Predictive Policing:

a Case Study

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Abstract

This project hopes to highlight a moving, multidirectional story about acoustic surveillance tools and how they are used to predict and conduct the future. I focus on ShotSpotter Inc's occupation in Chicago, which has grown omnipresent following the signature of the city's current contract with ShotSpotter for \$33 million in the summer of 2021, lasting through August 2023 (Del Vecchio and Chapman 2022).¹ Chicago is now blanketed with microphones and Strategic Decision Support Centers ("SDSC's") installed to 21 of the city's 22 police districts. (Ibid and CBS 2020)². Chicago accounted for 14% of ShotSpotter's total revenue in 2021, as the company's second largest customer (MarketScreener 2022)³. Activists in the city have protested this relationship, especially after ShotSpotter acquired predictive policing company HunchLab in 2018.⁴

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¹ShotSpotter conveniently provides tips to get funding for itself including asset forfeiture funds... https://www.sh otspotter.com/system/content-uploads/SST-Funding-Datasheet.pdf. Luckily, Chicago should have no trouble with that, given widespread civil forfeiture funds feeding a giant blackboxed budget for CPD including surveillance equipment https://lucyparsonslabs.com/projects/assetforfeiture/

²The Reader and Lucy Parson's Lab's "analysis located more than 750 apparent ShotSpotter devices spread throughout the city, including in districts the CPD has not publicly acknowledged as having them." (Del Vecchio and Chapman 2022)

 $^{^{3}}$ In 2020 and 2019, Chicago was ShotSpotter's biggest customer, accounting for 18% and 20% of its revenues from those years respectively (MarketScreener 2022).

 $^{^{4}}$ HunchLab is a crime-forecasting technology that relies on "historical crime data, . . . current and future indicators" to "forecast potential crime incidents based on specific locations and times" https://www.shotspotter.com/press-releases/shotspotter-announces-acquisition-of-hunchlab-to-springboard-into-ai-driven-analysis-and-predictive-policing/

Legislation in Illinois has yet to adequately grapple with advanced acoustic surveillance and predictive policing techniques, further ripening this moment for this dialogue. 5

This project is not a study of the borne and exacerbated ills of ShotSpotter's collaborations with Chicago Police and their rise of their technocratic methodologies, nor is the project much concerned with ShotSpotter's credence as a technology that is successful even by its own objectives.⁶ Rather, this project is an experimental inquiry into how our futures may be patrolled by means of acoustic capture and prediction. I explored this by placing ShotSpotter's approach in contrast with other shapes and styles of listening that nurture the past, present, and future.

Framework

My engagement with these issues comes from an abolitionist perspective, with goals to end violence and collectively work towards joy and liberation, which necessitates dismantling the current systems of police, prisons, and other capitalist and techno-enabled carceral infrastructures. As long as ShotSpotter's existence means strengthening the institution of policing whether by increased funding or other prowess like ability or knowledge⁷ contained by the state, then it is complicit in perpetuating violence. We are all stakeholders in this world, but some people suffer disproportionately from abuses of power, particularly people of color, especially resource-deprived Black and Latinx folks in Chicago.

The Amicae Curiae brief filed by the MacArthur Justice Center and several community organizations in the city points out that the deployment of police triggered by ShotSpotter alerts (whether "false positives" or not) creates dangerous, high intensity situations where police come in expecting to find someone who has just fired a weapon (Illinois v Michael Williams 2021). These deployments construct paranoia of the entire area, where residents are regarded as presumptive threats, and are likely to be targeted by police (Ibid). I want to be sure to mention this violence here as this project does not bring to light these scenarios in great detail, but the disregard for sanctity of human life by the state is the driving force behind my research. This project is concerned with illustrating how a surveillance technology, traditionally critiqued for being too present and pervasive, is truly rooted in absence, which facilitates its failure.⁸

Methods

I tried to use methods that reflected the research and story best in concept and form, and avoided feeding back into the problematic infrastructures I am critiquing.¹⁰ As I chose to study acoustic listening, one method I chose to use was interview, the process of posing questions and receiving responses. I am skeptical of the obsession with new technologies that claim to provide objective and complete knowledges, and tried to avoid rampant information acquisition and data mining. A tool I used for bundling and understanding existing data was are.na, a platform for connecting information in a web rather than viewing it linearly, hierarchically, or otherwise in isolation. I made a channel to hold research, questions, and thoughts concerning this project that can be viewed at are.na/my/soremo-thought-channel - a couple of screenshots are below.

⁵Santa Cruz is the only city I came across that passed an ordinance explicitly (but kind of vaguely and simply) banning the "use of data to predict where crimes may occur," and given this it's hard to see what a good example of legislation would look like https://www.latimes.com/california/story/2020-06-26/santa-cruz-becomes-first-u-s-city-to-ban-predictive-policing

 $^{^{6}}$ Plenty of people have discussed these issues in their own research and reporting, some of which can be found in the bibliography and the are.na channel

⁷That being said, some technocrats believe that tools like ShotSpotter will actually decrease the influence of police by virtue of precision, which I do not grapple with in the project specifically, but ultimately have to deny on the basis of empirical expansion of funding and deployment of police so far.

 $^{^{8}}$ As Ruth Wilson Gilmore says, "Abolition is about presence, not absence. It's about building life-affirming institutions" (brown 1)

⁹Indeed as Sanjin Ibrahimovic of Lucy Parsons Lab tells me, "[ShotSpotter] doesn't change the way we look at the societal phenomenon of crime at all- it doesn't question that crime comes from entrenched poverty and racism and bigotry- it just says oh here's an APP to help us catch more criminals. Fuck that."

 $^{^{10}}$ Nevertheless, this project was conducted using major global technologies and with institutional support, and in other ways was far from utopic.

Another method I came across was rhythmanalysis, which provided the basis for understanding rhythms of social life that "reflect and reproduce intersectional power categories . . . rhythms represent lived uses of space and times" (Reid-Musson 2018). The technique instructs using one's own bodily rhythms in order to observe ones outside (Henriques 2020), leading me to consider how this technology interacts with the human body and reverbates with it and outside of it. For the writing style of the project, I kept to a form that was similarly tuned to the shapes and narratives I was finding in my research (waves, spirals, errant drifts), rather than a traditional academic linear or predictable form.¹¹



Highlights and Themes

As this project resisted the accrual of information for the sake of my analysis, instead of "key findings," the concept of the project would allow for any reader to intercept a different illustration from the series

 $^{^{11}}$ JJJJJJerome Ellis tells that "Du Bois begins each chapter in The Souls of Black Folk (1903) with lyrics and a few bars of musical notation from spirituals. With this gesture he makes the page vibrate. He contraposes the vibratory nature of music with the essentially lapidary nature of writing" (Ellis, The Clearing 2020).

of wavey, filtered, interrupted, edited, and translated acoustic interviews, that have been spliced with and into traditional research. For the sake of this Technical Report, I will furnish three broad and interrelated learnings. First, I gleaned that there is no such a thing as objective listening. There is a filtration routine applied in all listening whether it's ShotSpotter or a bat or DJ. This filtration routine naturally influences what is heard, coating it in acoustic syntax. Following this idea of precision as inherent exclusion, I consider themes of motion and directionality in the project, thinking about how what we listen to now, and how, burdens the analysis we can draw later. Finally, I'll describe other engaged listening practices, to show how a lack of reciprocity and feedback in ShotSpotter's hearing contributes to its position of absence at a time when presence is urgently needed.

Technical Details

I began this project in February 2022, and as male nightingales cease their nocturnal songs, having paired up by the start of June, I am not finished. I will continue studying these themes and rhythms, relying on the methodologies I've mentioned and others over time. I am disappointed with the amount of interviews I was really able to conduct in this period- I think I was a bit over ambitious. Maybe these are conversations that need to occur over a much longer stretch of time. Some might call interview an extractive data collection process, by which a question is asked, an answer retrieved. The method can be depersonalized and formulaic. I tried to approach it with a beginner's mind¹², but ultimately fell short in conducting enough in-depth interviews to assess the success of my methods. Coordinating with people synchronously, rather than other methods of research that can be done with pre-published sources, was more difficult than expected. In some cases, I still tried to dwell in the silence on the other end of my questions. For example, I was given the opportunity to indirectly interview specific employees of ShotSpotter through a PR person after proving myself to be unintimidating on a couple of calls. Despite this, once I shot my questions forth, I was only ingratiated with a generic statement on behalf of the company - no employees outside of HR answered. Reflexively, I might turn the written chain of emails I have into an mp3 file instead.¹³ I was interested in speaking to people across a broad range of disciplines because listening is, in one way or another, a universal practice. I am curious about the different ways people may be doing it between fields like biology, engineering, and community organizing. I asked certain questions multiple times¹⁴ and others were tailored specifically for the person responding based on them and what I knew of their work.¹⁵

Highlights

Extracting concrete conclusions from my project for the sake of this report is difficult but I will now nonetheless have a go at conveying the three learnings mentioned that underline the project. They wave into and out of each other, so please don't take the headings for standalone edicts.

 $^{^{12}}$ "Shoshin (初心) is a word from Zen Buddhism meaning "beginner's mind." It refers to having an attitude of openness, eagerness, and lack of preconceptions when studying a subject, even when studying at an advanced level, just as a beginner would." https://en.wikipedia.org/wiki/Shoshin

 $^{^{13}}$ Inspired by prolific musician Nate Amos of many bands who replied in an interview from Water From Your Eyes, "I think the big thing with Rothko is f***** with the perception of time. His paintings do that for me. . . . I would take super high-def .jpegs of his paintings and turn them into raw data, and then turn them into audio files." Nate told me the paintings got him to play with distorted duration, contributing to the album's extreme song lengths, "how long someone may spend breathing a piece is definitely relevant" https://www.npr.org/2021/08/24/1029742680/they-broke-up-but-then-this-brooklyn-post-punk-duo-made-structure-from-chaos

 $^{^{14}}$ For example, I asked nearly everyone to describe their listening practice, and for those who could only respond by email, to describe what they were hearing as they typed back to me.

 $^{^{15}}$ Questions I am still generally and deeply curious about (and if you are anyone on Earth reading this report and feel like answering, please email me at smallbellcollection@gmail.com or give me a ring at +18473228169) are: How often do you find yourself surprised? What has surprised you recently?

1. Listening to sound through a constructed filtration routine is not an objective practice.

Deep listener and composer, Pauline Oliveros, responded in an interview, "We cannot turn off our ears – the ears are always taking in sound information – but we can turn off our listening. How you're listening, is how you develop a culture and how a community of people listens, is what creates their culture." CEO of ShotSpotter, Ralph Clark responded in an interview "Ambient noise is our enemy, we do everything we possibly can to suppress it" (New 2018). Indeed, ShotSpotter's mechanical ears only perk up to pops, bangs, and booms, quick and high-intensity sounds that they learn to anticipate (Wasney 2018). In an anonymized statement response to me, ¹⁶ I'm told that the filter applied to sound is designed to seek out rupture and violence, and that the method keeps ShotSpotter from bias.

However, I learn from Norman W. Long, a sound artist and composer, while we pace a gusty Marian S. Byrnes Park on a winter morning, that acoustic manipulation is not neutral. Inspired by King Tubby and Lee "Scratch" Perry, who highlighted rhythms or vocals from recorded sessions, fading them in and out with elongated echos, memorials of sounds, Norman identifies the filtration process of sound as a way to redefine space. He pushes back against the idea of objective field recording: just like with visuals, "There's a photographic syntax. What you're looking at is filtered through a particular context or process. That's what I do as a sound artist." Likewise, this project highlights how the routine one designs to filter sound, determines the truth extolled from the product. In ShotSpotter's case, the proposed aim of the routine is to be precise. This "precision," is what Sanjin Ibrahimovic from Lucy Parsons Lab questions: "The suggestion by tech-fetishists and police sympathizers that introducing more technology in policing means we won't have as concentrated bias in policing and that there is more 'precision' is ludicrous, to say the least. Precision in what? Targeting poor people of color and harassing them for petty offenses because our tech told us that they'd be loitering on this street corner?" I'm not suggesting a blanket surveillance system that listens to all sounds, ebullient and dramatic and dull. Nor am I after some kind of subversive project to zoom in to sounds of joy emanating from a place in an attempt to treat that place with more respect. I only identify, in response to ShotSpotter claiming their precision is what keeps them from bias, that choosing to be precise, and the way one goes about developing that precision, is bias. Listening to and stretching out exclusively violent sounds is inevitably going to construct an echo chamber narrative of an environment that is, in reflection, violent, and trigger responses to it as a place of that type of sound only.¹⁷ Generating police beats from these results creates a straight line from that initial moment of intensity, into future paranoid deployments. Sanjin from Lucy Parsons Labs tells me, "ShotSpotter as a technology- abstracted from its actual deployment in our real world- is not a neutral technology. Its entire construction was based on a view of the world that needs safeguarding- one in which we are already subjects to be monitored." It is worth questioning what is holding our attention, sonically, when we make imaginations of the future. "Listening is directing attention to what is heard, gathering meaning, interpreting, and deciding on action" -Pauline Oliveros on Quantum Listening, 1999.

2. Prediction based on this subjective listening denies errantry and opacity of one's future

As famous future-predictor, Octavia Butler, warns, "Some of the most mistaken predictions . . . are of the straight-line variety-that's the kind that ignores the inevitability of unintended consequences, ignores our often less-than-logical reactions to them and says simply, "In the future, we will have more and more of whatever's holding our attention right now." . . . predicting an impossible state of permanent prosperity

¹⁶Initially the questions were posed to Rob Calhoun, ShotSpotter's Founder and Principal Engineer about the filtering routines he wrote to discard unwanted frequencies and to Gerard Tate, Director of Community Engagement. I was wondering about how the routines impact the company's ability to be predictive, when it only has data from the worst, impulsive sounds that happen on a street. From a "community engagement" standpoint, I wondered how the company grapples with eliminating sounds of peace, birds, joy, life, in drafting the acoustic landscape for pattern analysis for a neighborhood.

¹⁷From Jackie Wang on PredPol, a similar technology to HunchLab which is what ShotSpotter acquired: "Using methods that are inscrutable to citizens who do not have access to law enforcement knowledge and infrastructure, PredPol is remaking and rearranging the space through which we move. That is the nature of algorithmic policing; the phenomenological experience of policing is qualitatively different from "repressive" policing, which takes place on a terrain that is visible and uses methods that can be scrutinized and contested." (2017).

may well be an act of fear and superstitious hope rather than an act of unimaginative, straight-line thinking" Something I was interested in during this project was the shapes and paths of sounds and their listeners. ShotSpotter's prize technology is a system of triangulated listening devices that allow the surveiller to locate an object between several microphones as the sounds of the impulse travels through space. This process is known as "directional listening" - if a gunshot can travel in only one unwavering direction, then listening through that straight-lined path along multiple sensors helps to identify the sound as a gunshot as well as locate it in spacetime. This spring, all around me, ancient ferns were unfurling their spiraled fiddleheads, curling themselves outward. Perhaps we can look at ShotSpotter listening in a straight line, but commanding results that curl together a spiral, with each subsequent turning, turning onto and over where it has already been, expanding.¹⁸ Recording is a method of preservation, but it's not frozen, it's going to be fermented in and spiraled by that subjective syntax from the filtration and highlighting routines. In this way, a recording both confines a moment or sound, and cascades it forward infinitely, picking up contemporary attitudes and impacts as it goes. Whether the predictions that ShotSpotter's data enables end up coming to fruition, it is the arrogance of the premonition in the first place that I think is problematic, terrified of surprises, of errantry and deviance, innate human qualities, features of freedom.¹⁹ Driven by this fear, predictive policing generates its own outcomes, fulfills its own prophecies. Beating²⁰ and anticipating danger, nerve centers and police are trained to respond to sounds, places, and people with physical alertness and expectation, creating a sonic somatics of fear to carry into the future. The life of sound under ShotSpotter's auspices has no opportunity to die, to be extinguished because it feeds itself. It reminds me of Norman's community memory practice ledged in guided soundwalks, how his recorder was not necessary on those walks, only the actual forward movement through space and time. Grounding himself while he ambles, he listens "to the closest sounds, and how I am affecting the sounds, whether it's my footsteps, or what's going on around me. And then as I'm walking I'm noticing the changes from where I was to where I am and to where I'm going. There's a sort of order to it." This is an involved practice, one that builds the future, rooted in both time and space, rather than generating it. Writer, professor, interdisciplinary artist, and DJ, Tao Leigh Goffe, beautifully illustrates one context: "Sonic reverberations form communities through antiphonal registers—the call-and-response of the Black diaspora. Sound bathes and soothes. Sound is elongated until it eventually dies. A visceral experience, our bodies feel the clash of sound, multiple sonic channels in competition, mono or stereo rituals of sound. Our bodies are the filter Sonic negative space, silence defines through its absence. Far from emptiness as it tends to be read in Western cultures, absence is form. Forgetting, like silence, is necessary for the formation of memory." (2022) ShotSpotter and HunchLab's collaboration is using sound to predict and administer the future in one direction only. After ShotSpotter detects a gunshot, the translated shot gets logged in a database used for crime statistics and predictions. This data trail plugs into risk models feedbacking into expanding logics of policing, and then the whole system is integrated into existing abusive power dynamics (Merrill 2017). I told Rob Calhoun, Principal Engineer and Founder of ShotSpotter that I am interested in how using source location via acoustic multilateration, can construct a space, using the patterns of sound to visualize objects and their surroundings. Worried about the architecture determined by prediction (not even because the data is wrought to begin with, but because creativity and collaboration are refused in the process²¹), I asked, to no reply²², "do you see the technology as a mapping tool? What do you make of the ability of something that listens, presumably passively and reactively, to actually demarcate

 $^{21}\mathrm{I}$ like to be surprised.

¹⁸As bioacoustician Bernie Krause points out, "Hearing . . . is almost entirely physical; component parts of our being respond to incoming waves of air pressure, oscillating in cyclical patterns that are transformed into meaningful signals, indicators that are life-affirming and comforting, or irrelevant, or predictive of danger. Every living organism produces some kind of signal. Hearing those impressions, however faint, either completes what we see or supplants seeing entirely" (Haskell 2022).

 $^{^{19}}$ New UChicago modeling touts 90% accuracy in predicting future crimes one week in advance (July 2022). Lead researcher Ishanu Chattopadhyay says "The past does not tell you anything about the future. The question is: To what degree does the past actually influence the future? And to what degree are the events spontaneous or truly random? Our ability to predict is limited by that" (Verma 2022)

 $^{^{20}}$ ShotSpotter ascribes the SDSC's as having "real-time situational awareness," an alive intelligence.# This purported deep presence, tuned into moments of intensity, contributes to the narrative of place ShotSpotter can derive. Acoustic ecologist, Gordon Hempton, in an interview with Krista Tippet responds, "[Quiet places] calm us. . . This happens in nature when a deer, for example, has to drink out of a creek, and then the noise of the creek blocks its ability to make surveillance, so it tries to compensate quickly, with glances with its eyes, and then it drinks. And then it moves back into a quiet place so it can continue to be secure."

 $^{^{22}}$ None of the questions posed to ShotSpotter employees outside of HR were responded to besides an anonymized generic statement covering the gist of the questions without engagement

and forge space?" I asked Ginger Ammon, Manager of Incident Review Center, who spends time analyzing sensor patterns to determine directionality, "do you see each pop, as predicting the following pop? What is an example of a pattern you might notice?" I wanted to learn how sounds are isolated or extended, stopped and slowed or lengthened into infinity, how what we hear influences what we think comes next, and how those patterns could be subverted, or left in privacy. To encourage an extra sweet future, the crown of rhubarb can be deprived of sunlight. Forced to grow in the dark, sugars head into the pink stems rather than gigantic leafy roofs.²³ Ki has to be harvested by candlelight, where human witnesses hear the rhubarb's rapid upward growth in crackley stems that rub against each other in near-darkness.²⁴ Our futures should have the right to opacity, to be unknown, to have directions that are enshrouded in darkness. Revolutionary poet and philosopher, Édouard Glissant describes a Western quest for transparency by commenting, "to grasp contains the movement of hands that grab their surroundings and bring them back to themselves. A gesture of enclosure if not appropriation." If surveillance is a necessarily uncovering tool that challenges opacity in the present, then data collected by this force used in prediction technologies implicates our rights to a mysterious and uncertain future.²⁵

3. Present listening requires feedback and engagement

To wake up for his studies "at" midnight, King David hung a lyre over his bed (Berakhot 3b)²⁶. The north wind would breeze through at midnight, rattling the properly positioned harp's strings, and subsequently alerting him to rise with its song (Ibid). This duet of air gust and probably some kind of animal gut, conditioned to a certain time and place, played for David, ephemerally blows into his slumber and alters his physical state as he reaches for exactitude.²⁷ Fostering precise sound can be an act of care. This alertness to vibration and to time is made as part of David's devotion to study, and also can be seen as a sort of surveillance of wind, as David converts what is inaudible, invisible, into an alarm clock for himself by providing a place for clash, for knowing when it is otherwise impossible to know. A condition to present listening is sonic feedback. "Stuttering, disabled composer, performer, and writer"²⁸ JJJJerome Ellis posits that "For us to perceive [sound], the . . . waves emitting from the source must make our eardrums vibrate . . . We have to be moved by sound to listen to it. One could argue that there is reciprocity in what happens there: a sound is emitted, and police are sent to the source. However, when I think about deep listening, I think it requires presence not just as a ping-pong response, but as a part of an ocean of waves without a beginning or end. For listening to be reciprocal, there needs to be presence even before the impulsive sounds, as well as in between them, in the silences. What I'm trying to do is the abolitionist argument that we ought address the roots of suffering in our communities with relational, deep, and present listening. Without this kind of listening, that depends on feedback and engagement, ShotSpotter cannot invest in reimagining the world because they are not in a consenting relationship with it.²⁹

Linearity lacks the reciprocity necessary for relationship building, as it denies the possibility of return.³⁰ To

²³Ki/kin are potential pronouns for living beings of Earth pitched by Robin Wall Kimmerer https://www.yesmagazine.org/is sue/together-earth/2015/03/30/alternative-grammar-a-new-language-of-kinship

 $^{^{24}}$ A wonderful description: "At first there was a pop, then a mesmerising sound that drifted through the air like crackling wildfire. An unfamiliar snap and fizz echoed from the inky blackness, followed by another wonderfully alien noise and a phantom whisper of gently rustling leaves. "Listen," Janet Oldroyd Hulme murmured excitedly. "This is the moment of reckoning.""

 $^{^{25}}$ I believe that indetermination is key to humanness, and cybernetics attempt to reductively create order and patterns. From Wang in "The Crisis of Uncertainty": "In the age of "big data," uncertainty is presented as an information problem that can be overcome with comprehensive data collection, statistical analysis that can identify patterns and relationships, and algorithms that can determine future outcomes by analyzing past outcomes. Predictive policing promises to remove the existential terror of not knowing what is going to happen by using data to deliver accurate knowledge about where and when crime will occur. Data installs itself as a solution to the problem of uncertainty by claiming to achieve total awareness and overcome human analytical limitations. As Mark Andrejevic writes in Infoglut, "The promise of automated data processing is to unearth the patterns that are far too complex for any human analyst to detect and to run the simulations that generate emergent patterns that would otherwise defy our predictive power.""

 $^{^{26}}$ Discussion of what David says in Psalms: "I arise at midnight to praise You for Your just laws." (119:62) $^{27}\mathrm{Saying}$ "at" midnight, the Rabbis interpret, means he knew exactly when midnight was by this method

 ²⁸https://twitter.com/jjjjjeromeellis?lang=en
²⁹So far the districts hosting the first two SDSC's in Chicago "have more complaints made against cops than almost all other districts" - quite the feedback (South Side Weekly, 2020). Consent is impossible in carceral geographies.

 $^{^{30}}$ If we're going to distinguish the walking interview with Norman from what was outlined as directional listening, then maybe we'd say there are moving listeners and moving sounds, time passes without being held captive and both parties are in one

ground themselves in space, bats "emit ultrasonic noise and listen for its return (echo) to judge the location of objects" (Szczys 2013). Audio expert, Pat Brown, confirms this, describing that "most of the sound heard by any listener gets there only after many, many interactions with the room's surfaces. Each reflection modifies the sound a bit, and after several interactions, it looks nothing like what left the loudspeaker in the first place. The room places its own signature on all sounds radiated into it, which can either enhance or corrupt the sound" (Shure, n.d). ShotSpotter attempts to bypass this contextual approach by claiming that the sounds it picks up are objective, ignoring the root causes of suffering even if the sound was uncorrupted.

Returning to rhythmanalysis, I'm curious to learn about how one's movements through a landscape can be giving, and how that can achieve deep listening. As Norman writes elsewhere, "I think there are certain practices where sound can shape/change a community. These practices are best used to complement other strategies of awareness, direct action, or delivery of services. Soundwalks are helpful in analyzing certain sites and their conditions. Like historic preservation, open space conservation, noise pollution. It can also be used as a self-care technique (Walking Meditation) in community programs dealing with violence, abuse, and PTSD" (Rose 2021). Likewise, continuing to try to explore somatics, I asked Ginger Ammon, "How does predictive and precisioned listening to disruptive sounds plucked out of their contexts impact you with the pops and booms and cracks? What do you make of silence?" I wanted to know how the person listening is impacted by the waves heard.³¹

I hope to keep coming across and seeking community listening practices, learning how sound within groups addresses suffering and enabling connection, belonging, and liberation.

This project was completed as part of a SoReMo fellowship within the Illinois Institute of Technology (the University unabashedly works with police and was actually the springboard for a recent failed predictive policing project in Chicago, infamous for the Strategic Subjects List) and I was paid a \$3,000 stipend.

License

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Acknowledgements

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This bibliography only reflects sources mentioned in this Technical Report and not in the project which excludes the full interviews performed. For full quips and readings and tangentially related thoughts, I would source the are.na page I wove for this project.

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environment together. Norman and I emit sounds from our mouths, and wait for a response back. This is not so different from bats developing spatial awareness as I learned from Brittany Rogness, a mammalogist with the Illinois Bat Conservation Program. When I ask her how bats imagine a real physical space using sound, she types back to me, hearing birds, a lawn mower, and her dog snoring, that when bats are echolocating, they are emitting "high intensity sounds with their mouth and waiting for the echo to return."

 $^{^{31}}$ For example, the sensors listen from a far and act in strikes rather than in confluence with a decided ly distant environment. I wonder how that placement impacts the list ener.

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