The Conduction Series: Live Collaborative Transmission Art across Borders

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Abstract

The Conduction Series is a collaborative live radio broadcast produced by sound and transmission artists across the Americas on Wave Farm's WGXC 90.7-FM Radio for Open Ears in New York's Upper Hudson Valley. The collective comes together on the first Friday of every month at 3:02pm ET using a custom web audio platform. Emphasizing live interactivity and media archaeological methods, our work explores the possibilities of remote sonic collaboration at scale and across borders. This paper discusses the history of and motivation behind our project, and the mixed methods we employ that place the development of bespoke network audio software in conversation with ongoing creative practices in live performance.

CCS Concepts

• **Applied computing → Media arts**; **Sound and music computing**; **Performing arts**.

Keywords

transmission art, radio art, collaborative radio, collage, play, improvisation, archive

1 Introduction

This paper presents the history, motivation, and methods of *The Conduction Series*[1], an ongoing research project in radio and transmission art that currently brings ten sound artists from across the Americas together each and every month to collaboratively produce a live FM broadcast using bespoke networked audio software. In roughly four years, we have made almost fifty long-form broadcasts, producing more than 2,000 minutes of live content that is syndicated on multiple radio stations worldwide. Our intentions with the project are to explore the ludic cross-over dimensions of shared acoustic experiences with an output in broadcast and networked topologies. While there exist a number of networked music software packages, many in combination with group performances and many documented here in Audio Mostly, we believe our total practice is unique in that it combines the regularity of FM scheduled broadcast, our own home-brewed browser software, along with precarious but playful methods of group "togetherness". We offer our documented history, methods, and interpretive results with the hope that it inspires dialogue and future work in transmission arts in the same way that prior art and research has informed our own work.

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[1] https://conduction.wavefarm.org

1.1 Research Question

We start with an expansive question: Given the ever-changing and multifaceted dynamics of techno-mediated transmission, how can a group of people create a networked community across borders and develop a new kind of globally transmitted acoustic space, one that can be discursive and long-form, light-weight and free-form, hyper-local and border-crossing, participatory and autonomous? Moreover, how can we do so in a sustainable and ongoing way that feeds creative cross-border activity over longer periods (i.e. not just the hit-it-and-quit-it method one often finds in research endeavors.)

For us, the answers have been the exploration of playful prompts and scores, a celebration of the emergent quality of improvisation, an interest in re-ambiguating the archive, and a focus on geographically spatialized audio. In any given broadcast, each of us might share our own geographically dispersed on-site audio, speak or perform into a microphone, and/or dig up and play archival audio samples, all within a deeply improvised context. We refer to this network-activated approach to playful and loosely synchronized audio collage as Recreational Aesthetics. Our shared use of Mezcal, the custom browser-based radio instrument we developed, enables us to do all of these things and more. While Mezcal has many features allowing us to connect ourselves and our devices more fluidly than traditional telecasting software (browser based, broadcast-centric, and low-latency at large scale), this paper will focus on the group dynamics and aesthetics of our group's use of Mezcal; a future paper will address the software itself.
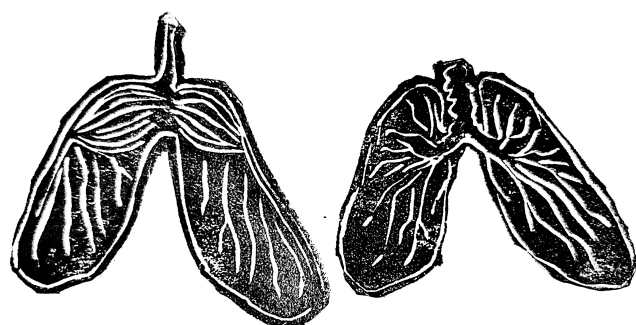

Figure 1: *The Conduction Series* logo is a two image block print of a maple seed and lungs, that speaks to our polar modes of breathful listening and outward propagation. We sometimes operate under the motto "There can be no conspiracy without shared breath"

2 Description

The Conduction Series is a transmission art project that looks to find new expressive and acoustic potential in the overlap of radio, software, mobile tech, structured improvisation, geospatial audio, and networking. The group comes together on the first Friday of every month at 3:02pm. We began broadcasting in 2021 only on WGXC FM in Upstate New York, and now also have regular syndication in Vancouver, Buenos Aires, Valparaiso and Montevideo, respectively on CITR, and Radio CASo, Radio Tsonami and Radio

Monteaudio. While seeking new and creative ways to reorganize acoustic phenomena, time, people, conversations, and geographies on air, we explore the use of play and the re-contextualization of archival audio as methods of collectively discovering new aesthetics and stories out of the disaffiliated skeletons of historical archives.

2.1 Project History

What started mainly as an academic project has now become a performance collective which retains some academic underpinnings but is firmly grounded in the real world of cultural activity. We initiated the project as a way to organize meet-ups between various sound and transmission artists at the University of California Santa Cruz, the University at Buffalo, and the University of Colorado, at a time when we all felt isolated by COVID lockdowns. We sent out a call for participation in September 2021, made a few virtual introductions, demonstrated our bespoke software, and gathered a group of roughly 25-30 interested participants. The director of the internationally recognized nonprofit Wave Farm[4] was an early believer in our project and offered us a monthly broadcast space on WGXC in Upstate New York. We named it "The Conduction Series" as a play on the word 'conduction,' meaning both 'music director' and 'signal carrier' (heat or electrical). We agreed that each month, we would choose one member to act as "conductor" to lead each show and to direct the others online via text prompts and/or (in)formal scores. The very first show was syndicated live on WGXC and in Glasgow, Scotland as part of a radio festival taking place on the occasion and in response to the 26th UN Climate Change Conference of the Parties (COP26). We called this first broadcast "Name Your Disaster!" and each academic node in the network chose a natural disaster from their geolocation as a theme. The result was a powerful fifty-minute soundscape of and about flooding, fires, and blizzards from our then respective geographies of California (UCSC), Colorado (CU), and New York (U. Buffalo); blanketed with ASMR whispers in the rain, roaring and crackling flames, anxious news reports of blizzards and snow, and so on.

Our project has evolved and grown since then. We have made broadcasts with invited guests ranging in age from 11 to 78 and from remote locations including parks, playgrounds, ocean shores, planetariums, and churches. Many of the initial participants have moved on, and we have extended invitations to various sound artists and radio makers outside of academia bringing us to a core group of ten artists across four American nations: Argentina, Canada, Chile, and the United States. We had our first invited and paid performances at two international venues: the TSONAMI radio festival in Chile (December 2021) and National Austrian Radio (January 2023). Another invited presentation of the project took place in April 2023 at the Radio Preservation Task Force of the Library of Congress in Washington DC. In May 2024 we convened our first ever Conduction Camp in Greenville, NY, where we all met in person for the first time and brainstormed future ideas for our collective.

Our objectives with this project are equally aesthetic, technical, conceptual, and social. Exploring themes of feedback, migration, collective aesthetics, low-key and on-site interaction with mobile devices, and remote sonic collaboration at scale, we see radio space as a humble stage where audio can be foregrounded or backgrounded.

Figure 2: The Mezcal interface was designed with mobile first principles. Live microphone input offers a kind of expanded environmental reporting. credits: Alan Koppel Photography (left four images), Hethre Contant (middle two images)

It can be a space that sits like aural wallpaper while you cook and play with your kids, or an intense audio stage demanding audience collaboration. Mixed with everyday networking and mobile technology, it becomes a nimble and discursive space for mixed and varied aesthetics, where voice, samples, and sound operate in symbolic and representational, but also musical and contextual ways. It is a space that attracts truck-drivers and black-clad high-brows alike.

2.2 Mezcal

Within a wide variety of networked audio software that includes OBS, icecast, Zoom, discord, sonobus, PD, max, jacktrip, jamulus, and others, our software is subtly unique in a few ways that we will touch on here only superficially to show how it combines with and affords our telematic practice. First, the software is designed as a service for the browser in a mobile-first and accessible way. Second, a built in search mixed with mic input and an out-of-band text chat afford the kind of media-archaeological and recreational acoustic play we perform. Third, the software is, to our knowledge, the only interface that streams between browsers using low-latency WebRTC and high-quality Opus-encoded audio through a centralized Multipoint Control Unit (MCU) (see Janus[10]) for low bandwidth situations involving multiple participants. Finally, the software is unique partly in that we are evolving it in parallel with real-world creative practices over long periods of development. All of this together has unique compositional, organizational, and aesthetic consequences that we believe are core characteristics of our networked radio output and that we have changed and tweaked over the years.

The browser-based and mobile-first design allows for an accessible, low-friction, and fluid call and response style of audio among multiple geographically dispersed members. Browsers exist on all desktops and mobile platforms. Since Mezcal lives as a 24/7 WebRTC service online, participants can join without having to navigate app stores, or download, install, and maintain localized software over time. Novices can use the built-in mixer interface while advanced users can connect their own software through a virtual audio device (read below). Newcomers, young and old, have successfully used Mezcal for live broadcast. Part of the low-friction is that there is no user sign-in. It works like old-school IRC in that you navigate to the

URL, type in a name, and immediately enter the audio space.[2] Additionally, the mobile-first design creates a form-factor that allows one to think of radio on a smaller, more nimble scale (see Figure 4), allowing one to bring radio making to the beach, to the park, in your purse, while waiting in line, or having your breakfast, etc.

The general design metaphor of our software is the lowly audio mixer with two kinds of tracks - line/mic input (pink) and audio playback (grey). See Figures 2 and 3 for a reference. The input tracks can use any audio device (internal mic or external devices) as well as virtual input from jack, Soundflower, or Blackhole for more advanced users. The playback tracks (grey) allow users to play files from their own devices, streams from the net, or to use the built-in search to play audio files from a number of archives: currently YouTube, Archive.org, FreeSound (field recordings), or Wave Farm experimental radio archive[4]. We are currently working with Kunstradio[1] on integrating their entire archive. This built-in archival search is a central feature of the software and has strongly shaped the media archaeological methods of sound collage we often use in our broadcasts. It should be noted that copyright is ultimately the responsibility of the end-user, but that many radio stations have licensing agreements that allow for audio playback on air.

Each input channel on the mixer, whether microphone or audio, includes controls for volume, panning, and EQ. The resulting mix, coming from all participants' devices, is streamed directly in the browser, and can be syndicated elsewhere via server-side mp3/ogg or RTC streaming. The integrated text chat interface allows one to listen and contribute to the ongoing audio while also communicating out of band. Writing text messages is a small, but key, way that we encourage and connect with one another while playing and mixing.

Using the Janus "audiobridge" MCU as the back-end allows for a scale and character of participation in our real-time radio performances. First, WebRTC allows for sub-second audio interaction. As opposed to mp3, HLS, and DASH streaming formats developed for one-to-many broadcasts that come with large buffers of 10 or more seconds, the real-time nature of this web protocol allows for a dialogical style of interactive performance that can have a very different aesthetic to what one might expect from studio-generated radio. It is not quite "live" enough for jamming with instruments,

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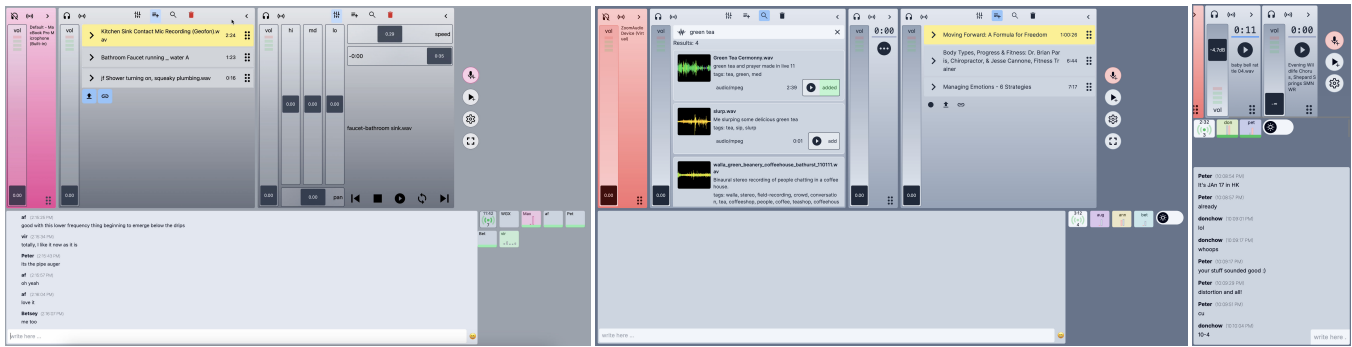[2]There is an admin password to kick/mute unruly or unwanted participants

Figure 3: Mezcal, a browser-based transmission software for desktop and mobile devices. Besides acting as a mixer for mic, line-in, and file based playback, it allows for a frictionless style of collaborative collage - with direct access to multiple audio archives.

but is good enough for mixing non-rhythmically synchronized audio.[3] Second, unlike other peer-to-peer (P2P) technology that requires exponential bandwidth usage with each new participant, the centralized MCU mixes the audio on the server allowing for very low-bandwidth interactivity with more than just bi-directionality.[4] Generally speaking, in a P2P WebRTC network of ten participants, each participant will send 9 streams and receive 9 streams. Using an MCU, each participant sends 1 and receives 1. This low-latency affords not only a more reliable stream, it permits a discursive style that has allowed us to have thirty or more participants participating at once without any technical issues.

Our ongoing practice informs the design of the software and vice versa. We see Mezcal as an expressive instrument for diverse sound and transmission practices, for participatory and open-ended artistic performance, for growing social movements, and for live environmental reporting. It is a core (and not-yet-released) part of our practice that affords our ongoing activity and aesthetic.

3 Related Works

As an ongoing and indeterminate collaboration among ten individual artists that takes place religiously once a month, *The Conduction Series* is informed by too many aesthetic and conceptual projects to fully address in this short paper. Some of the most important influences on our project include the long history of playful textual and graphic music scores, the serendipity and games of Surrealist artists, the fiery utopian energy of Futurist and Dada artists, the geographical meanderings of the Situationists and site-specific sound artists, the liberatory experimentalism of free jazz, the imaginative sounds spun from archival and real-world samples in electronic music of all kinds, and the culture jamming and creation of new forms of "publics" by network and broadcast activists. We see *The Conduction Series* as a continuation of these colorful lineages, but with innovation in how we manage our collectivity and our sonic material for presentation. Below, we group some of the most relevant work into three main sections: emergent structures, transmission arts, and software instrumentation for telematic performance.

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[3]Future versions might include a timing protocol such as Web Timing to allow delay-based synchronization.
[4]The return mix for each participant is N-1; that is, each participant receives everyone else's audio mixed together except their own.

3.1 Emergent Structures

Playful emergent structures and intense listening are at the heart of our broadcast practice. We are interested in alternative structures that allow for collective improvisation. Like the Surrealists of the 1920s, we believe that games question the reasoned order, unlock the unconscious, and liberate creativity, and we have played with translating Surrealist games such as Exquisite Corpse and Automatic Drawing into sonic terms.[7] Two other influences that speak to our use of prompts are Yoko Ono and Pauline Oliveros. Yoko Ono's instructional pieces from the early 1960s, like those compiled in her 1964 book, *Grapefruit*[29], turn instructive words and prompts into artworks imagined in the mind of the reader or listener. Unlike the more deterministic programming of Sol Lewitt's wall drawings, Ono's pieces give shape to ideas one can execute in physical or cognitive dimensions. Pauline Oliveros's music has also been a central influence, particularly her focus on concentrated listening. Oliveros's *Sonic Meditations*, in particular, instructs participants to listen both inside and outside of themselves, sounding out in specific ways, until emergent sonic energies arise in the collective to create emergent structures.[28] Some of our more recent broadcasts draw upon John Cage's approach in his 1952-53 electroacoustic composition *Williams Mix*, in which his 193-page score, a full-size drawing of tape fragments, was described by him as being like "a dressmaker's pattern – it literally shows where the tape shall be cut, and you lay the tape on the score itself."[31] Just as you might use all kinds of differently colored fabrics for a dress, you might use all kinds of different sounds on the tapes; the content is unimportant and unspecified, while the form itself is detailed.

From early musique concrete by composers Pierre Schaeffer, Halim El-Dabh, Karlheinz Stockhausen and Daphne Oram to audio fragments fragmented and reassembled by composers Iannis Xenakis and Paul Lansky to the sound collage of musicians such as Carl Stone, DJ Spooky and Maria Chavez, the history of sampled audio has been quite influential for us. Sound artists such as John Oswald, Negativland and Scanner have a long history of combining sound collage with live and recorded audio input to create long-form electronic audio experiments. Negativland invented the term "Culture Jamming" in 1984 to describe the use of mainstream media to subvert and critique mainstream messaging; their 1991

Figure 4: Early broadcasting experiment that used Mezcal for its mobile microphone. Two mobile phones running Mezcal were taped inside of trash cans, taped to legs, for recording the "sonic footprint" of a location.

release featured a profane rant from mainstream DJ Casey Kasem about U2 backed by parodies of U2's music. In the 1990s, Robin Rimbaud began performing under the pseudo-anonymous name Scanner because of his use of intercepted conversations snatched from radio waves via a police scanner, set to abstract sound collages sampled from the world around him. Because we operate in the public sphere, we also find inspiration in the broadcast techniques of Jenny Holzer, the Guerrilla Girls, and the Yes Men. For example, in our penultimate broadcast of January 2025, we used AI to announce a fake resignation of Donald J. Trump. It was, of course, the best resignation ever. A tremendous resignation.

3.2 Transmission Art

We are also inspired by the Futurist movements of the early twentieth century, the media activists of the 1960s (Radical Software[2], the Situationists, Videofreex[3]) and network activism and art from the 1990s (Xchange[6], indymedia, Tetsuo Kogawa's Micro FM (see Toward Polymorphous Radio [12]), the creation of 'divergent realities' with the free radio movement of Europe such as Felix Guatarri's Radio Alice[30]).

Prior art for our project can be found in the early bidirectional radio theater of Bertolt Brecht, site-specific sound projection and networking pieces by Bill Fontana, the electromagnetic investigations of Christina Kubisch, early radio work by Max Neuhaus, and the telecommunication work of Robert Adrian X. Of particular interest are early work in the early 1990s by x-space in Graz and Heidi Grundmann's Kunstradio, especially the organization of large telecommunication projects such as Zeitgleich, Horizontal Radio, and Rivers and Bridges.[1, 5, 45] It is in projects such as these that one can understand the migratory and cross-border aspects of auditory landscapes in the broader scales of the electronically connected world. The sound doesn't live only in the place(s) you can hear it, but along the trajectories of its various transports such as air, wire, or electro-magnetic modulation. Some of this history is discussed in [21, 24].

3.3 Software Instrumentation

Our bespoke software also forms an essential part of our project. While Perry Cook's principle of "Make a piece, not an instrument or controller"[16] might apply in many situations, we believe that in our situation the instrument and piece are coupled in almost-inarticulate but still perceivable ways. Moreover, our practice is not about the piece or the controller as much as it is about bringing people together in an act of listening and transmitting. Our aim is to co-evolve the group, the system, and the instrumentation all together in a slow simmer over many years.

In this very broad space of distributed, participatory, and network-activated telematic works underscored by designed and systemic instrumentation, we find informative research that begins around the invention of the WWW and is expanded with the implementation of web audio, websockets, and webRTC around 2011. Group-based mobile instruments such as Auracle (idea by Max Neuhaus), Aural, Jamspace, Echobo, Wijam, *12*, Simone, and Pulse Memorial [8, 17, 20, 22, 25, 32, 33, 43] form works from collaborative and distributed audience participation through mobile devices, most with a master interface. Some, like Nexus or Esmeril [9, 19], have a similar interface for live mixing by sending centralized control signals between clients. Others, like Simone or Pulse, focus on distributed but co-located sounding. Lolc [26] is relatable for its text-based collaborative improvisation that can include instrumental musicians. We see our basic chat functioning in a similar way.

Other projects in this line of research are relevant for their innovation in mobile GUI development or experimental mobile participation. Graphical interfaces for mixing audio, such as Mixx, Mmmmm, and Control, have informed some of our design decisions[11, 35–37]. As we often return and replay the feedback of our output stream, we find formal relevancy in projects such as GroupLoop, Fields, and Squidback, and others [18, 34, 39, 44] that invite audience participation in constrained environments with fun, noisy output. We also find Exquisite Score[27] relevant in how it prompts and formalises collaborative composition. We are especially inspired by

experimental transmission software that creates collective "sound dialogues", such as Hear-Here[14] and Open Band [42]. We have similar intentions for opening public space on FM or developing a collective sonic "agora".

In comparison to the above software-based network audio/video projects that focus on various synthesis techniques, jamming, or live coding, the functional aim of our project is perhaps wider and more pedestrian in scope. In that vein, a very early and influential research project that built a browser-based mixer was Userradio[13]. Constructed in 2002 before websockets, UserRadio used the socket capability of Flash to send control signals to custom server software (running a mix of Java and PureData) for direct collaborative mixing on FM.

4 Discussion

We have begun discussing what we do as Recreational Aesthetics, a play on the concept of "Relational Aesthetics," a term put forth by French art critic Nicolas Bourriaud centered on situational and social practice in contemporary art.[15] Our work is recreational in manner, centering on playful prompts and scores to organize our improvisations. Our work is also re-creational, usually somewhat (but not entirely) composed of playfully re-contextualized archival audio samples, which re-create and re-ambiguate the archive into more questioning, utopian, playful possibilities. We also think of what we do as geospatial audio, both in terms of input (our ten participants broadcast live from across the Americas) and output (our radio show can likewise be heard live on radio stations across the Americas, making it a kind of macro-spatialized sound.)

4.1 Recreational Aesthetics

"All play moves and has its being within a play-ground marked off beforehand either materially or ideally, deliberately or as a matter of course. Just as there is no formal difference between play and ritual, so the 'consecrated spot' cannot be formally distinguished from the play-ground. The arena, the card-table, the magic circle, the temple, the stage, the screen, the tennis court, the court of justice, etc, are all in form and function play-grounds, i.e. forbidden spots, isolated, hedged round, hallowed, within which special rules obtain. All are temporary worlds within the ordinary world, dedicated to the performance of an act apart."

Johann Huizinga
Homo Ludens: a Study of the Play-Element in Culture[23]

The Conduction Series is an interdisciplinary gathering to collaboratively play with sound and its social dimensions on an international stage. Our methods of play include playing as the act of exploring the musical and discursive space of layered acoustic phenomena to derive new sonic and transmissive aesthetics, and playing as a shared and emergent activity to foster creativity and social bonding across borders. As a group, we each take turns operating as the 'conductor' of the show. The conductor sends a theme, prompt, or score via email and we each prepare to meet for the broadcast, which serves as a kind of magic circle[5]: different each month but set apart from ordinary life by time (First Friday of each

month, from 3:02-4:00pm EST), place (our Mezcal URL), and the current month's rules (for the specific time and place we all follow the theme, prompt, or score provided by the conductor).

Informed by structured improvisational scores, surrealist games and situationist dérives, each conductor approaches their assignment in a distinct way. Our shows are sometimes purely conceptual, but often try to approach historical or contemporary situations in playful ways. For instance, one of our first shows, "War in Schizophonic Stereo," addressed the start of the Ukraine War by dividing our collective in half and creating a conflict between hard-panned left and right channels. Some suggested conflicting prompts were: dark vs light, dog vs cat, water vs fire, bass vs melody, humming vs whistling, latin vs pig-latin.

Another show, "Swarms, Flocks, Schools, Pods, and Parliaments", began with a more descriptive approach:

> "I was thinking of animal collectivity like swarms or flocks (or schools of fish). A kind of field study of bird patterns or the coordinated chaos of bees zooming in and out of the hive? I like how a flock of birds can suspend time with their graceful connection and then become a crowd of chattering shitting gossips when they land on a tree or some powerlines. Maybe we play with density and pacing, maybe we follow weird panning patterns? Maybe a segment is introduced by a sound of collective animal activity that we riff off of? What are we doing if we are trying to act 'together' vs the kind of 'together' we usually are on the show?"
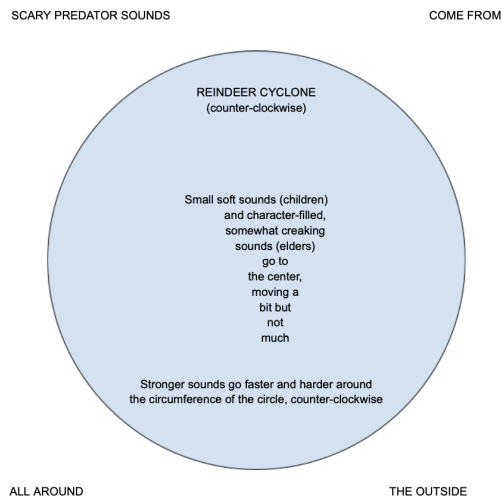

Figure 5: Reindeer Cyclone graphical score sent to all participants, February 2025

There are also sometimes (in)formal graphic scores, like February 2025's "Reindeer Cyclone," (see Figure 5). This broadcast used writer Rebecca Solnit's political metaphor of a reindeer cyclone[41], an animal behavior in which the strongest reindeer run in circles around the outside of the herd, protecting weaker reindeer within from oncoming predators, as a guiding principle; each player of our collective acted as a predator, strong reindeer or weak reindeer, and

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[5]The "magic circle" is a widely recognized concept in game studies and represents a space and time where the ordinary rules of the world are suspended and replaced by the special rules of the play-world. The concept was introduced by historian Johann Huizinga in his book Homo Ludens: A Study of the Play-Element in Culture (1938).

spatialized their sounds using both spatially located microphones and binaural panning accordingly.

There's a deeply emergent quality to our broadcasts arising from the intense co-listening required of our ten geographically dislocated players. There are times when only one or two people broadcast sounds and the rest listen and respond to the emerging sonic form; because of this emergent quality, there is only so much preparation that can be done in advance. Whether we respond instinctively with our voices, bodies or instruments over microphones or quickly search for that perfect bumblebee hum through the archive, the liveness and freedom implied by our playful prompts means that forms and structures can and do change within any particular broadcast. This emergent quality is also shaped by the software we have thus far used for our broadcasts, Mezcal. We cannot see one another, and can only hear one another publicly as part of the broadcast. However, the text chat function built into the software serves as a kind of backstage green room for our group. We discuss how things are sounding, crack jokes with one another, attempt simultaneous changes via countdowns, and occasionally troubleshoot technical issues or decide to move in a new direction. This chat is largely where we get to know one another as distantly located friends and co-conspirators and contributes to our sense of ourselves as a group. Without it, our broadcasts would be much more constrained and pre-ordained; the playfulness and camaraderie that come out of these chats is largely responsible for the trust we have to improvise and emerge with wildly divergent structures.

4.2 Re-Creational Aesthetics

"To be playful is to add ambiguity to the world and play with that ambiguity."

Miguel Sicart
Play Matters[40]

The thematic element has become a major part of our improvisational structure. We consider our practice to be not only Recreational but Re-creational, that is, reassembling fragments of audio archives into new, playful, more ambiguous forms. One of the primary affordances of Mezcal that has shaped our aesthetic is its built-in search function, allowing us to within seconds search for and broadcast archival audio samples from Archive.org, YouTube, Wave Farm, and Freesound. The ease with which this can be accomplished makes for invigorating broadcasts.

For instance, inspired by May the 4th in 2021, and under the title of "The Final Frontier," we explored themes of space and colonialism mixing synthesizers, noise, atmospheric cacophony, and choice samples of 70's funk. In another show that took place on the anniversary of the day Andy Warhol was shot by radical feminist Valeri Solanas, we paid homage to the event under feminist terms and the title "'In Recognition of Their Desperation' or 'I Shot Andy Warhol' or 'Radical Feminism'". One participant started off with the sounds of heavy hands on squeaky typewriters: "TaddaTad-daTap!" Another almost immediately chimed in with the sounds of knives sharpening: "SwwhhhhhissssSwhisssss!" As these sounds and others reached climax, another participant came in with various spoken word readings of Solanas's S.C.U.M. manifesto (The Society for Cutting Up Men).

December 2023's "The Sun! (El Sol)" was performed and broadcast live at the Bogotá Planetarium, and consisted of all kinds of space and VLF and high-frequency noises. The prompt was:

> "The Sun is the supposed center of our universe. It's maybe the one main thing you are not supposed to look at, at least not for too long (like medusa and light from an arc welder). It transmits energy (and life) to all of our planet. It determines transmission situations for long-distance radio and supposedly this year is a good one. Newspapers name themselves after it. Deities such as Ra, Helios, and Huitzilopochtli draw their entire personas from it. Billions expose their skin to worship it daily."

Play and storytelling are natural human responses to the objects that surround us. In the 21st century, we find ourselves surrounded by – some might say drowning in – a multiplicity of media. By picking up, playing with, and rearranging fragments of archival audio, we can tell new stories and create new forms. By doing so together, we form a community. By doing so live on air, we emphasize our broadcasts as temporary, speculative offerings which momentarily suggest new possibilities before fading into new sounds.

4.3 Geospatial Audio

Global cross-border transport is another larger and somewhat invisible framework that this project embraces through its geo-distributed players. While humans have been signalling to each other and to the universe since the dawn of paint-on-rock or smoke signals, new media transports open new dimensions of this signalling. With the discovery of electronic propagation through terrestrial broadcast or wired connectivity, audio no longer exists as only a physical event, but as a virtual concept that can travel.

In the broadcast era, where nations met along geographical borders, there were invisible yet strong tensions over content. Sometimes this was enhanced when the languages were the same. For example, former inhabitants of East Germany (DDR) were pressured not to watch West German television. Another example that continues today is along the Canada-USA border where Canadian cultural entities attempt to protect themselves from the emissions of the USA, mostly through cultural subsidies. Even when languages differ, cross-border transmissions are often antagonistic in various dimensions.

These border tensions did not disappear with the invention of the internet. In fact, despite experiencing a retraction from the over-excitement of global connectivity that we experienced in the 1990s, the current political climate is experiencing receding interest in cross-border activity. The left of the political spectrum sees open borders as a dangerous ploy to pillage cheap labor or extract resources. The right see borders as the only way to protect their coveted national heritage. In contrast to this reactionary climate, we see value, however small, in the sculptural and geospatial component of electronic transmission.

While the internet allows for globally accessible and centralized content "zones," such as Spotify, Youtube, and Soundcloud, that mix the output of various language, cultures, and heritages in one setting, we see our project (small gesture that it is) as one that mixes

the input. Through growing syndication we are also geo-spatially distributing our live and recorded output.

5 Future Work

The Conduction Series plans to continue our monthly broadcasts indefinitely into the future. In May 2024 we met in person for the very first time for a week-long gathering, Conduction Camp, where we brainstormed, cooked, and most of all, played together. Many ideas for future directions arose during this time. Although the re-creational aspects of our performances are a big part of who we are, the group as a whole agreed that we had tilted a bit too far in the direction of thematic sample-based improvisation, and that it might be rewarding to explore more formal approaches using our voices, bodies, and geographically dispersed soundscapes. In small group sessions, we came up with dozens of new prompts and directions for future broadcasts, and found growing interest in games with explicit rules, site-specific, microphone-based sound, and language and storytelling. In addition, being together in the same physical space gave us lots of ideas for projects that require co-locative collaboration. Obviously, these ideas cannot work for our monthly geographically dispersed broadcasts, but might be exciting for in-person performances by our collective.

For example, **A Moveable Hum** suggests that we move together as a group, humming into our phone's microphones in Mezcal, riding and playing with the feedback, and continuing until it feels like the piece is done, then returning in silence. **Once Upon A Time** begins with one person saying "Once upon a time..." and continues with each player adding to the tale with 1-3 sentences, and then passing it on to the next player. Those not speaking provide ambient sound/music/foley for the story. At the end, everyone says together, "The End." **One Sentence** proposes that the group select a text, and then create a performance using only the text itself – as concrete poetry, in any order, sped up or slowed down, read as data, as a graphical score, heavily processed as ambience – to create all sounds. These ideas are just a few of many potential directions for future Conduction Series performances.

Although Mezcal has greatly informed our aesthetic, we are also open to using other software, so long as it allows for the concurrent broadcast of geospatial sounds, and even creating further custom software to accomplish particular projects. We are open to public performances outside of our usual broadcasts. We are open to participatory projects with audiences contributing to our audio stream. We are open, we are playful, and we are free.

6 Conclusion

"La forma del *aquí-en otra parte me parece que abre un nuevo mundo, el mismo que vivimos: tecnológico y científico, existencial y social.*"

<div align="right">

Michel Serres
Hermes II: La Interferencia[38]

</div>

The Conduction Series is an ongoing free-form telematic performance group with unique software and specialized, but evolving and open-ended, methods. In this paper, we introduce the concepts, motivations, and inspirations for our research, and express some way of understanding our process of discovery and results within aesthetic or activist terms. As an auto-ethnographic survey, we

end with a few quotes. In contrast to more typical research that generally emphasizes engineering innovation, we believe our slow-moving methods that evolve over years on a rhythmic basis of radio scheduling can offer a new way of thinking about not only long-term design innovation at incremental scales, but also methods of practice that involve the habitual and contextual with the avant-garde.

On the topic of our process, one member describes it as "... going in different directions in the same way - or - we are all going the same direction in different ways" Another sees it "... as a space for like-minded audio termites to play a communal game of 'have you got it yet?' whose rules change constantly. " Yet another say the process is "...challenging, humbling, surprising, frustrating, sublime, enlightening, and ultimately fulfilling."

On the topic of our individual experiences as a divergent group, one member says that the "... condition of active listening and responding never fails to teach me something about how to work with others, which are often lessons that can extend beyond the contours of the shows themselves. " Another member says the experience "... is an opportunity to learn, share, and also to lose myself a little bit once in a while too. Builds beauty, resilience, resistance and community."

Ultimately, the Conduction Series is about an odd form of togetherness. It is about "...how we can generate narratives here-elsewhere. Being together and apart." It is about "Beings in times."

7 Acknowledgments

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