whiskey just sits in them, stacked up in the warehouses, aging. How does our experience of time change when it comes to action and inaction?

There are other sounds that make up *Swan Song* in addition to the chorus: field recordings made throughout the distillery ranging from Robbie Dhu Spring cairn where the water first enters the Glenfiddich property, the cooperage floor where casks are being repaired, to the vats where barley goes through the various stages of germination, and the bottling floor. These recordings locate the sound(s) in relation to place. With the Robbie Dhu Spring in particular, there is reference to geological time of the hills and the river. And there is the alchemical time of aging whiskey.

All the sounds are looped. The interplay between them is based on the chance operation of eight individual sound loops that are triggered by three switch machines with changing on/off and speed patterns (a switch machine turns on or off up to three different sounds, all at different moments). Consequently, the composition unfolds over an indeterminate amount of time, always shifting and changing. I'd be curious to give a mathematician the variables to see when the composition would repeat. It would happen eventually, but not in any practical way that could be experienced. Perhaps an interesting analogy to watching whiskey age.

AD: The elasticity of time experience is really interesting to me; something that I think sound addresses well through its durational qualities. *Swan Song* weaves together so many diverse timelines, finding points of intersection. The duration of employment of the chorus participants converted into the 1 month = 1 second sonic duration, the stretching of voices, the generally rigid

allotment of time that shift work implies connecting with the alchemical ‘shift’ of the whisky aging process, the long duration of the distillery’s operation that shrinks in relation to the geological age of the spring on which it relies, the lifespan of the copper tank and its moment of retirement/reinvention, as well as your 3-month visit to discover and transcribe these convergences. And then there are all the instances of looping or repetitive processes!

Swan Song is a collaborative work that you made with Christof, but which also involves the contributions of the distillery staff. Could you describe the importance of collaboration, participation, and interaction in your artistic practice?

MH: Good question...as I think I have always leaned in the direction of employing collaboration, participation, interaction for several reasons...to disrupt carefully constructed, often seemingly precise systems; to inject the lived/social element of a site; to fulfill my desire to be in a band (laughter). I first started to say this (being in a band) when I began to experiment with kinetic objects that were more broadly thought of as instruments. *The Instrument Project* is based on an on-going premise for sound collaborations where I respond to some element of a collaborator’s practice and mechanize it. These responses were based on some sense of wonder I felt about my collaborator’s practice. Could I (humorously) reimagine a performed action through mechanized language even if the reimagining was impractical as a machine, better as a non-mechanized performed action? Originally, I did this out of my self-consciousness as a performer...why would I perform when I could make a machine to do the performing? The reimagination is homage, but also about opening up a new space for collaboration-as-conversation.

In terms of disruption, I think of something the Canadian curator John Massier wrote, that I combine contrary impulses of control and abandon. This characterization stuck with me. Although my tendency is towards engineering functional things, I'm interested in how a functional thing is used, misused, reinterpreted. I want to be able to make something function, but I want it to continue to evolve after I'm finished making it – when the control and/or maintenance is given over to the observer or gallery attendant. It's the element of discovery, change, agency, improvisation. I like to be kept off balance and for the things to remain unknowable. This idea is in many ways impossible to maintain...it's too hard. It's a matter of degree.

Then there's the lived, social aspect of a place. I am continually compelled by places because they are rich, complicated, layered. And in a site, sound seeps, spreads, injects, interferes, encompasses, disappears when you want to keep hearing and appears when not expected. Places are certainly never silent. Where is the sound emanating from? Is there an opportunity for a conversation, an exchange with the emitter?

AD: Wow! Thanks for this. It is a fascinating and layered consideration of interactive and collaborative work that I'd like to stay with a little longer. I agree that collaborating or allowing audience participation is a way of relinquishing control which can be both liberating and generative. (I think many can relate to being a self-conscious performer with a secret desire to be in a band!) When I saw your work *Soundball (Dancehauler)* at the Guelph Civic Museum exhibit *Feeling Sound, Performing Access* (2020) you gave the audience the opportunity to

perform – complete with a stage. It is a strange sensation; first, to be given permission to transgress the usual barriers of touching artwork, and second, to be on stage while trying to figure out how the sound object responds to the performer. But you also did a live performance in front of a sit-down audience at the opening of this exhibition, with Ellen Moffat and Gordon Monahan. This performance considered accessibility and included vibrating platforms and belts so that sounds could be experienced by non-hearing folks. I wonder if you see these alternative forms of experience as opportunities to expand how we engage with the world, and if this part of your question, “is there an opportunity for a conversation, and exchange with the emitter?” Could you tell me a bit more about this exhibition and performance and its collaborative /interactive elements?

MH: Maybe the best way to get to the exhibition *Feeling Sound, Performing Access* is to start with surface resonators, a technology that allows almost anything to be turned into a speaker.¹⁸² Just as cone speakers all sound unique, surfaces sound different depending on a variety of factors including overall weight, material density, whether there is an internal resonant space, etc. Resonators and vibrating/sounding surfaces are curious in terms of how they encourage interaction...just the act of touching, choosing to make contact with a surface, is a form of low-stakes interaction that I enjoy.

¹⁸² Most will be familiar with sound reproduced through speakers made of a cone and a magnetic coil. The movement of the coil pushes or pulls the cone causing air in front of the cone to vibrate and sound waves are created. With surface resonators, the coil is instead attached to a surface and the resulting sound wave is just generated from another kind of moving surface rather than a cone. Whether cone or surface resonator, speaker coils move according to the frequency and amplitude of the sound signal fed into the speaker.

Aside from the sculptural possibility of making anything a speaker,¹⁸³ I am drawn specifically to bass surface resonators. The lower frequencies are more powerful and less directional in terms of how the sound waves move. I mentioned touch above, but with bass surface resonating technology the sound waves are dramatically haptic. A body can be pressed up against a surface and the power of these sound waves make their way into your body to vibrate your internal organs; you literally feel it in your gut. Site and sound are made visceral. Interestingly, you don't need to use the bass wave that is heard, you can use bass that is below the hearing threshold, but you will still feel these waves quite powerfully. I used bass resonators specifically in the various *Basement Bass* versions and in *Huronia (A Wall Speaks, A Door Shakes, A Floor Trembles)* (another collaboration with Migone). In *Basement Bass (Boréal)*, a 1000 lb kinetic-sounding-artwork started moving across a concrete floor because of the bass resonators (I used quite a bit of this super low bass).

London-based artist David Bobier was aware of the work I was making and invited me into *Feeling Sound, Performing Access* exhibition. The idea was imagining an exhibition with alternative ways to experience sound for those not able (and less able) to hear with their ears. He had a workspace for this kind of sound exploration in downtown London for three years called VibraFusion Lab. The space is closed now, but he continues the work of the lab around vibro-tactile technology and alternative access to sound (vibro-tactile technology uses surface resonators in a range of interfaces – objects to be held, chairs, floors). I had a chance to spend time with Gordon Monahan and Ellen Moffat at VibraFusion. The time was good for playing together, it set us up to perform when the possibility arose.

¹⁸³ a nod to my friend Jean-Pierre Gauthier for putting resonators into my imagination

What was interesting to see at the performance was all kinds of bodies embracing the listening experience in different ways – sitting with hand-held resonators, lying down on the tactile floor, or listening in chairs with and without vibration tech. It shifted the dynamics of the performance evening in a way that I think increased curiosity...made people want to move around and explore; look to see what we were also doing as performers as none of us were using common/familiar instrumentation. In terms of the vibration tech, it was powerful to have plug-and-play technology that as artists we didn't need to invent. And because David knew his tech, he made all the adjustments to the vibration devices for the audience to meet our heard sounds. Two approaches to a performance sound check, so to speak.

Soundball was the work I made for the exhibition. Here I was interested in imaging an interactive sculpture where form and technology are integrated into a sound kit that was simultaneously a crate, an instrument and a stage. Audience members were invited to pick up and manipulate the six-inch balls and play with sound compositions while standing or sitting on the vibrating, sounding crate. The collaborative element was *Dancehauling*, a sound work developed with musician Eric Chenaux. The sound work deconstructs the rhythm and melody relationship of traditional dance music; think jigs, reels, slipjigs or hornpipes as examples from Irish, Scottish and English traditional music. The musician uses their beating foot as a rhythmic aid for the dancer and to ground what can often be a winding, meandering melody. I recorded the foot beat that is amplified by the bass resonator and Chenaux recorded the bowed guitar in the mid-range resonator. We made our recordings independently (Chenaux lives in France) and

brought the sounds together, each sound in its own ball, ready to be played separately or in unison as, *Soundball (Dancehauling)*.

AD: I'm really interested in how these works complicate the sensory experiences of auditory and haptic information and how playing at the edges of sensory understanding can lead to discoveries. It is likely that we can broaden our sensory abilities beyond the specificity of the five that Western culture acknowledges. People like Daniel Kish, who lost his vision as a baby, but who taught himself to navigate spaces by using clicks to echolocate demonstrate this. David Eagleman is an American who has gained quite a bit of notoriety for promoting the idea that the brain has incredible capacity to interpret signals and that perhaps it doesn't matter as much as we think how that signal is delivered. Like David Bovier's VibraFusion Lab, Eagleman is developing wearable vibration vests as a brain hack to input speech data into the brain of a non-hearing individual with some success. I fear that he is taking this research in a very capitalist direction though, rather than Bovier's aims of inclusivity. Eagleman is attempting to use this technology to input stock market data into the brain so that a person could intuit profitable stock trades. (I think he needs more artists in his lab!)

What projects are you working on now?

MH: I've been exploring new kit configurations to expand on possibilities with field recording. I use the kits in the studio as well, to play with sound. I highlight field recording because idea of mobility has been a focus in my work for quite a while. Being able to travel about easily, in all kinds of contexts with a good sound kit with microphone variety, is important. Although I want

to emphasize that field recording isn't always about recording for me. It's an activity where I can spend time listening, entering, and residing in a place. Field recording is a whole-body experience...critical listening continues to be an important focus.

Mobility is also key to the sound objects I've made over a long period of time. It started with *Soundcan* when I was given the opportunity to make a multiple for Art Metropole. I wanted the multiple to be sound-focused but felt that, unless the object mattered, it needed to be the sound industry standard of the time, a CD. Since I was thinking more about sculpture and Alvin Lucier's resonant spaces, I made a record/playback device that I put into a small resonant space (a restaurant-scale sugar shaker) and took it into the field. I was laughing a bit thinking about Duchamp's idea of 'canned chance' as the multiple was both the field recordings made with the can and the can itself. Fast forward to the new series which is called *Piper*. Humorously, they are all built into off-the-shelf utilitarian pipes. Pipes are great resonant spaces, but they are also objects that feel familiar held in our hands and the material is durable. I started the series in response to some field recordings I did in Nottawasaga Bay, a large inlet of Georgian Bay near Tiny, Ontario. I was experimenting with hydrophones, recording in the shallow water and sand on the beach. The sounds I ended up with were variously processed, electronically and materially, through a process of performative gestures. It seemed like a good starting point, to put the sounds of water into a pipe. The series is still in process.

There are other works I'm starting but it's too soon for me to find my words...there is one dealing with gravity and another dealing with a piano.

AD: Thanks Marla, for so generously discussing your practice with me. I look forward to seeing the new projects realized!

Maria Hupfield

Maria Hupfield is a transdisciplinary artist who works with industrial felt, jingles, performance, and community and land-based experiential knowledge. She is Assistant Professor at the University of Toronto (cross-appointed in the Departments of Visual Studies and English & Drama) and a Canada Research Chair in Transdisciplinary Indigenous Arts. She is the Inaugural ArtworxTO Artist in Residence with the City of Toronto, Parks and Recreation, and a Mellon Fellow, Center for the Imagination in the Borderlands, Arizona State University, USA, 2022. Hupfield is the recipient of many artistic awards and honours, and her work has been exhibited widely across Canada and internationally. She is a member of the Anishinaabe Nation belonging to Wasauksing First Nation, Ontario, Canada. <https://mariahupfield.wordpress.com>

Annie Dunning: Hi Maria! Your art practice is exciting to me because you remix materials and studio methods, taking them out of expected roles to build new ways of understanding. To get things started, could you describe your interest in grey, industrial felt which you use in many of your works?

Maria Hupfield: Hello Annie. I came to the material through sound. I wanted to know what it was like to carry sound and what it felt like to wear tin cone jingles but not as regalia or on a dress as they are commonly worn on Anishinaabe jingle dresses. I was looking for a material that was sturdy enough to support the jingles without drawing too much attention. Grey is perfect because it is a mid-tone mix between white and black. The grey also allows me to focus on the form and design in the same way as a graphite drawing.

AD: Yes, sonically the felt is a very silent material, it muffles sound – which provides a strong contrast with the jingles. The felt *Jingle Boots* (2010) that you made, for example, silence the footsteps of the wearer while the jingles sound each movement. The felt also brings in references to industry, modern and conceptual art practices. An interesting material conversation is happening between the felt and jingles; I feel that you have found a way to weave together ideas that might not have been considered linked previously. You mentioned that you relate the neutral grey to graphite drawing... does this make it a kind of sketch in your thinking? A proposal or cue for a performance, something like an invitation for a Fluxus happening?

MH: I just like the look. I find it satisfying to see the shape and form. In a sense they are the same thing; a drawing and a sculpture. Both are visualizations of my ideas. The difference is the tactile nature of the sculpture invites touch. I can interact with it on a physical level. It becomes both something that is personal and yet totally separate at the same time.

AD: Could you tell me a bit about the tin jingles which are another recurring form in your work?

MH: Sure, what would you like to know about them? Are you familiar with jingles?

AD: I'm familiar with them in the context of jingle dresses as part of women's regalia for pow wow dancing and understand that they are different from bells in that they don't have a clapper inside. I think it's quite lovely that, for the jingles to make sound, it requires more than one of them to function together. Do you think of this material collective of jingles producing sound as

being connected to your studio methods in terms of your use of collaboration? What do you feel this sound bring to your performances?

MH: Sounds like you are familiar with how I use them in my work! I started using jingles because they are contemporary and familiar. I wanted to move through the feeling of wearing sound. I was curious if jingles changed the way I moved. I wanted to be less in my brain and more in my body. Jingles do that. They come with responsibility and care. They bring healing on multiple levels. I started to use them around the time my mom was diagnosed with cancer, and it helped me to process and continue. The jingles, like the felt, are an ongoing conversation that I continue to return to. The sound is a rupture. It wakes people up. The jingles keep me moving.

AD: Sorry to hear about your mom.

I like the idea of wearing sound, that you can be wrapped in it and also radiate it! It seems very cyclical that the sound of the jingles generates your movement but is also produced by it. Do you think of your sculptures as co-performers? Or as instigators of your performances?

MH: No. I just call what I make art. But I do think about my creations as a type of conversation with materials and the performances continue the conversation in another form. I have also started to think through art made by living artists as belongings vs objects, meaning a belonging of the artist that is sold or borrowed, or on loan has value beyond the financial or economics of the commercial art market within and by the communities and people who use it. Can something that is made by someone ever stop really belonging to that person? This idea depends on the

understanding of ownership and belonging. Is the purchase of art simply one of caregiving rather than ownership? As a language learner and as I learn and use more Anishnaabe cultural knowledge in my work, I also think about my creations and art differently. It is possible that sometimes my work may have its own agency. There are no rules with my creations. I have lots of ideas and am constantly trying new things out.

AD: That's an important way of thinking about artworks, that they always belong in some form to the person who made them. I think that's part of the appeal of art objects, they contain some kind of intangible connection to the maker. I recently attended the livestream of the 2023 Stonecroft Foundation Visiting Artist Lecture which you gave at the National Gallery of Canada. During the lecture you talked about Jo-ann Archibald's seven elements of Storywork and Robin Wall Kimmerer's writings about the grammar of animacy as influences. Is the animacy of all things, a world view which white colonial culture has tried to eradicate, what you mean when you say your work may have its own agency?

MH: Sometimes. It depends. I am a language learner, so my worldview is heavily dependent on English and colonial thinking. For example, when I made the *Jingle Boots*, I didn't know what I would do with them until I made them and had them on my feet. This is very different than having jingles on a mask. When they were on my feet I only wanted to jump and run back and forth. I had a limited movement vocabulary. Now that I have more knowledge of jingle dress dancing, I might be interested in trying out something different. But maybe not. I like to think the boots tell me what they want to do when I put them on. I made a separate pair called *Backwards Spiral Jingle Boots* that I actually put on my hands.

AD: Do you wear the two pairs of jingle boots at the same time for more complete body movement? I suppose wearing boots on your hands also disrupts how you'd move!

MH: Now you are talking my language! Ha ha... no, not yet but anything is possible.

AD: Ha ha... I love your openness to possibility. Who knows what will happen next?!

I'd like to ask you more about collaboration/collectivity. The jingles only have sound when there is more than one of them. You also make a lot of work that involves other artists, communities, family members... even the belongings of other artists, which you used in *Contain that Force*. What importance does bringing others into the process of making your work have for you?

MH: I like to be in conversation with others. There is no one approach. I change how I work every time and each performance informs the next one. I am always learning. I don't really have a strategy; my approach is more of a process. For example, working with my family came naturally and started with a painting by my mom along with my goal to show who I am and where I come from for my first major solo at the Power Plant in Toronto in 2017. Alternatively, in 2015 I made a performance for *Sakahana*, National Gallery of Canada which was staged at Saw Gallery, and it also started with a painting by the late Carl Beam. The painting said, "Contain that force, you never know when you will need it" and had an eagle feather. With that in mind I approached his widow, artist Ann Beam, and asked her about using the title *Contain that Force* for an artwork. For the artwork I ended up soliciting seven objects from seven different people. I

created a performance with the objects and in the end, I made replicas of the objects in felt. It wasn't collaborative but I was curious to try working with objects that were connected to people and how I would relate to their objects. The contributors were Waubagiishek Rice, Jaune Quick to See Smith, Laura Ortman, Sterlin Harjo, Andrea Geyers, and Zack Fabri. I could go on and talk about that work but instead in answer to your question I did another performance with a group called Social Health Performance Club in Brooklyn, of which Zack is also a member, at a space called Jack that had tinfoil on the walls. For that performance I gave members of the group felt objects I made to perform with. The Club itself is framed as a performance, gathering together as action, understanding social relationships as artistic processes.

AD: This makes me think of your recently published book, *Breaking Protocol*, the culmination of a research project that engages with Indigenous performance artists. I've read that this came out of a series, "coffee break" – conversations you initiated over Zoom during the pandemic. The book also feels like a space for social relationships, gathering together and Contain(ing) that Force! Were there certain ideas that became more clearly articulated for you in your practice because of these conversations and the process of making the book?

MH: In the intro to the book, I mention that the book is informed by my collaborative process but at the time I didn't have the words to break down what that process was. I was still working through the specifics and finding the language. I am told that one of my gifts is how I bring people together or *maawaanji'iwe*, *getting people together*. I would say that sums it up well. The challenge with the book was how to represent and basically translate a living performance with

human bodies, sensory experiences, and emotions in real time through image and text in book form.

AD: I can relate to that challenge of translating artworks into words! Sometimes text feels too restrictive to encompass all that an artwork contains, other times it can bring into focus an important quality that is there in the work, just difficult to grasp until it is named.

You are currently the inaugural ArtworxTO Legacy Artist in Residence, hosted by the City of Toronto. What have you been doing so far in your residency project, *How to Know a River* which engages with Toronto rivers and ravines?

MH: My work for the residency will go live for the 2024 summer solstice and I plan to return to the site for *Ravine Days* in the fall. Chris Mendoza and I began a line of research into how to know a river where I proposed the best way to become familiar with the river was from the water. Together we collaborated on a number of activities including regular walks upstream against the current in hip waders. We really learned a lot mapping and viewing the city from the water and walking on the riverbed. My project with the city has grown and asks us to consider a river as a meeting point and site for conversation.

AD: A lot of artists have used walking as a tool for mapping, learning, reclaiming, or shaping a place, but not many involve walking in water. Walking upstream in the river must be physically challenging and destabilizing; the current is pushing against you and the riverbed must be

slippery and uneven. How will you and Chris present this work to the public or otherwise share your process of coming to know a river?

MH: My interest in walking as methodology comes out of Stephanie Springgay's research with the Walking Lab at McMaster University. At the time I was reading about Joanne Archibald's Storywork in Indigenous education, and it felt natural to apply physical theory based on experiential hands-on learning and literally jump in the river. The center of Indigenous Academic writing revolves around the concept of kinship and land and waters as living beings. I had also just finished curating *The First Water is the Body*, a group exhibition at the New Jersey Art Center which I hired Chris Mendoza to help edit. Everything came together. I remember laughing when I spoke about the idea with Chris. There was something wonderfully joyful about this idea of being in the water as performance artists.

Since I grew up swimming in water near Georgian Bay, I felt confident starting this work but it really didn't prepare me for what was ahead. I really had no first-hand experience outside of lakes. Everything I knew about other bodies of water came from studying geography books. Each river is naturally quite different based on the composition of the earth where it is located, the history of human interference, and of course, the unique character of the river formation. Chris and I had to learn how to read a river to understand how it came to take the form it has today. We spent the past three years working towards doing something for *Ravine Days* with the City of Toronto and this year 2024 looks like it is going to be the year we make it happen. As we go, we have been documenting our process via a GPS map. We will see where we take it! As with many things in life the more I learn, the less I realize I know. What I am learning

is a river is not unlike a person. It can take a lifetime of observation, engagement, conversation, paying attention, being present to know someone.

AD: Your interactions with objects and locations are very physical, and this engagement with the river is no exception. Just as you wrap yourself in sound when you perform with your felt and jingle objects, entering the river is another immersive exploration. You mentioned the laughter and joy you felt when you and Chris discussed getting in the river to do this physical research. Do you think about humour or a sense of play as part of your approach to artmaking?

MH: For sure. In 2016 I did a two-person residency with my husband, artist Jason Lujan, at Trestle Project in Brooklyn that culminated in an exhibition called *Freeplay*. We share an artist studio so it made sense that on this occasion we would try bringing our practices together in the same space. At the time it felt important to remind myself that amidst the hustle of NYC that I never lose sight of what brought me there - love, making art, curiosity, and the joy of living. Your question also reminds me that when I was in grad school in the early 2000s there was a group exhibition called *The Trickster Shift* that connected art to Lenore Keeshig Tobas's research on Nanibush as a trickster in Indigenous oral tradition and storytelling. At the same time playwrights Drew Hayden Taylor and Tomson Highway were dominating Indigenous theater using the power of laughter to deliver a painful colonial history to Canadian audiences. I remember I wrote a paper titled *In the Winter of Humour* leading up to my thesis. It was an exciting time, and everything seemed possible. Indigenous representation and knowledge had a vibrant presence in my life as a young emerging artist and mother. To feel great loss makes the sweetness of happiness that much sweeter.

AD: Yes, curiosity and humour are powerful. Laughter can do so many different things. It is a release, it can engage people in a way that leaves them receptive to ideas in new ways, and it can confront difficult realities with hope. I think it functions much like the moments of rupture you've discussed in your work. It is also very active in a sense... humour can offer a sense of agency.

I've spent time on the Speed River in Guelph over the past few years for a studio project I've been developing. Each time I'm on the water rather than on the shore, I feel transported into a whole new environment – like I'm no longer in the city. Has your time in the river shifted how you see the place where you live? I'm also wondering what form the *How to Know a River* project will take when it is presented. Will there be a sound component?

MH: The work with Chris is ongoing and we will continue to return to it. We did a performance in 2022 early in that research period called *Gurgle, Burble, Babble*, for offsite Pumice Raft, Don Valley as a part of *Implicit Choreographies & Relational Topographies*.¹⁸⁴ This work adapts the same approach of respective relationality as Mary Siisip Geniusz who asks the question of plants in her book on Anishinaabe botanical teachings titled *Plants Have So Much to Give Us, All We Have to Do Is Ask*. My work with the city answers the question *How to Know a River* through the invitation to *Meet Me by the River* where the river becomes a destination and meeting point in the building of new stories and memories by me that are recalled, shared and lived. If I want to know the land and waters, I need to be in relation with and alongside land and waters. This work

¹⁸⁴ *Implicit Choreographies & Relational Topographies* Pumice Craft website, event description <https://pumiceraft.com/icrt.html>

has served its purpose to make me feel more informed, more connected and grounded in Toronto. I now have lived experiences and relationships with where I work and live that are part of this place not just in urban spaces but also with the land and waters. This work signals the beginning of a deeper connection. Smelling the Don River after a rainfall forced me to meet the river where it is at, as a polluted and altered water way. Watching the herons and many other birds, fish, and animals alongside me makes the cycle of codependency apparent physically in my body. I now carry the story of walking upriver against the current with a friend in Toronto.

AD: In the *Gurgle, Burble, Babble* performance there's a nice blending of water, memory, and language both in the collecting of water memories to be washed away and returned to the river and when you and Chris speak through the pipes meant to carry water. The effect of the pipes on your voices reminds me of playing in creeks and culverts as a kid, or the echo of sitting under a bridge.

I think you are an artist who has a lot on the go! What studio materials or ideas are you currently excited to work on? What new experiments are in the works?

MH: So much! I took a break from working with felt during the COVID pandemic and have since returned to it. I started looking at preventative care after I realized my life in art is a life spent standing and doing performances on concrete. Gaetane Duverny said something to me after a recent performance about how I may not want to continue performing on concrete much longer and I wondered "how did she know?" She gets me and totally gets it. For the Toronto Biennial 2024 I am changing my display strategies and reformatting my performances to be versatile on

different floor surfaces. With the felt, I am using different techniques from 2D cut-outs to more hand built sculptural forms which I am exploring for the SWAIA Fashion Show in May 2024. I am pretty excited about it all. I have also been working and building towards some solo projects for 2025-6. My interests are a big network of ideas that flow into each other. Lots of big picture ideas made up of smaller explorations that on the surface might seem unrelated. For example, I have an artist book project about Swans with the Fisher Rare Book Library coming out fall 2024. Who would have thought? How unexpected is that? What can I say, I have vast and diverse interests.

AD: Concrete is certainly hard on the body! Does this mean you are using felt to cushion and protect yourself? Wearable protective gear that you are presenting at SWAIA?

MH: Let's just let our imaginations go crazy with this one!

AD: Ok, I will look forward to seeing some felt on the runway this spring!

Thanks Maria, for sharing your thoughts with me. It has been a pleasure getting to know you and your work a bit better. The network of ideas that you engage with and that you share with your audiences are far-reaching and joyful. I can see why people describe one of your gifts as *maawaanji'iwe, getting people together*. It is an important quality that is likely to lead to many unexpected artistic adventures.

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