

Sonic Boundaries

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Supervisor:

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Declaration

I declare that this research thesis is my unaided work. It is submitted for the degree of Master of Music at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any other degree or examination at any other university.



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Abstract

Sonic Boundaries is the outcome of artistic research conducted through the lens of autoethnography, aimed at elucidating how the soundscape ecologies experienced by Johannesburg residents on a daily basis shape their sense of place and identity.

The outcome of my research resulted in two indoor sound installations where I relied on soundscape recording material that was recorded in various locations I visited. The exhibition was held for one evening at “The Art House” in Melville, Johannesburg, on the 31st of January.

I attempted to showcase how *nature* and the *fear of crime* play a role in aiding the soundscape ecologies we inhabit with strong sonic metaphors that are still linked to the problematic and complicated colonial past of the Johannesburg area.

A conclusion from this research is that the residents of Johannesburg, specifically including myself, are still negotiating their way through the historical roots that bind them to the areas of the city they reside in. This complicates the ability to see and hear what metaphorically lies beyond.

My investigation has revealed that further efforts could enhance our understanding of the soundscape ecologies in Johannesburg and their influence on our sense of place. When looking at the fairly recent events that are unfolding within Johannesburg regarding the ad hoc establishment of informal settlements next to affluent neighbourhoods, I foresee potential avenues of research that can aid a deeper understanding of the various dynamics that are at play, as well as the sonic metaphors that accompany them. I also believe that the physical cataloguing of soundscapes using phonography as a method is another valuable consideration when taking into account the little soundscape evidence we have of the past. We know what Johannesburg sounds like now, but we do not know what it sounded like in the 1920s, nor do we know what it will sound like in the future.

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1. Introduction

"Because I know Johannesburg. And I am satisfied that there is no other city in the world that is so anxious to shake off the memories of its early origins."

Herman Charles Bosman (Bosman, 1986)

The premise of this project was born from a desire to better understand how the different soundscape ecologies (Schafer, 1994) residents find themselves in on a daily basis inform their sense of place within the Johannesburg Metropolitan area (Chattopadhyay, 2012). "Sonic Boundaries" therefore explores, through a combination of field recordings, soundwalks, and the creation of two indoor sound installations, the impact of soundscape ecologies on a listener's sense of place and self.

This investigation into Johannesburg's soundscape ecologies focuses on two prominent themes: the *fear of crime* and *nature*. The research seeks to determine the historical origins of these themes in the formation of Johannesburg and analyse their impact on present-day understandings of the city's political, cultural, and socioeconomic dynamics.

The theoretical underpinnings of this dissertation are built upon the insights of influential academics, researchers, and artists, including R. Murray Schafer and Barry Truax for their pioneering work in soundscape studies, John Drever for his theoretical framework for field recording, Katherine Norman for her theories around place and place-making, and Lindsay Bremner, Emekah Ogboh, and Willem Boshoff for their contributions to urban studies and sonic art, to name a few.

I formulated a methodology using autoethnography, soundwalking, phonography, and John Drever's theoretical framework for field recording to explore various locations in and around Johannesburg to better understand the above themes and their contexts. The final output of my investigation resulted in sound installations named *Sonic Boundaries* and *Blur*, which were showcased at a solo exhibition on the 31st of January, 2025.

2. Aim

My aim in this project was to investigate how different soundscapes and soundscape ecologies inform a sense of place within the Johannesburg Metropolitan area. Driven by my own sonic exploration of the two topics around Johannesburg I have chosen to investigate, I recorded and catalogued various soundscapes in the several locations I have chosen to visit and explore. I then, through the creation of two indoor sound installations, used these recordings to inform my own creative output while attempting to bring to bear the degree to which these familiar and unfamiliar acoustic worlds can add to the listener's, as well as my own, ideas of self and place (Norman, 2012) within the urban communities of Johannesburg.

The research undertaken

To what extent can a sound installation affect the listener's sense/experience of place within urban communities in the Johannesburg Metropolitan area?

In exploring this question, it is necessary to also consider the following:

1. What informs our sense of place within the Johannesburg Metropolitan Area?

For the above question, I aimed to investigate a wide range of factors and elements that inform our sense of place in Johannesburg, such as physical features, cultural landmarks, historical significance, social dynamics, and focused on my own personal experience, as well as the intangible characteristics and meaning residents of Johannesburg give to a place (Mayhew, 2009).

2. What are the soundscape ecologies that inform our sense of place within the Johannesburg Metropolitan Area?

Here I focused on the sonic aspects that help to underpin our sense of place within the Johannesburg Metro. The soundscape ecologies that I investigated consist of sounds

that are already present. I studied sound with regard to its relationship to life and the society that is present (Schafer, 1994: 205).

3. What are the creative processes involved in creating a sound installation?
4. What are the theoretical processes involved in creating a sound installation?
5. What are the technical processes involved in creating a sound installation?

The above process was undertaken autoethnographically, considering that this is the first time I attempted such a project. It therefore provided ample opportunity to create moments of critical reflection with the subject matter, the creation of the work itself, and my relationship towards the work.

The two installations consist of two separate attempts to use soundscape recordings that were recorded by undertaking soundwalks (Schafer, 1994) within 20 locations I managed to explore.

The first installation is named *Sonic Boundaries* (the same name as my research dissertation). The installation consists of 24 tin cans that were sourced throughout the period of my research. Housed within these individual tin cans are microcontrollers that function as audio playback devices, as well as a power source in the form of three AAA batteries that provide power to the playback devices. A momentary push button and a headphone input connector are connected via “jumper” cables to each audio playback device. With all 24 cans mounted on a gallery wall, a listener is able to insert headphones in any of the connectors and “trigger” a selected soundscape I curated for the experience. All 24 cans are mounted in such a way as to metaphorically represent a cityscape when viewed aerially. Each tin box is numbered from number 1 to 24, and the location, time, and date of when the recording took place are communicated on an information sheet located next to the artwork. *Sonic Boundaries* serves as a metaphor to showcase the differing acoustic ecologies that are prevalent within Johannesburg, regardless of whether those ecologies are familiar or unfamiliar to the listener.

Blur, the second installation, consists of nine tin boxes that are mounted onto a wooden board. Each of the nine tin boxes houses a push button that triggers a series of

soundscapes that are themed around nine topics I chose, based on the numerous soundwalks and recordings I conducted within the Johannesburg region. The individual “trigger” buttons are all connected via wiring and “header” cables to a microcontroller that has been sourced and is housed in a bigger, additional tin box. This tin box is mounted below the other nine tin boxes. The microcontroller has additional functions when comparing it to the microcontrollers used for *Sonic Boundaries*, due to the fact that it can play up to eight audio files simultaneously. It also provides the option of choosing additional functionalities that broaden the choices of engagement for the listener, creating a more interactive experience with the installation and therefore differing from the experience one would have with *Sonic Boundaries*, where the listener only experiences one soundscape recording per box. The creation of *Blur* serves the purpose of combining different soundscape recordings from different areas in Johannesburg together to create new soundscape experiences through the “blurring” of the bounded spaces that Johannesburg residents find themselves in on a day-to-day basis, as will be discussed in more detail.

Through my inquiry into various topics in and around Johannesburg, I have chosen two different themes that my sound installations will explore. I believe these themes contribute to the formation of place, self, and soundscape identity in the greater Johannesburg metropolitan area.

These themes are:

1. Nature

Johannesburg is recognised to be a city that is one of the largest urban forests in the world, with an estimated ten million trees (Hardy & Nel, 2015). It also boasts a large collection of public parks, with the Johannesburg Parks and Zoo website declaring that it currently oversees over 2000 parks for the Johannesburg municipality and region (Johannesburg Parks and Zoo, n.d.).

Johannesburg, apart from Birmingham in England, is also one of the very few cities in the world that is not located close to a large water source (Davie, 2018). The statement

can, however, be a bit misleading, as it boasts a number of natural spring water sources that form a part of the several streams that originate from the rocky ridges near the site of the initial planned layout of Johannesburg.

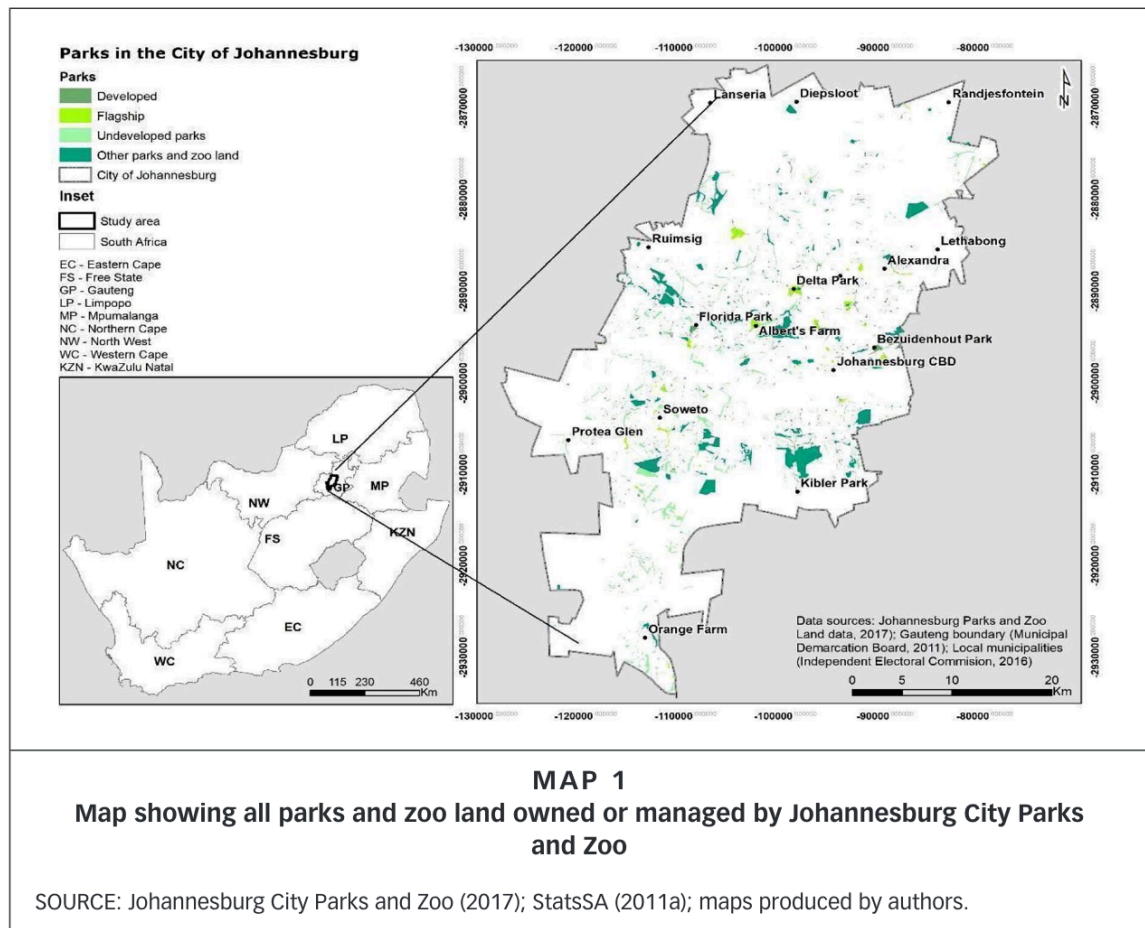


Figure 2.1 Locations of the various parks that are managed by Johannesburg Parks and Zoo (Khanyile & Fatti, 2022: 16)

The name *Witwatersrand* originated when the first European settlers discovered the ridges to be glistening, owing to a series of springs that were located in the area, with water seeping from the rocks, giving off the impression that the ridges were white and shining (Davie, 2018). These streams (some canalised by development) and many of

their sources are challenging to locate in present-day Johannesburg. They form intricate water veins that travel through the city and surrounding areas.

The urban forests, streams, green belts, and parks that are in Johannesburg and its surroundings offer a unique sonic character and create a strong juxtaposition to the industrialised character of the city.

Johannesburg is currently experiencing a water infrastructure problem, with many residents in the city experiencing life with no supply of water on a daily basis, myself included (Njilo, 2023). These events led me to question how the listener's viewpoint of place may be altered when introducing themes, soundscapes, and sonic markers that discuss topics around water within the city (Schafer, 1994: 170).

Melville Koppies, an area where I conducted soundscape recordings, was identified as being an Iron Age settlement industrial site by archaeologist R.J. Mason when he discovered evidence of a furnace in 1968. Mason notes that inhabitants during the Iron Age periods preferred to be on higher ground close to water sources or streams (1989: 10). Melville Koppies, being both on higher ground and close to two water sources (now known as Braamfontein Spruit and Westdene Spruit), made it an ideal place for Iron Age settlements to establish themselves. The reserve management strives to maintain the koppies with entirely indigenous vegetation,¹ and the reserve is one of the last conserved remnants of the Witwatersrand Ridges as they were before urbanisation (Melville Koppies Nature Reserve, n.d.). I am a resident of Melville and frequently enjoy walking on the koppies. Recently I went walking in the central part of the koppies, the same area the furnace was found, now designated as a reserve and only open to the public on Sundays. I found the landscape to be sonically rich with birdsong. The morning summertime air was fragrant with the scent of the indigenous landscape.

¹A lot of work goes into keeping them 'natural' on a weekly basis; nevertheless, there are a lot of kakiebos and blackjack up there despite all their efforts. It is like a constant battle that they will lose if they stop, even if only for a few weeks.

The Melville Koppies, to some extent, provided me with a snapshot back in time, with sonic characteristics of a time before Johannesburg. There are regions, while moving around the reserve, where the noise of the city and cars is almost unnoticeable, providing a sonic looking glass into what the world and our sonic heritage might have sounded like before the age of industrialisation and all the sound that comes with it (Schafer, 1994: 15).

Nature and the urban forest in Johannesburg can be argued to be an idealised constructed idea embedded in apartheid and colonial spatial planning. The leafy northern suburbs bear testament to this notion, with their rich presence of tree-lined streets and forested properties, public parks, and greenbelts. The notion of a "European city in Africa," identifiable in the suburb names and street names when travelling through these areas, is supported by a number of non-indigenous trees (Bremner, 2010: 173). The colonial roots and imperial imprint of the city are visible for all to see.

2. Fear of Crime

"Wars begin when people pretend that they cannot see each other."

John Matshikiza (Nuttall & Mbembe, 2008)

When driving around the northern suburbs of Johannesburg, I am struck by the number of gated communities that have come to be a part of the landscape. There is a push by the resident community of my suburb, Melville, to also become a gated community. The main driver is a belief that it will reduce levels of crime in the area (Import, 2023) as well as raise the value of property prices. Gated communities and estates have become a desirable way to find "safe" havens for large parts of the middle to upper-class communities in South Africa. With the use of private security and boom gate control, these areas provide the sense that unlawful intrusion into the residents' domestic lives

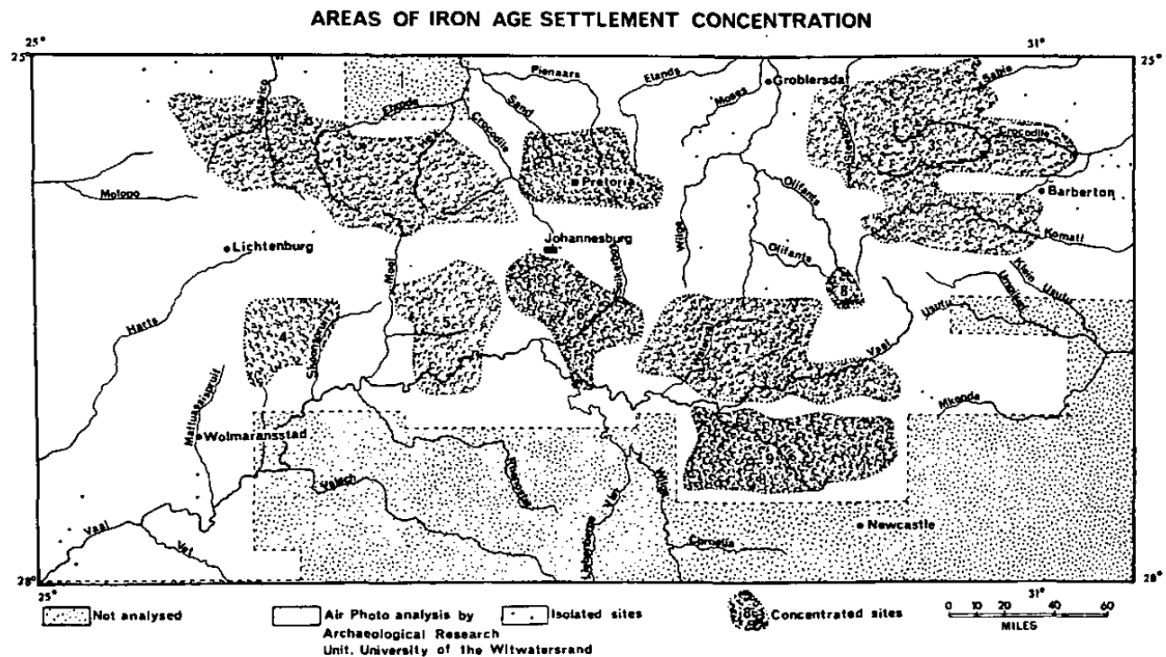


Fig. 4 Areas of Iron Age settlement concentration.

Figure 2.1 A map of various historical Iron Age settlement sites (Mason & University of the Witwatersrand Archaeological Research Unit, 1989)

is not possible (Dirsuweit, 2014: 901). It must be noted, however, that the “fear of crime” is prevalent among all economic classes in South Africa, with the middle and upper-class communities having more financial means to do something about it (Dirsuweit, 2014: 903).

It is hard to view a public need to live in a space that is crime and trauma-free with harsh critique. I have been a victim of numerous incidents of house break-ins, the final one being at gunpoint. I was very aware of how I was “caging” myself into my place of living in that crime-ridden house in a neighbourhood with high crime activity, increasing security measures every time the criminals found another way in. It is also not lost on me that gated “safe havens” were the next step in creating areas that were crime-free when observing the high walls and electric/barbed fences that surround many residences in Johannesburg (Bremner, 2010: 220).

There are, however, other urban dynamics that result from a fear of crime and the use of gated suburbs and estates to deal with its risks. The South African Human Rights Commission concluded as far back as 2005 that gated communities "cause social division, dysfunctional cities, and lead to the further polarisation of our society" by creating "inward-looking" communities (Kollapen and the South African Human Rights Commission, 2008: 26). The soundscape ecology of these "inward-looking" communities closely resembles the soundscape ecology of a "home"² (Labelle, 2019: 64). The sonic characteristics and soundscapes of these gated neighbourhoods are what began to intrigue me when I started researching this topic. How would listening to unfamiliar soundscapes affect the listener's sense of place? In my inquiry, I attempted to capture the soundscapes and *keynote sounds* of different suburbs in and around Johannesburg (Schafer, 1994: 272). I ventured to capture sonic elements of both gated and non-gated communities to see if, and how, I can use sonic juxtapositions in a creative way to aid in informing the listener's ideas of place and the other. I believe that it is also important to note how Johannesburg's urban forests, parks, and greenbelts play a role in creating a place where nature is idealised in the realms of the "private" and "home" (Labelle, 2019: 48). Therefore, it wouldn't be unreasonable to suggest that the sonic palette emanating from urban forests plays a role in reinforcing our notions of safety.

Another aspect I considered when exploring these environments is their view from the perspective of the "outsider" or "trespasser," not as a guilty offender, but as the everyday commuter that is required to enter and exit these safe havens and who is required to carry the burden of not being welcome, for being the "stranger" (Bremner, 2010: 196). Architect and theorist Lindsay Bremner discusses in her essay, *Bounded Spaces*, how the experience of crime codifies uncomfortable experiences of social change through the embodiment of the criminal. "The criminal offers a new metaphor

²Brandon Labelle interprets the idea of "home" as a dual symbol, representing the cultivation of privacy and the emotional interiority of family and personal life. Within the realm of home, there is a set of sonic signifiers that is maintained by a power play between what is considered "noise" and "silence" (Labelle, 2019: 64).

through which to establish continuity between the certainties of the past, the uncertainties of the present and the unknowability of the future” (Bremner, 2010: 199).

There was one instance where I had the opportunity to capture recordings in a gated community in the suburb of Upper Houghton. During my visit, I was granted access by the security guard stationed at the entry point of the community. However, once the security guard noticed that my physical movement through the street was not considered “normal” and that I had no intention of visiting any resident in the area, his suspicions started to rise. Within a span of 30 minutes, I was approached by the head of security that was overseeing the area as well as a resident that resided in the area, with both individuals being notified by the security guard of my “suspicious” behaviour. Fortunately, I had a permission letter from the head of the Houghton Residents’ Association to support my cause, and after brief and amicable conversations, I was left to pursue further exploration. The suspicious security guard remained just that until my time was up, and I left the suburb. This personal experience serves as an apt example of what being an outsider might, and can, feel like. The line between the label of “outsider” and “criminal” becomes blurred from the viewpoint of not belonging there.

3. Rationale

I moved to Johannesburg from Pretoria in 2011 to complete a degree in Jazz Performance at the University of Witwatersrand. Since then I have practised my profession as a performing musician and lecturer in audio production at SAE Institute in Johannesburg, where I teach acoustics, music production, and live sound production. I have had the opportunity to live in several suburbs in Johannesburg. During my student years at Wits, I lived in both Saxonwold and downtown Johannesburg, two neighbourhoods with vastly different soundscape ecologies. In the CBD I lived in a beautiful art deco building by the name of Ansties. Looking back, I am struck by the memory of the sound Johannesburg CBD makes at night. It hums and vibrates at a constant low rumble. All the ventilation systems and vans play their role in creating this sonic atmosphere of a city that is always active, even at rest. During the day I liken the soundscape ecology of the downtown city to a vibrant cacophony, debatably harmonious, the sonic clash of metropolitan civilians that need to get somewhere. There is the constant “noise” of minibus taxi hooters, signalling the start of the day from 4:30 in the morning until late into the night. This experience, in hindsight, with everything that I have learnt and discovered thus far, is a clear indication of my personal story and naive understanding of what was then considered potentially overwhelming “noise.” After two years in the CBD, I succumbed to my middle-class suburban roots and, along with my spouse, fled back to the leafy green suburbs of the north. This time in Westdene, I was starkly aware on my first night back of the acoustic respite it offered. I could hear a dog barking in the far distance!

In many ways, the topics I have chosen to investigate are born from a need to evaluate my understanding of the place and the acoustic environments I find myself in. An autoethnographic approach forms an important part of my ongoing study (Poulos, 2021: 4). There are also soundscape environments I do not know very well or at all, and my creative inquiry is about my desire to find out more. The studying of other environments invariably creates the contrast for comparison between my own lived environment and

the environments of others (Poulos, 2021: 4). In the same way, I hope to enlarge the understanding of *place* and *place-making* (Norman, 2012) for the listener/s of my installations.

Nigerian composer and sound artist Emeka Ogboh is an artist who shares a connection to our continent and whose work I find relevant to my project, which I will discuss in more detail in my literature review. His second album, *6°30'33.372"N 3°22'0.66"E*, consists of a series of soundscape recordings with musical interpretation. The recordings are from a bus station located in a neighbourhood in Lagos, Nigeria. One can hear the anthropological nature of the recordings/compositions, a looking/hearing glass into a very specific place over a period of time, and one feels immediately drawn to the visceral elements the recordings evoke. It conjures a sense of inquisitiveness in me, which I found refreshing, and I wanted to hear more sounds from this place. The different human interactions that could be heard were also an important sonic element to the overall experience and underlined the sense of vibrancy that could be heard overall. In large part I view Ogboh to be the initial spark of inspiration that sent me on my own quest to better understand Johannesburg. Ogboh represents the soundscapes and people within the city in a way that doesn't risk exoticising the sounds or people heard. He opines that using a highly anthropological (anthropophony) approach to his recordings, "digging into a place to know a place," is what made sure he steered clear of anything that verged on the unethical (Francis, 2023). The process of composition and sifting through the data of field recordings allows the artist to really identify the *keynote sounds* that define a place; it therefore requires much deep listening (Oliveros, 2005: 14). In my case, John Drever's theoretical guideline aided me on appropriate approaches and what my intentions should be when conducting field trips into the areas I have chosen to explore (Drever, 2016: 73-75).

The work of Ogboh underlines the idea that urban environments offer a great deal of sonic vibrancy and change and have the capability to create a positive impact within the listener. They have the potential to create a sense of interest and inquisitiveness. This notion falls in line with the Positive Soundscapes Project, run by a team of researchers at the University of Salford in Manchester, and their findings when researching what

constitutes a “positive soundscape” (Davies et al., 2013). The team tried to understand and locate what was considered to be a positive or negative sound/soundscape by taking research participants on soundwalks through the city of Manchester. In their research, they found that soundscapes with sonic vibrancy within them were found to have an overall positive effect on the listeners.

3.1 Theoretical Framework

Whereas Ogboh employed static microphone placements to capture soundscape recordings, which were subsequently used to inform musical interpretations, my approach relied on conducting recorded soundwalks within the explored locations (Francis, 2023). The outcome of my installations required me to select a phonographic approach during my soundwalks to capture moments of sonic significance to me. Phonography, corresponding to photography, is understood as “an endeavour to map the real world onto sound recordings that are usually not further manipulated other than undergoing transparent editing or mixing” (Truax, 2012: 195). These sonic “snapshots,” no longer than a minute or more, were then used in formulating the structure and experience of the installations I created. The initial recording experiences made me realise that my actions in capturing these soundscape moments required a “socially sensitive, ethically minded” approach that was far more indeterminate than the “linear” developments that could be found in other forms of research (Drever, 2012: 77).

In light of the preceding discussion, the theoretical framework that informed my practical approach to recording soundscape environments was based on John Drever's chapter “Field Recording-Centered Composition Practices” in *The Routledge Companion to Sounding Art* (Cobussen, Meelberg, and Truax, 2016).

Drever begins by narrating a personal field recording experience. From leaving the “in-here” of his sound studio with controlled acoustics and sound isolation to the “complex and generative” (Law 2004: 8 as quoted in Drever, 2012: 71), “out-there” soundscape, Drever enters a world of choices regarding how best to go about capturing the soundscape to adequately fit his intentions and desired means of representation. Drever brings to light the idea that even though we are exploring with critical listening

intention, we are nevertheless removed from the “naked” act of listening through technological means, which are presently very advanced and create a barrier. This distancing prevents one from fully immersing themselves in the “out there” (72). Drever explains that he decided to use a set of binaural microphones that fit into the canal of the ear, and from the observer’s point of view, he appears to be just “another detached pedestrian plugged into his (72) ‘individualised sound world.’” (Bull 2000: 3 as quoted by Drever 2012: 72). This ability to “blend” naturally into one’s environment stands in distinct opposition to the comparably big and bulky recorders that used to be used for sound recording in earlier decades, which are far more visible and representative of the field recorder’s actual intentions. Using a field recorder not only creates technological distancing but also mental distancing, where “my de facto role of the field recorder positions myself on the outside looking in” (72). The binaural headphones that Drever uses in his narrated field recording experience also make him realise that his tools may be perceived as invasive and that technology may be understood as a method of “eavesdropping, capture and control.” He therefore becomes self-aware of the fact that he might be regarded from the viewpoint of a trespasser.

In my case, I decided to use binaural headphones as well for all soundwalks, field recordings, and soundscape capture. I preferred the “realistic” stereo field they created as well as the quality in audio fidelity. I found, therefore, the writing of Drever and his particular experience in field recording is very applicable to my project and worthy of serious consideration. Drever discusses 21 questions and choices when undertaking field recording and considering the problems that arise. I decided to attempt to answer all 21 questions to formulate a theoretical framework for my fieldwork:

1. **“What, why, and for whom am I recording?”** (Drever, 2002, as quoted in Drever, 2012: 72): For my output, I recorded soundscapes of locations around Johannesburg that deal with the sonic role that *nature* and *the fear of crime* play within these acoustic environments. I attempted this so as to better understand the role these themes play in informing the residents of Johannesburg and

myself with regards to our sense of place and self within the Johannesburg region. I therefore created this output for residents of Johannesburg foremost, with the potential to reach larger audiences.

2. **“Where do I point the microphone?”** (73): As previously discussed, I used a set of binaural microphones, which we will examine in more detail later. The microphones are non-directional and function with an omnidirectional pickup pattern, with the ability to pick up a wide field of sonic activity on the immediate left and right sides of my head. Where I physically situate myself in the environment is the area that it will most effectively pick up, with me as the central point of reception.
3. **“What am I poised to record? The mundane, in-context, seasonal, the out-of-the-ordinary, exotic, the particular, the audiogenic, or prevailing electromagnetic fields through the use of a coil pickup?”** (73): In my case, there was a dependency on recording a majority of the themes above, with the specific intention of not capturing the “exotic” or requiring the use of other microphone set-ups.
4. **“Do I prioritise sounds for their potential to transmit meaning, affect, or sonic quality?”** (73): I relied on all three aspects to varying degrees when capturing soundscapes. I believe that all three aspects interlink when choosing soundscape moments within varying acoustic ecologies. This effort is a subjective experience as well, and the opinions of the listener may vary from my views.
5. **“Do I surrender to the dilemma of ‘naïve ears’ or to inform myself as much as possible to the environment itself?”** (73): I thoroughly attempted to understand and research the themes as well as the areas I visited, but I also realised that I needed, to a certain extent, to yield to my own naïveté when exploring environments I was not familiar with.
6. **“Do I take a premeditated, systematic and/or deliberate attitude to field recording or assume an improvisatory and spontaneous attitude or simply be open to the vagaries of the environment at the mercy of serendipity?”** (73): My approach was largely premeditated. Consideration was taken for the

research themes I would explore, for the time of day I can/would record, the metadata I would rely on for post-reflection, my microphone choice as well as recorder choice, the research locations of my choosing, and the rendered format that defines the audio quality of the captured recording. The above choices were all critical to help formulate the creative outcome of my research. What was not premeditated was what I was going to capture on the day of recording. The selection process of what I decided to use in my creative output occurred when I was listening back to the material.

7. **“Should I intervene and interact in the situation to stimulate a sonic response, rendering the field (sound source(s) within aural architecture(s)) audible to the microphone, or shall I remain ostensibly passive?”** (73): I did not try to intervene or interact with the locations of my choosing. As much as the recording process was a subjective experience, I desired for the soundscape recording to be as removed from myself as possible.
8. **“What ties should I have with the context being studied: inhabitant, collaborator, sojourner, guest, tourist?”** (73): This question is not a straightforward answer to me. In addition to my role as a collaborator, there is a debate about whether the other relationships I have with the various areas I visit can be attributed to my knowledge, familiarity, or unfamiliarity with the place. It is a strange feeling to think that you are a resident of Johannesburg and yet could be considered a sort of tourist in some areas you visit. As a “tourist,” you are subject to certain formed opinions and biases that you received from “somewhere” else, and if you are not careful, you will perceive the location through that lens (73).
9. **“What of my attitude to permission, privacy, ethics, copyright, and paternity?”** (73): Apart from the necessary ethical clearances I pursued and received, ethical consideration of what I was recording needed to be constantly considered. In several locations, I recorded in the presence of human activity, which formed an important part of the overall soundscape ecology. I therefore needed to take careful consideration towards the audibility of certain people

within the recordings and decide whether I was breaching any ethical considerations. Occasionally the line would feel hard to quantitatively define.

10. **“Is it necessary to annotate my recordings with metadata: date, location, weather conditions, habitat, microphone model or non-hierarchical user’s tag?”** (73): I felt it important to capture metadata in the form of the date, location, and route I travelled via GPS for the soundwalks I conducted. This aided me in locating soundscape moments and the area they took place in upon critical reflection afterward.
11. **“What about overdubbing a voiceover providing a running commentary or an in situ voiceover?”** (73): No attempt was made at overdubbing or voice-over recording.
12. **“Do I treat human utterance differently and do I need to comprehend the language (over)heard?”** (73): As mentioned above, careful consideration needed to be taken here. If voices were very audible, I would attempt to edit them out of the soundscape recording, which would eliminate any possibility of violating the current ethical standards. If I heard voices that were relatively audible, I would attempt to understand what they were saying.
13. **“Should I take in situ calibrated sound level readings, or should I sensuously imbibe sound pressure and creatively interpret and discuss perceived loudness back in the editing suite?”** (73): I chose the latter as my process for finding adequate levels for recording the soundscapes. As I will explain later, in the prototyping phase of building my installations, there were level adjustments that needed to be made for Blur to make the installation experience more effective.
14. **“Should I adopt a clandestine approach to field recording and attempt to surreptitiously blend in or take on the persona of a lost boom operator?”** (74): My approach was rather clandestine; there was not an attempt made by myself, apart from them being aware of my presence, to let groups of people know that I was recording them. It would have been a very challenging process to do so. For instance, how would I go about letting everybody know I was recording them when I was walking through a market? Therefore, any human

activity that could be heard had to be ethically scrutinised after the recording session was conducted.

15. **“Should my presence and the presence of the technology be rendered audible on the recording?”** (74): There are moments when my presence is noticeable. I would pivot my body position around sometimes, and the movement of the stereo image can be heard. Sometimes there would be a moment of breathing that could be heard. But my general intention was not to have my presence be overtly obvious through the capturing of my footsteps, breathing, and physical movement. I found the pace of my walking as well as breathing when listening back to the recorded soundwalks disconcerting.
16. **“Shouldn’t I point towards the process of my audio-phonetic mediatization ?”** (74): There was not an attempt by me to make the process of my recording obvious at any stage.
17. **“Is there an onus on the phonographer to be faithful to the place or event, space, and time of the recording (audio vérité), or how about free association, or the concoction of impossible combinations of time and place: acoustic fact or sonic fiction?”** (74): I felt it important for my creative output to be faithful to the event, space, and time of the recording by making sure the listener could locate the recording to the location, date, and time it took place.
18. **“What tense should the work convey: the past continuous, the present continuous, or couldn’t the composition look into the future and forewarn of a future dystopia?”** (74): The work conveys the past and present continuous. Through my research, I not only aimed to capture the current state of soundscapes but also sought to highlight their connection to the past.
19. **“What of my approach to editing: collage/decollage, montage, assemblage? Do I need to edit at all?”** (74): My approach to editing was minimal; I attempted to only remove elements that were in breach of ethical considerations. I also altered levels to balance possible combinations when experiencing *Blur*.
20. **“How do I understand in representational terms the chain of listening, recording, storage and playback?”** (74): I will provide a more detailed

explanation below; I relied on microcontroller audio playback devices that could be triggered with a push button. These audio events were then experienced with a pair of headphones. The soundscapes that I recorded were captured in digital format straight onto my iPhone via a software application called AudioShare (<https://kymatica.com/apps/audioshare> n.d.)

21. **“How do I make the transition from field recording(s) to composition?”** (74):

There was no transition that took place as I took on the role of a phonographer.

The above framework was very helpful and essential in formulating a structured approach to my field recording trips that consisted of conducting recorded soundwalks and phonography to capture moments that, I felt, were significant to my research and post-reflection. Drever concludes that “the field is becoming more convoluted as it opens up artistic means of addressing a radiating litany of “out-there” contexts such as place, heritage, urbanism, accessibility, environmental noise, sustainability, and ecological engagement (80).” When we attempt the act of field recordings, we enter the “social,” and therefore strong consideration into the nuances of the work done and the intent of the creative output needs to be taken into account.

4. Literature Review

The literature review is organised into sections, corresponding to the fundamental theoretical concepts of the project. In the first section, “Sonic Boundaries,” I discuss the literature that aided me in formulating my own ideas around the soundscape ecologies that enforce our ideas and sonic boundaries in Johannesburg. In the second section of my review, I discuss the writings of Barry Truax and Dylan Robinson, respectively. Here I delve deeper into the aesthetics and challenges that artists need to consider when using sound recordings in a creative format as well as the imperial underpinnings that have been brought to light when discussing R. Murray Schafer and the soundscape movement. In “Positive Soundscapes,” I will discuss the research, methodologies, and data that were gathered by a team of researchers from different universities. In the third section of “Fear of Crime,” I will discuss some of the research that underlies the phenomenon of gated communities and securitised complexes and zones within Johannesburg’s various suburbs. In “Nature”, I will discuss literature around the role of *nature* in Johannesburg and how it came to be one of the largest urban forests in the world. I then move on to discuss the writing of Katherine Norman and her views on *place* and *place-making* as it relates to sound art. Lastly, in “Informed Artists,” I discuss some of the artists who have assisted in understanding where to place my own planned artistic output.

The above research and process can be regarded as another example of the Artistic Research as *input* methodology that was utilised, where the literature informed my work, as well as my interest in a topic of self-inquiry regarding Johannesburg and my place within it (Crispin, 2016: 60).

4.1 Sonic Boundaries

Brandon Labelle’s *Acoustic Territories: Sound Culture and Everyday Life* discusses the acoustic ecology of the *home*, noting the “power struggle” between what is perceived as “silence” and “noise” (2019: 47). The author questions whether our ideas of what

constitutes noise are correct and whether a more profound investigation into what a positive, diversified soundscape should/could sound like is necessary. This inquiry takes into account the *forces* that highlight the importance of silence within the home environment.

Labelle considers our ideas of home in its many versions as a signifier “for the cultivation of privacy” as well as the related interiority of individual and family caring. The home operates as a space for physical safety and comfort and as a physical extension for individual perceptions around security and *homeland* (2019: 47). Labelle states that “to be home is to belong, to reside around the greater fold of nationhood” (2019: 48). According to the author, mobility, homelessness, and transience stand in opposition to the ideas that formulate our concept of home. To be transient is to be without “place” at that moment. One is either away from home or returning home. The author argues that the home is a centre that aids management and balances one’s movement by creating a “spatial reference from which all other perspectives on worldly contact might draw” (2019: 49).

The idea of home, which expresses *interiority* within Western society, was formulated around the bourgeois ideation of privacy (2019: 50). The aim is for the affluent middle class to have a separation from work, and with this division, the conditions for a private domesticated space are refined towards the sphere of immediate family. Within this scope, noise pollution becomes the enemy and can be considered an invasion of the separation of quiet suburban life against the noise of the outside world. Within the principle of interiority, Labelle argues that a specific set of signals are heard when referring to *home*, and that if those signals are disrupted, one can argue that the home is *broken* or not functioning. Furthermore, the use of silence/quiet within the suburb and domesticated house acts as a constant that creates an ordering principle around groups/communities and the individual. Labelle argues that while suburbs offer opportunity for community as well as family life, they can also create a complicated relation between what is “inside” and what is “outside” with specific reference to gated communities in the USA. “The gated community conflates the dynamics of security and the image of neighbourhood life, aiming to clearly delineate, through an elaborate

physical and psychological apparatus, inside from outside” (2019: 75). Similarly, I would like to bring into question how gated communities “can bring the stranger home” (75) when providing a sensory experience of soundscapes recorded in areas of Johannesburg considered “no go zones” by the middle and upper class due to the dominating fear of crime coupled with fears rising from political uncertainty (2019: 84). Having lived in the downtown district of Johannesburg as well as the northern suburbs, I have come to relate to the notion that there is an enforced idea that suburbs and suburban life are afforded more conditions that create a sense of “calm” and “quiet.” One can consider what is deemed an acceptable soundscape when taking note of what is considered noise pollution (Act No. 73 of 1989).

When we layer the collective imagination with positive ideals, Labelle believes that using silence to experience quietness can lead to a downward spiral. The combination warps our ideas of *place* and *placement* with “contentious intolerance,” where noise is considered an offender of order towards interiority. Labelle argues that noise/disorder can be used as a powerful means to disrupt social norms as well as motivate exploration of the other so as to experience a richer, more diverse community life. “Causing disorder, noise grants opportunity to fully experience the other, as someone completely outside my experiences” (2019: 62). Labelle raises the question of how noise might be used to “bring the stranger home” and break the norms of suburban private home life.

Labelle uses Vito Acconci’s public installation *Talking House* as an example, where the artist questions the endeavour of communities to create more “humane, audible environments” and places of silence by “relocating the private onto the street” (1996: 63). Acconci achieves these goals by placing a series of microphones throughout the house. The signals from these microphones are projected through amplified speakers that are placed in the front yard for any passersby to hear. *Talking House* involves an unconventional idea, where the audible contents of the house are metaphorically displayed on the front lawn for public hearing. The installation serves as a departure from the conventional ideas of home, which centre around the principles of *interiority* and privacy, by bringing the outside public in, as well as bringing the inside of the home

out. *Talking House*, by audibly expressing what is typically concealed, directly challenges the traditional notion of domesticity and, in the process, disrupts the established image of home life (2019: 63).

Labelle's theory on the *home* and *interiority* brought me to question what the sonic characteristics of *home* are in Johannesburg, how they relate to the fear of crime, and also to the quest for privilege and safety. It has led me to wonder how I can creatively convey these soundscapes in such a way where I "break down" these sonic boundaries so that the listener might gain an increased awareness of *place* in Johannesburg.

4.2 Soundscape Art

Sound, Listening and Place: The Aesthetic Dilemma, written by Barry Truax, discusses various aesthetic challenges by artists and composers when choosing to incorporate soundscapes within their artistic work. The aesthetic challenges revolve around how artists deal with the "framing of sound." Music compositions, as in musical interpretation and composition, consist of sound in relation to other sounds. Adding soundscapes to the artistic output adds other elements of sound, where the sonic activity involves "relationships to the environment or society at large" (Truax 2012, 193). Truax defines this aesthetic dilemma as the "inner complexity of sound"—when regarding acoustic or electroacoustic composition—and the "outer complexity of sounds"—when considering the real world (Truax 1992, 1994, as discussed in Truax 2012, 193).

"The issues of relating inner and outer complexity become particularly problematic if the subject matter is drawn from the soundscape. Do the composer and sound artist become caught in the dilemma of either aestheticising the sounds of the environment, for instance, or else subordinating artistic values in order to convey a social message? How can the composer's skills be best used to deal with the external world?" (193).

In my case, the above questions are answered as follows. I have foregone the use of writing any sort of music to the soundscapes and moments I have recorded, as mentioned in my methodology above, to instead convey a social message. I have taken aesthetic concerns into account when making decisions about how to present the

artwork. In terms of my skill sets as a composer, challenges on how to best and ethically present my work need to be considered, which is a continuous process with its own challenges, as I will further elaborate when discussing my use of phonography as a medium to express and attempt to answer my research questions.

R. Murray Schafer, whose ideas were founded on humanistic and artistic expression and were not viewed through the lens of social sciences, according to Truax. Schafer drove his views with the idea that there should be an importance on functional aesthetics similar to that of the Bauhaus movement (193). Schafer intended to motivate the public and listeners to experience “ear cleaning” whilst delineating what is thought of as good sound (the natural environment) and bad sound (technology and the industrial revolution). The outcome proved to be negative, resulting only in “bureaucratic legislation and public apathy” (193).

Truax's personal experience at the School of Communication Studies at Simon Fraser University, in conjunction with Schafer's perspectives, enabled him to realign his artistic output by integrating elements of the social sciences into his work. He viewed his work as "based in information processing and communication understood as a system of relationships created by that information, including all organised sound" (193). He realised that his newly formulated position could transcend, as well as embody, both the subjective experience of the listener and the objective scientific model of sound as energy through signal transmission (193), which he encapsulates as the “inner and outer complexity of sound” (194).

The basic premise of acoustic communication is understood as the information and meaning gathered from a listener whilst listening to both the inner make-up of the sounds themselves as well as the context thereof. What is being heard is not just considered a way to exchange information but also serves as an effective method of creating relationships between listeners and their environment known as “embodied cognition” and henceforth creates the possibility of an “acoustic community” (194). On the topic of “acoustic community,” Truax refers to a Finnish study of six European villages, where researchers revisited five villages that were studied by the World

Soundscapes Project in 1975. This paper provided a viewpoint on the effects of change and the results it had on an acoustic community when considering economic and social change. The Finnish researchers found that the advent of tourism commodified the community and its character (Järviluoma, Kytö , Truax, Uimonen and Vikman, 2009, as mentioned in Truax, 2012, 194).

Truax maps soundscape composition/art on three planes: sonification, phonography, and virtual soundscapes. Sonification, or “audification,” is understood as a charting process of real-world data that is intended to create some sort of auditory display (194). Phonography, similar to photography, is the method of mapping the real world onto sound recordings where no further manipulation of the recordings takes place except for the potential requirements of mixing the recordings to suit the needs of the phonographer (195). Virtual soundscapes require the actions of the composer to use varying and/or multiple techniques to expand the “communicational scope of their compositions” beyond just solely using the literal soundscape recordings in their compositions (196).

For the purposes of my own research, I will discuss the aesthetic and ethical challenges Truax raises regarding phonography, acknowledging that phonography is inherently subjective, influenced by choices at every stage, from equipment selection to recording methods and location choices.

As I have noted before, to me, the further manipulations of these recordings consequently raise ethical issues. For me personally, it is the idea that I will add extra subjective meaning to the recordings and do not wish to stray into the realms of exoticisation (195).

Truax further continues by discussing John Drever’s views that these ethical considerations can be overcome by approaching phonography through a self-reflexive ethnographic approach and that the researcher should avoid “sonic tourism” or “sonic fetishism” (Drever 2002 as quoted in Truax 2012, 195). The problems around phonography stem from the issues of appropriating data from other cultures. To find a solution for these issues, Truax discusses Rober Gluck’s perspective around taking a

more “self-reflexive” approach “involving a repeated self-reflexive process at every stage, including feedback from those directly involved with the culture in question” (Gluck, 2008: 143 as quoted in Truax 2012, 195). Truax also believes that repeated recording at decided locations is also an appropriate way to make sure that as holistic an attempt as possible could be made to represent the locations accurately, where, in the later stages of the artistic output, choices can be made regarding how to best represent the work and the locations visited.

For my own research, I adopted the view and methodology of autoanthropology, which concerns my own personal experience within the chosen areas of my research, with a self-reflective approach conducted around every soundwalk and field recording (Poulos, 2021: 4). Autoethnography as a methodology does not necessitate the need for me to conduct interviews with residents of the community, even though the act has the potential to add even more perspective on my chosen research topics. Areas such as Yeoville and downtown Johannesburg are largely considered to be “dangerous” areas to visit as an “outsider,” but here it was important for me to show that there were vibrant cultures and people present that lived their daily lives and functioned even though there was the ever-present threat of criminal activity. Yeoville, for instance, has a strong West African presence within the neighbourhood; the Yeoville market itself represents the needs of the West African people’s diets. The smell and visibility of salted fish everywhere, manioc, and plantains to be seen on most of the food stands, whilst my guide pointed out in one instance that there were about six different West African languages and dialects to be heard in one single alleyway of the market! The depth and complexity of the environment alone is a research study in itself. This experience has been a profound personal journey for me, as I gradually strive to uncover my own naivety and ignorance.

There were three instances where I was guided by someone who was a resident of the area or knew the location well. The rest were self-exploratory. Some areas I managed to visit twice; mostly I only managed to visit locations once. With the themes I chose to study—*nature* and *fear of crime*—there were numerous locations I needed to visit, which made repeated visits to all locations more challenging. This challenge was further

compounded by the fact that my professional career as a full-time sound production lecturer and saxophonist, in addition to my family responsibilities, required a delicate balance between the time required to conduct research, make field recordings, engage in self-reflective practices, and produce artistic output. From my experiences of conducting my soundwalks and soundscape recordings, I came to understand and realise that so much more fieldwork could be done to get an even “bigger picture” understanding of Johannesburg and the areas/boundaries residents find themselves in when considering *fear of crime* and *nature* as themes. In summary, my understanding of Johannesburg's vastness and the multiculturalism it represents, as well as the impact of fear of crime and nature on our sonic environment, is limited. This project and research theme could easily grow into a work that takes many years to complete.

Truax notes in his final conclusion that sound art has potential if the artists involved have something “meaningful to say,” have the ability to reach a large audience, and/or if it appears to be situated in real-world experiences and is not of an abstract nature (200). He holds the belief that what will give strength to the experiences of the listener is if sound art deals “with a deep involvement with particular social, cultural and environmental contexts, and careful thought about what needs to be said about them” (200).

Careful consideration of what needed to be said and how it needed to be said when discussing the *fear of crime* and the involvement of *nature* within Johannesburg was indeed the pressing challenge, and I hope that my installation dealt with it with a sense of care and meaning that added value to the listeners' experience.

In the introduction to Dylan Robinson's book, *Hungry Listening*, the author gives a chilling quote by R. Murray Schafer, which brings to light the inconsistencies in the study of sound art that are largely dominated by a dated Western—mostly white—worldview (Robinson, 2020).

Eskimos are such an astonishingly unmusical race that the composer really has to wring his material to make it musically presentable. There is a marked similarity between an Eskimo singing and Sir Winston Churchill clearing his throat. (Schafer 1961 as quoted in Robinson 2020)

Hungry Listening deals with engagements between indigenous music and Western art music by examining how we listen to, and experience, such moments. It also explores how articulating these moments through writing, like Schafer's aforementioned statement, enables the recognition of specific instances while obscuring others. The author points his research to focusing on art music that collaborates with indigenous performers, where the overarching aim is to service a sense of music nationalism, whilst simultaneously dealing with sonic encounters that deal with "perceptual logics, and between particular bodies, within a larger conceptual framework of critical listening positionality" (2). Many times, indigenous music has been mixed with Western art music, and the stories behind the different performances have also been put in the context of the performing Western classical stage. Such mixing can lead to a false representation of the experience of indigenous music and how it is seen, all under the guise of inclusion. Such an approach can be critiqued as a performative measure that underlines issues around representational politics that do not "structurally redress the structural inequities that underpin 'inclusion'" (5). The issues around the term "inclusion" stem from the practice whereby the Canadian government has centralised inclusion within the scope of "good relations." For Indigenous artists and performers, inclusion has meant making them "fit" into the rules of Western art music. This is seen as a contribution to the art movement and its structures, without taking into account the structures of indigenous music or the ways that indigenous people receive and create music. "This apathy toward Indigenous structures of performance and gathering leads to epistemological violence through art music's audiophilic privileging of and adherence to its own values of performance and virtuosity" (6). To Robinson, such an attitude serves as a strong critique and problematique that requires redress when discussing the values of both the artistic and political narrative of inclusion. In his view, indigenous art should not be viewed as an "import" and an "accommodation" in Western art music when considering its representation and how it is received by the public (6). Tanya Tagaq, an Inuk throat and experimental singer, highlights the problematic inclusionary practices when discussing her experiences of "being part of projects where my voice would be used as an ingredient in someone else's stew" (National Post 2017 as quoted in Robinson 2020).

Robinson also discusses critical listening positionality, which, like positionality, requires individuals to consider how factors like race, class, gender, and cultural background influence their perception of music, sound, and the world (10). Robinson discusses the blog post of Gustav Stadler in *Sounding Out* called *On Whiteness and Sound Studies*. In the article, Stadler underlines the need for scholarship to “explicitly” (Stadler 2015 as quoted in Robinson 2020) confront the rooted whiteness of the field of sound study.

Stadler uses an example of hearing a police siren and how that may be received by various races within the urban environment by posing the question of whether it sounds like rescue or invasion, approaching aid or violence (9).

Robinson concludes that critical listening positionality offers a method to pursue redress by questioning how we “might become better attuned to the particular filters of race, class, gender, and ability that actively select and frame the moment of contact between listening body and listened-to sound” (11).

How would a listener that resides in Yeoville experience the soundscape of a gated community such as Westcliff? And how would a listener and resident in Westcliff experience the sonic activity and soundscape of Yeoville? Both Westcliff’s soundscapes and Yeoville’s soundscapes are in stark contrast to each other. However, the sounds of nature are evident in the memory and thoughts they evoke and support, even if they have different meanings. I will delve deeper into this topic later.

The means by which I represented these soundscapes were an important consideration to take note of, as I wished to emphasise our colonial and pre-apartheid past and how it has morphed our present-day landscape into sonically bounded communities with new meanings. By providing the opportunity for the listener to experience soundscapes that they might be familiar with, as well as unfamiliar ones, I hoped that the listener would find a sense of critical reflection on their own personal biases and contradictions, especially if certain soundscapes were found to be unpalatable. My personal experiences during my fieldwork confirmed the presence of numerous sonic juxtapositions, which were crucial in revealing my own personal contradictions.

4.3 Positive Soundscapes

The idea of creating and capturing soundscapes that I perceive as positive largely stems from the research done by “The Positive Soundscapes Project,” an interdisciplinary project conducted by various researchers from England.

The researchers report on their overall findings on the discernment of soundscapes in their published article, “Perception of Soundscapes: An Interdisciplinary Approach.” Through the use of qualitative fieldwork, the researchers conducted soundwalks with focus groups to record the data and conclude the outcomes. Soundscape theorist R. Murray Schafer was the first to use the term “soundwalk,” as I mentioned in my methodology (1994: 213). The act of soundwalking can be defined as an exploration of the soundscape of a given area using a score as a guide. The score consists of a map, drawing the listener’s attention to “unusual sounds and ambiances to be heard along the way” (Schafer, 1994: 213). For the purposes of the studies, soundscapes were understood to be defined as “the complete sound environment in a location and the human response to it” (Davies et al., 2013: 3).

The authors note that a broad view of the project’s findings indicates that cognitive effects influence soundscape perception. The meaning of a soundscape, its components, and how that information is conveyed within that soundscape is what makes up the cognitive effect that takes place when experiencing a soundscape (2013: 2). In their view, sound art offers greater creative freedom compared to the confines of scientific approaches. Artists have been exploring the realm of soundscapes before acousticians, and this fact leads the author to propose that sound art possesses significant potential for compelling listeners to become more attuned to their auditory environment (2013: 5). This has particular interest to me because of my inquiry into the sonic boundaries and environments we find ourselves in on a day-to-day basis and how that influences our ideas and meaning of the environments that *we do not know*. The authors of the above research paper note that there is a relative lack of collaboration between soundscape art and science.

The outcomes of the studies were broadly categorised as:

1) The listener in the soundscape

Here the research questions centred around how soundscapes were evaluated by the listener, how the soundscape affected the listener, and lastly, what constituted a positive soundscape to the listener. What researchers found was that “behaviour, attention, information, and individual differences” were the factors that defined whether or not a soundscape was perceived as positive or negative. In terms of behaviour, researchers found that people judged a soundscape based on whether they felt in control of the environment and if it matched their expectations for social and environmental norms (2013: 10).

Soundscapes that fit a participant's behaviour and lifestyle are classified as positive experiences. Attention to foreground and background noises is the second factor in soundscape evaluation. Participants perceived foreground sounds that required more attention because of being loud, unpredictable, and persistent. Sounds that were perceived as “blending” together were thought of as a positive experience (2013: 10).

Information processing is used when evaluating a soundscape as positive or negative. If the soundscape provided information to the listener, it was considered a positive soundscape. If a soundscape stimulated and caused the participant to feel inquisitive, it too was evaluated as being a positive experience. Participants felt that if a soundscape was unexpected and incongruent to its sound source, it was experienced as negative.

The last element to be considered in this part of the research was the individual differences and preferences of every participant based on memory and individual experience that can influence soundscape evaluation. Soundscapes that incorporated “emotionally charged” associations were especially impactful. Older participants in the research group brought forward the idea that memories of old soundscapes played a significant role in evaluating current soundscapes (2013: 10).

This observation provides a thought-provoking perspective on my ongoing self-exploration concerning the themes I've previously emphasised as personally intriguing in the context of investigating ideas of place within the broader Johannesburg

metropolitan area. It raises the question of how my recordings and interpretations, particularly regarding what constitutes a positive or negative soundscape, can influence another listener's assessment of a location and the meanings they construct in relation to that place.

2) Components of a Soundscape

Where the above research was designated for focus groups and aided in formulating a broad idea set on how people perceived soundscapes positively or negatively, here the research investigated how the direct experience of a soundscape and its components affects an individual by conducting soundwalks. From this research, a language organogram of terms emerged that individuals used when attempting to describe the soundscapes they found themselves in. The researchers concluded that soundscape characteristics could be categorised into three areas, namely: *Sound sources*, which refer to physical entities. These could be a diverse assortment of items, ranging from traffic to individual components like brakes; *descriptors of sound*, nouns such as rattling or whirring, for example, and lastly, *soundscape descriptors*, which deal with the entirety of what is heard and are aggregated under four terms that have been named cacophony, hubbub, constant, and temporal by the research team (2013: 15).

3) Dimensions of a soundscape

Here the investigations revolved around soundwalks and laboratory listening tests by providing a picture of the cognitive components of an experienced soundscape. The research found that soundscapes are thought of on two axes, namely calmness and vibrancy. When vibrancy is experienced, that categorisation can be split into another two axes named “cacophony-hubbub” and “constant temporal.” The authors of the research propose that there is a strong theme for sound artists and designers when attempting to create a soundscape piece of art. These categories are reached due to qualitative research (soundwalks), which deals with the sound environment of a place, and quantitative research (listening tests), which deals with the listener's responses to it (2013: 17).

4) Application to soundscape design

There were several experiments that used simulated soundscapes in the research. Within these experiments, there was an emphasis on finding a way for individuals to engage with the soundscape as well as giving them the ability to manipulate the mimicked environment in some way. It was found that there was a tendency for people to classify and categorise simulated soundscapes in a similar way compared to that of experiencing real-world soundscapes. It was also noted by individuals participating that they felt very involved by the ability to manipulate the soundscape (2013:19).

This provided me with direction towards the idea that it might be a valuable component in my art installations if I gave audience members the ability to manipulate my project(s) in some sort of way. This might motivate a higher sense of cognitive engagement with the experience in addition to giving them the ability to possibly add some of their individual meaning to the piece as well.

Another published article by The Positive Soundscapes Project that was of great interest to me discusses the practical framework for assessing positive soundscapes, namely *An Activity-Centric Conceptual Framework of Assessing and Creating Positive Urban Soundscapes* (Cain et al., 2008). The approach was developed to fit into a broader interdisciplinary research framework, one where it is understood that every soundscape is “inherently personal,” with every individual having added their own meaning and listening experience in the act of listening to soundscapes.

The authors point out that this personal experience provides a significant challenge to exploring positive soundscapes. To attempt to find a solution to the above challenge, the team of researchers decided to take an “active-centric approach” by using the premise that the perception of a soundscape depends upon:

- “Who you are (demographics)”
- “Why and how you are listening” (activity at the time of listening and listening state),
- “The time of the day you are listening” (temporal factors),

- “The location of the type of space you are in” (spatial factors).

(2008: 2)

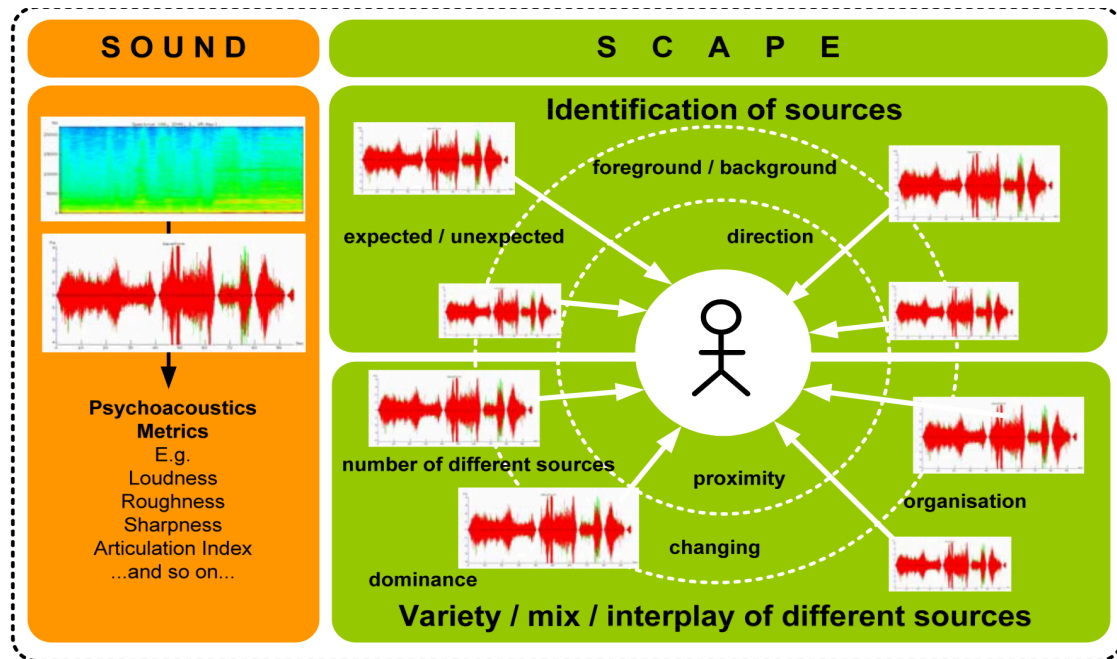


Figure 4.1 Diagram showcasing how sounds and soundscapes are perceived
(Cain et al., 2008: 2)

Soundscapes cannot be measured by metrics alone, such as loudness, articulation, duration, etc. These terms are only useful for sound sources. The diagram above shows how the research team broke up the soundscape worlds into two axes, namely “Sound” (where metrics are used to measure the sound) and “Scape,” where terms that help define the interplay/mix of different sounds are used (2008: 1)

When planning the activities, researchers found that the foundation for the active-centric framework was developed on the idea that:

Different people...do different activities...at different times of the day/week/year...in different types of urban spaces that have different types of characteristics...in different geographical locations. In summary, each listening experience is distinct (2008: 3).

For that reason, I believe that it is safe to say that every engagement (listening experience) with my installation should result in unique listening experiences, whether those experiences are positive or negative.

The framework was also supported by the idea that the awareness of a soundscape depends on the activity that the listener is doing at the time, which has a direct influence on their state of listening. Barry Truax, in his writings on acoustic communication, summarised the three states of listening: listening in search, listening in readiness, and background readiness (2008: 3).

“Listening in search,” or analytical listening, is the process of active listening where the listener is consciously aware of whatever it is they are listening to. “Listening in readiness” is defined as an intermediate type of listening. In this listening state, the listener is always ready to receive significant information via the act of hearing, but their attention is directed elsewhere. This can include reacting to your phone ringing versus others' phones ringing or a parent watching her child on the playground while talking to another parent. Finally, background listening is described as the act of listening where the individual is focusing on a specific task or requirement and is “tuning out” the sound found in the soundscape environment.

The above article led me to wonder what states of listening will be utilised when my artwork is experienced. To what extent will these acts of listening affect the listener's sense of place within Johannesburg when encountering my two installations?

4.4 Soundwalking

Andrea Polli discusses the subjective attitudes of listening between soundscapes and music while attempting to lay the foundation of an “environmentally aware sonification practice,” an exercise she defines as “geosonification” in the chapter “Soundwalking, Sonification, and Activism” (Polli, 2016).

R. Murray Schafer, the founder of The World Soundscape Project, held the view that soundscapes and their geographic locations should not be separated. He viewed any form of soundscape recording as “schizophonia” that conjured up mental dislocation or

schizophrenia. This argument was opposed to the newly formed method of composing, namely electroacoustic music, led and inspired by artists such as Pierre Schaeffer. Schaeffer took the notion of the “sound object,” creating compositions of recorded objects divorced from their source, which was a view held in contrast to Schafer, who promoted the notion of “the re-establishment of the ecological connection of sound to its environment” (82).

Hildegard Westerkamp, composer and collaborator on the World Soundscape Project, understood soundwalking to be an “embodied method of personally connecting with the soundscape through focused listening while physically moving through space” (82); the main purpose of soundwalking is to serve as a method for the listener to sonically connect with their environment. The environment could be urban or rural. It was therefore not considered a way to only connect with one’s natural environment, which, according to Schafer, was under threat of disappearing, but also formed the base reasoning for soundwalking, where the listeners could become more aware of what he deemed “hi-fi” soundscapes—“relatively” quiet soundscapes with a wide amplitude range, where it is possible to hear a large amount of “detail,” and lo-fi soundscapes—“loud” and noisy environments that result from machinery, where sonic detail is masked by the industrial sounds of modernity” (82). Industrialisation and modernity were thus enemies, narrowly defining the practice of soundwalking and the intent of soundscapes.

Westerkamp holds the belief that the use and manipulation of soundscape recordings could have a positive effect on the listener and stir curiosity about unknown sonic environments as well as cultures. She argues that the use of soundscape recordings and soundscape compositions, with their immersive nature, creates the “ability to transport the listener into another place and time, (and) can enhance a listener’s understanding of a particular place” (82).

Discussing the writing of Andra McCartney, Polli notes that the mere act of soundwalking can have political implications. Soundwalking requires active engagement from the participant but could also be viewed as being closely connected to political

actions. “As if engaged in a political demonstration, soundwalkers can move through space in a silent protest of both the visual dominance in contemporary culture and the constant industrial and electro-acoustic noise assaulting our sonic environment” (83).

There is the potential added argument that my own movement through the boundaried zones and locations of my research is in itself a political act against the homogenised locations that are found within Johannesburg. Some of these places where I am deemed to be an “outsider” include both Yeoville and a gated community in Houghton Estate.

When discussing the differences the listener experiences when listening to music, specifically Western classical music and soundscape recordings, Polli notes that there is a distinct difference in the experience of the two forms. Western classical music is experienced and leans “towards the celebration of human shaping and manipulation of the environment through sound” (83). Whilst listening to a soundscape recording, meaning is created through the “connection and subordination” a human has to all of the complexities of an experienced environment. Soundscape recordings, with their immersive nature, also hold the potential to create a sense of empathy towards the sonic sphere of both human and non-human activities (86).

Empathy is a valuable construct that I wish to impart on the listener when they are experiencing the various soundscapes. Even though there is much to criticise concerning how people are located and segregated within Johannesburg while going about living their daily lives, no positive change will be able to occur if some sort of positive engagement doesn’t take place. My installation is a very fractional conversation in the bigger picture of these issues. Fear of crime is something that we all, poor and wealthy, need to grapple with. Boundaries need to be blurred. The grappling question of how to achieve this is something that lingers in my mind on a daily basis. Maybe for the very few that experience the installations, there will be a stirring of new thoughts and ideas.

Polli concludes that soundwalking is a subjective experience and a method to make the participant, as well as the listener, more aware of their environment, both natural and

man-made. She further emphasises that, “Any soundscape holds a vast amount of information that listeners engage with constantly. Soundwalking, field recording, phonography, and soundscape composition are all ways to become more aware of the soundscape. This approach could have a big impact on environmental awareness and lead to more direct action and interdisciplinary research (90).

4.5 Fear of Crime

Teresa Dirsuweit (2014: 901) discusses how the perpetuating fear of crime has created isolated communities and an *othering* due to a high demand in creating spaces of safety. She notes the increase in fortified spaces even though violent crime statistics have decreased (901)³. Dirsuweit comments on gated communities, security villages, and fortified townhouses as features of the urban landscape of the greater Johannesburg metropolitan area, stating that the effect of the fear of crime “on the morphology of the city has been profound” (1994: 901).

The South African Human Rights Commission, as far back as 2005, concluded that road closures and gated communities “cause social division, dysfunctional cities and lead to the further polarisation of our society” (2005:5). There was a moratorium placed on the implementation of gated communities after the report was released, but public pressure, due to the fear of crime⁴ as well as the financial benefits of owning a home behind a road closure, has since placed gated communities back on the map.

Dirsuweit does highlight that even though it is important to note that the experience of living within gated communities and security estates must be acknowledged as a range

³It is to be noted that more recent crime statistics may differ from the time of this writing.

⁴A study conducted in 2013 on gated communities' effectiveness in crime prevention found that gated communities and their immediate surroundings are associated with increased levels of burglaries. The authors of the study conclude that “this study demonstrates that gating does not necessarily prevent crimes such as burglary but can in some instances even attract criminal behaviour, both during the day and during the night” (Breetzke, Landman, and Cohn, 2014: 136). Burglary rates in gated communities were found to be 3.5 times higher than the city average. One of the limitations the study has is the fact that only burglary statistics were covered and not other crimes. The study does, however, point to the potential of false narratives when it comes to burglary specifically.

of experiences, there is still overwhelming evidence that such situations tend to create an “inward looking community,” using domestic workers as examples of a “sustained othering” as an impact that comes from living behind closed roads or security villages. Dirsuweit concludes that the strengthening stigma of ‘fear of the other’ has had a negative impact on the “ethic of care across communities of different social classes” (2014: 901).

Dirsuweit observes that the 2008 study also revealed a complex pattern of fear of crime in South Africa. While those residing in informal settlements reported the highest levels of fear, reflecting their vulnerable living conditions, African and Indian communities generally also expressed a greater fear of crime than their white and coloured counterparts. Interestingly, the study further indicated that even middle-class communities experienced significant fear of crime, particularly when considering the potential impact on their standard of living. This suggests that the fear of crime is a pervasive issue in South Africa, affecting various communities in different ways and for different reasons (2014: 902).

For the greater Johannesburg metropolitan area, fear of crime has created acoustic boundaries in the overall landscape. This creates a problematic othering by encouraging a lack of empathy for the other, which has problematic roots in city planning before apartheid, when spaces were made to highlight racial and social differences. Through my own exploration and field trips, I investigated these sonic worlds and boundaries so that I could attempt to answer what soundscapes and keynote sounds inform a sense of place within these gated communities and securitised complexes.

J. J. Williams (2000) argues that the “socio-spatial problematique” of the Apartheid City had a large influence on the rate of social change in South African society, with particular reference to the period after the 1994 elections that took place. He suggests that the state of the nation and its people are reflected within the state of its cities. There was a recognition and a need, after the 1994 elections, by the newly formed South African government, to formulate a plan that addressed the urban sector when realising

the growth projections for urban areas. Williams suggests that for cities to be robust and dynamic, there needs to be a realisation by South Africans of the “dynamics and trajectory of their society at the dawn of the 21st century” (2000: 2).

Williams goes on to state that against the backdrop of the spatial problematique, there appeared to be early forms of potential social and spatial change, but there were also still structurally a number of tensions and contradictions between public and private partnerships through the implementation of legislative measures and policy initiatives. According to Williams, there has also been criticism of transformation as either being too slow or too fast, leaving citizens disillusioned about the “new” South Africa (2000: 3). It is to be noted that this paper was published in 2000. It would be safe to say that there have been changes that have taken place over the last 25 years in the landscape of South African cities (Musonda, Gumbo, and Okoro, 2019).

What are the states of our cities and the people that are reflected in them? What are the soundscapes and *keytone sounds* that inform the city dwellers of Johannesburg’s central district? Through my own endeavours into areas of Johannesburg’s central district and surrounding neighbourhoods, I attempted to better understand the various areas of our city and the states they are in, as well as the people reflected in them. I endeavoured to nurture a sonic awareness and understanding of the acoustic ecology of the environments that inform these areas.

In the book *Writing The City Into Being*, author Lindsay Bremner discusses through a series of essays how Johannesburg as a city has been grappling and attempting to form new identities and notions as a post-apartheid city (2010).

Bremner writes:

Johannesburg is an extremely difficult city to live in, but an addictive city to work on. It never reveals itself all at once. In fact it is reluctant to reveal itself at all. One suspects there must be more to it, more than this shimmering mirage of ceaseless activity, this aggressive web of highways, suburbs and shopping malls, this dross, floating on layers of minded-out conglomerate, being endlessly abandoned, reclaimed, recycled and reused. It is this sense of there being ‘more’ - not as essence, secret or underlying logic but rather as excess - that makes this city so compelling. One can never know enough to know it. It refuses to

submit to a reductive logic. It spawns multiple centres, sends one into divergent directions. Weaves multiple paths and reveals itself in its impurities. It insists that to know anything about it requires coming back, again and again. (Bremner and Law-Viljoen 2010: 1)

The above paragraph holds much salience for me personally as I have ventured into the various locations of my choosing. I have come to admit to myself that it has not been enough. But when will it be enough? Johannesburg is big, incredibly diverse, and very dislocated. The sonic boundaries it has evolved into reflect and reinforce its complex social and spatial divisions. There is the fact that a lot more is to be done and understood; I have merely scratched the surface. There is always a sense that there is far more to discover than what I am able to do in my chosen research. When travelling around, there are so many locations, places, soundscapes, and cultures that throw my formulated ideas and reasonings into spiralling juxtapositions that become difficult to fathom and locate into a single stream of defined understanding when considering placemaking, identity forming, and the acoustic ecologies that support this understanding.

In Bremner's essay, "Border/Skin," the author discusses how Apartheid is yet to be concluded and that it has "simply deferred", when discussing the influx of migrant culture and identities that have become a prominent feature in the modern day Johannesburg (2010: 169).

The "working" function of apartheid regulation and city planning was implemented by creating borders that one did not cross but stayed/lived in. Creating an "omnipresent zone" for permanent residence (169). This planning strategy was true for both city and rural living. A migrant culture that was initiated through the formation of Bantustan communities became a need, considering that although separation of race groups was desired and implemented, there was also a need and reliance on a black/coloured labour force to keep the South African economy steadily progressing. There was consequently an indirect "acknowledged codependency" by the apartheid government (168).

In the post-apartheid era, the above premise evolved into new manifestations, borders, and modes of discrimination between "national" and "alien". The difference between migrants and citizens becomes a prominent theme and natural extension when discussing place-making and identity formation in the ever-evolving developments of the Johannesburg metro. "Apartheid illustrates when the kind of violence that concentrates on borders (selection, separation, differentiation, confrontation, and blockage) is generalised across political space as the permanent precondition for its reproduction. More than simply external, its walls become internal realities, 'invisible borders'...everywhere and nowhere at the same time." (169). "New practices have fixed memory and desire in old certainties" (183).

Bremner's discussion then leads into the formation of the first gated communities, dating from 1984, where the gold mining conglomerate Anglo American laid out a 420-erf gated residential estate in the northern suburbs of Johannesburg, a first of its kind. Under the threat of a state of emergency implemented by the apartheid government the same year, this model was formulated as the start of a new way of living within Johannesburg, with its homogenised zones monitored by twenty-four-hour privatised security that stood in juxtaposition to the "fluidity of the socio-political landscape around them" (169).

Is it not ironic how a gold mining company, of all entities, was the initiator of such a segregated residential environment? The role and discovery of gold, as well as a needed desire to maintain a certain status quo, once again played a vital role in the history and formation of Johannesburg as a city, with a gold mining company as one of the key actors in Johannesburg's evolution.

Bremner concludes by underlining how apartheid values have resurfaced in understanding a new type of migrant culture when looking at how asylum seekers and refugees are impacted by this new generalised understanding of the outsider. Many of these asylum seekers, refugees, migrants, and expats locate themselves in high-density suburbs such as Yeoville (a location I chose to investigate), Berea, Joubert Park, and Hillbrow. "Dark skin color, foreign accent, and unfamiliar dress - signs of foreignness -

have become new signifiers of political valuelessness and disqualification” (171). Under the suspicion of being “outsiders,” these communities have become targets of verbal abuse, physical abuse, police harassment, racial profiling, and arrest. The skin has once again become a subject of creating separation and an “othering” (171).

As a white South African citizen, I am found to be in the regarded position as elevated above these issues faced by the large and constant influx of the ever-evolving Johannesburg community. The fortunate/unfortunate position of that as bystander and observer is a problematic role (a strange tourist) that I have to undertake as I move through these areas where I will never fully encounter this level of social intolerance because of where I am from. The experience raises many uncomfortable questions within me. As a citizen in Johannesburg, what role do I play to support and reinforce these boundaries? Is not my own residential suburb of Melville attempting to create a gated community? What ethical stance should be taken when considering the above paragraphs when it comes to *the fear of crime*? What should my role be in aiding in breaking down social barriers and separation as well as the sonic ecologies that reinforce their meaning? Am I stuck to observe? Or can I participate in change?

In the chapter “Remaking the City,” Bremner discusses the “Architecture of Fear.” Crime during the apartheid years was categorised as “crime against apartheid,” and the act of “criminality” was largely delegated to black townships (180). The apartheid state was motivated by an incentive to keep the white South African population safe, with marginalised races left to deal with the effects of criminality. In a post-apartheid environment, crime and violent crime have, however, not disappeared. “Exacerbated by unprecedented levels of employment, criminal activity has become an intense network of violations of attacks and counterattacks” (181).

Bremner once again highlights the resulting effect of gated communities that sprung up since 1986 as an answer to the threat of crime that seemingly proliferated out of the marginalised communities and townships and into the larger city as a whole. The experience of crime within communities caused social groups to experience what was known as new “rigidities of self and other” (182). She continues by highlighting that race

is no longer entitled to be the main expression, as it was during apartheid in these newly formed homogenised enclaves. These newly formed boundary spaces, however, diffused racial differences and rendered a fear of the other as a productive operation that, in her words, “still haunts the South African psyche” (182).

In the chapter “Bounded Space: Democratic Anxieties in Post-Apartheid Johannesburg,” Bremner states the following when discussing the then (2008) relatively younger spatial enclaves and locations that make up Johannesburg as a whole: “The criminal offers a new metaphor through which to establish continuity between the certainties of the past, the uncertainties of the present and the unknowability of the future” (199).

To me, the above statement still rings true, considering the current state of Johannesburg’s neighbourhoods, gated communities, and residential complexes. Who does not own securitised fencing? Who does not rely on a private security company? Across the various locations I’ve chosen to investigate, I’ve observed numerous attempts to make the internal home a safer place to reside. The “criminal” is indeed a well-formed and established narrative firmly embedded within the larger social spatial themes (regardless of economic status) of Johannesburg some thirty years after our newly established democracy. Some things change, and yet much still stays the same.

4.6 Nature

In Thandeka Madi’s thesis, *A History of Urban Trees in Johannesburg*, the author discusses the influences and motivating drivers for the emergence of large-scale tree planting initiatives that have taken place within Johannesburg throughout its history (Madi, 2020). It is estimated that there are currently over ten million trees planted in Johannesburg. Within that, it is understood that there are roughly four million trees located in private gardens within the city’s suburbs, and approximately 2.5 million trees can be found in parks, cemeteries, nature reserves, conservation areas, and city streets (no_reply@jhbcityparks.com n.d.).

Madi put forth that there is a lack of research on the influence of trees in urban environments in South Africa from both environmental and urban historians. With

particular reference to environmental history, which can be understood as the study of nature in relation to human interaction with it, Madi outlines the work of Donald Worster.

The following three categories apply to Worster's approach to studying the environment:

1) Understanding the structures of nature's evolution in itself and how it functioned in the past; 2) The relationship between human technology and nature and the impact of the introduction of varied technologies on the natural landscape; 3) How different ethics, laws, ideologies, and myths have become a part of humans dialogue with nature (7). As much as there is consideration taken for the fact that trees are considered a biological entity, there is nevertheless an attempt made by the author to analyse the perceptions and values of Johannesburg's urban citizens, considering how these various groups of people relate to urban trees within Johannesburg (7). The author uses the introduction and planting of trees in the "The Parks" of Johannesburg to that of Soweto⁵ (which came much later from the 1950s onwards) and how this influenced the perception and views of the residents residing in their respective areas (7).

The city of Johannesburg is located in the highveld grassland biome, a natural habitat where tree growth is minimal and is considered to be forestless. Madi notes that colonial settlement coupled with the gold mining revolution that was taking place resulted in the hilly grassland landscape being forever changed (2020: 2).

The first introduction of tree planting in Johannesburg was due to an increasing need for timber by the rapidly growing mining industry during the late 1880s (1). As the city expanded in the 1900s, race and class segregation within the city's regions was instituted and became a prominent feature of the city's town planning strategies. It can therefore be argued that the urban geography of Johannesburg was fundamentally shaped by race (6).

⁵ The Johannesburg Parks and Zoo board states that during the 2006/7 period, areas that were previously neglected, such as Soweto, were made a priority. The "The Greening Soweto" project began in 2006 with the goal of planting 200,000 trees in Soweto (jhbcityparks.com/services-facilities/urban-forestry/about, n.d.). By 2010, they achieved this goal (Smith, 2020).

The role of tree planting took a turn from solely being planted for industrial mining purposes to being considered as a method to change and “enhance” the environment for “the better” during the 1920s and 1930s (31). The majority of large-scale tree planting during this period took place in the area known as “The Parks,” in present day also referred to as the “Northern Suburbs.” The suburbs of Parktown, Parkwood, Craighall, Parkhurst, and Greenside all collectively fall under the banner of the Northern Suburbs, where the majority of the middle-class white residents of Johannesburg resided. To this day it remains an area with a high demographic of white middle and upper-class residents.

During the above period, the local authorities played a prominent role in creating forested urban spaces. The first Town Council of Johannesburg was established in 1901 under the administration of Lord Alfred Milner, the high commissioner of South Africa and governor of Transvaal. Milner held the view that forestry was a key initiative in the construction of the Highveld and desired for the whole of the Highveld to be covered in trees (36).

Strategies in planting trees within Johannesburg were borrowed from methods that were learnt in the Western Cape during the late 1800s. Foresters responsible for introducing plant species into the urban environment followed a method whereby trees were chosen based on how they would acclimatise to the environment. A nursery in Joubert Park was used to test tree and flower species’ ability to grow and flourish within the Highveld biome environment. If plant species were found to flourish, they were henceforth planted within the park itself. Each plant species would be labelled so that visitors would be able to identify them and potentially incorporate them into their own private gardens. The plants that proved to grow the best would then be planted along the streets of Johannesburg. All the trees and plants being experimented with this time were non-indigenous. Trees such as eucalyptus, jacaranda, pine, and oak are thus visible all over the landscape of early regions of Johannesburg (38).

Apart from the above initiatives, there were other methods to motivate the public to plant trees as well. Arbour Day (a tree planting initiative introduced by the United States of

America), a national holiday in South Africa during the 1920s, was also used as a motivator for the public to plant trees in Johannesburg. Daniel Corlett, the mayor of Johannesburg from 1931 to 1932, used Arbour Day as an initiative in schools to plant more trees. Corlett held the belief that by doing this, an awareness among children would be created of the importance of the environment and the role trees played within it (39).

Within the middle to upper-class white suburbs where the planting of trees was abundant, the perception of the changing natural urban environment was positive. A significant portion of the residents actively participated in tree planting initiatives. The primary motivation for citizens to plant trees was to serve as a reminder of their origins, as the selection of trees displayed evidence of colonial settlement (43).

In Soweto, as mentioned above, the change in the urban environment was significantly slower. Tree planting only started to gather momentum from the 1950s onwards, and yet it is still not as profound as in the white suburbs to the north of Johannesburg. Soweto and other black townships were largely neglected and disregarded by the city council and national government (52). There was very little attention given to infrastructure development and implementation during the apartheid era. Reasons such as poverty, overpopulation, small household property sizes, prohibition to own land, and a substandard education in township schools all compounded a lack of tree planting initiatives taking place either by the municipality or the residents of Soweto (52-56). The space and motivation for tree planting were simply very limited. The premise of substandard living conditions was considered a potential encouragement by the apartheid government for residents of Soweto to return “back” to their homelands. This, however, was not a successful endeavour, as an influx of people to Soweto continuously increased (54).

Apart from the above problems arising from the neglect directed towards townships by the apartheid government, civil unrest was also a prominent theme throughout the history of Soweto during the apartheid era. This further compounded the challenges facing Soweto as an area where any intention of urban forestry could take place.

Mabi concludes that archival research that was personally undertaken revealed very little evidence on how Sowetan residents felt about planting trees, but that there was, however, a largely positive response to tree planting initiatives implemented by various governing bodies and civil society groups.

On my second field trip to Soweto, I explored the suburb of Rockville located next to Thokoza Park and Moroka Dam. A selection of my soundscape recordings from this trip can be found in both of my installations. The suburb itself is fairly devoid of trees, and it seemed to be a noticeable challenge to find space for any tree planting initiative to take place. Birdlife and the sound of birds were, however, abundant. Nature's sonic presence is clearly audible. The residents' relationship with Thokoza Park when I explored it was undoubtedly a positive one. It was clearly a communal space shared by all ages, and this green area seemed, to me at least, to play an important role in the lives of the surrounding community.

The role of nature in suburbs that the economically affluent inhabit still debatably holds the ghosts of past intentions. But at the same time, the city's governing entities' continuous attempt to create and nurture green spaces is evident as well. Madi continues to highlight that there was a shift from planting non-indigenous trees to indigenous trees from the 1960s up to the present day. This change in strategy was largely due to a new understanding of the South African national identity and strategies in environmentalism (64). What is intriguing to note is that the intent of planting trees and thus creating an urban forested region has not ceased, just the type of species that are planted. An interesting thought when considering that Johannesburg's ecological biome is historically a fairly treeless region. Are we "fixing" the colonial intentions of the past, or are we merely putting a new frame around an old picture?

In Jeremy Foster's paper, *The Wilds and the Township*, the historian and academic discusses the formation and development of the public park called The Wilds (near the centre of Johannesburg CBD, below the ridgeline of what is known today as Houghton Estate or Upper Houghton) and Orlando, the first formally planned African township.

These coincidental events took place in 1937, shortly after the Johannesburg Empire Exhibition (Foster, 2012).

Foster argues that the above events can be viewed as examples of the vastly different articulations of modern capitalism that have particularly characterised Johannesburg since its inception. The formation and founding of Johannesburg is unique when compared to other cities in South Africa, with the difference being that it was founded as a mining camp and not considered to be an agricultural centre or colonial port centre (2012: 43). The influence and residency of speculators, engineers, and entrepreneurs fostered a lack of comprehensive long-term urban visions and town planning. In Johannesburg, early developments can be characterised as a city growing with makeshift, profitable solutions and a limited set of social and economic goals (43). From the 1930s onwards, Johannesburg developed and evolved into a city without the historical and regional context of its environment. This lack of perspective was being physically represented and inscribed within its landscape from borrowed western trends and imports that defined urban life “elsewhere” (43).

In 1932, Britain and South Africa abandoned the gold standard, and the price of gold consequently doubled. By this time, Johannesburg had already become the focal point of industrialisation in sub-Saharan Africa. The above choice, combined with the effects of drought and the Depression, brought rapid economic and demographic growth. The growth also received an influx of international investment and therefore fostered and strengthened cultural connections with Europe and North America (43). The influence of well-travelled international elites with connections and links to the South African gold mining industry started to have a bigger impact on the city’s affairs. The motivations of these groups of influencers were prompted by the belief that they were “Europeans that lived in Africa” and that an embrace of western modernity and knowledge held the answers to solving the subcontinent’s problems (44).

Through industrial and modernist developments, Africans formed an important part of the Witwatersrand’s population. And yet their presence was largely ignored in a rapidly developing cityscape. The African population lived in a slum area close to the city

centre, but after a bubonic plague outbreak that took place in 1904, the location was demolished, and its population moved to a township outside the city (47). Similar to other colonial cities, there was a belief that native populations were beyond the influence of sanitary control and new medical discoveries that reduced the risks for European residents. This assumption was however complicated by the need to ensure a reliable source of labour for the city. In order to expedite mining production, large mining companies also housed these labourers on their properties. The aforementioned developments curtailed the expansion of slums and disorganised residential areas, inadvertently transforming regions deserted by white citizens into locales such as the Western Native Townships and Alexandria (47).

Running alongside the early growth and developments of the city was the European population's attempt to isolate itself from its regional environment, which they understood to be dangerous and hostile. There was a recognition by property developers that parks and forested areas served as a metaphor for "home" and a triumph of civilisation over nature in a region that was mostly treeless. As discussed in Madi's thesis, by the 1930s the northern suburbs were increasingly marked in a fantasy landscape of human intervention with its own unique fauna, ecology, and microclimate. These areas conformed to the model of the garden suburb, where nature is associated with privilege, profit, and social mobility. This stood in contrast to the ideals of a garden city, which associated collective ownership of the environment as one of its guiding principles (47).

The private house and garden became a self-contained symbol of privacy and leisure. Even though developers created parks close to the northern suburbs that were far away from African residential areas, these spaces were mostly ignored, with preference given to semi-private spaces, such as golf courses. Even as the newly introduced green spaces and green networks developed and matured, there was still a rejection of these spaces by the European public at large, which spoke to the racially charged nature of Johannesburg's public discourse. Communing with nature was considered an individual and domestic endeavour (47).

Foster writes that “the measurement of Joburg’s modernity by the mutation of its cityscape into a European city was haunted by a counter-imaginary (47).” Here he discusses the term *veld*, which can be understood as “uncultivated country” and can be characterised as remoteness and vastness, the typical typography, and the natural habitat that Johannesburg is situated in. Pockets of *veld* remain visible in many parts of the city interspersed with man-made forests. From 1933 on, these pockets were transformed into urban forests with only the natural streams, whose sources are found on the ridges of the region, a visible representation of what was once there. The elite citizens of Johannesburg, who championed the city's growth and development, saw the meaning of *veld* and its vast, empty feeling as a contrast to the surge in perceived materialism (47).

Foster highlights the complex interplay of identity and modernity in 1930s Johannesburg, stating, “Tensions between this ostensibly *arrière-garde*, but actually quite new, imaginary geography of white identity and the increasingly cosmopolitan modernity in 1930s Joburg are critical to understanding the simultaneous creation of The Wilds and Orlando (48).”

There was a high disregard for unspoiled land, as can be seen above, and yet The Wilds consisted of a 50-acre property that contained only indigenous plants from every region of South Africa. According to Foster, this can be considered an attempt to salvage a disregarded piece of land in the heart of the city, but it can also be viewed as an opportunity to develop a “new equation of (white) nationhood with nature (48).”

The Wilds was created in a unique topographical area, a hidden valley of sorts where white threatened ideals “could lie low and fears of racial swamping and the degradation of the formerly unspoiled hinterland by African farmers might be temporarily forgotten” (48). The Wilds served as a self-reflexive mirror, concealing the intentions of change imposed by colonial and imperial modernist ideas.

Sadly, and quite ironically, the symbol of the reflexive *veld* linking white national identity to the “unspoilt *veld*” was not available to African citizens. African residents were viewed as dwellers of remote communities, romanticised rural peasants connected to the land

through uncompromised work, who required protective guidance to shield them from the harmful effects of modernisation. The white notion was that Africans were not well equipped for city life and that it somehow would result in their moral and psychological decay (50). The idea was conveyed through a rhetoric of social disorder and poor living conditions, which was underpinned by the idea that “good natives” lived in decentralised communities with their kin and family, while “bad natives” lived a transient life “in congested, decaying urban neighbourhoods, subject to all kinds of corruption and ills” (50).

With the huge economic growth of the 1930s, the influx of the African labour force increased drastically, which resulted in hazardously overcrowded conditions. The slums had no access to water or sewerage, and diseases like tuberculosis became common. The less-than-favourable living conditions became justifications for creating Johannesburg’s first township. Because the southern regions of Johannesburg were zoned for mining, the township needed to be placed even further away to the west and south behind the mine dumps where it could not be seen (50).

Orlando was henceforth planned and laid out according to the model that the township planners were most acquainted with: the garden suburb. Moderate housing was built and arranged according to the cultural rationale of the neighbourhood unit. All of the housing was arranged to face inward towards shared facilities at the centre that would promote social cohesion (51). This was a naive attempt to create living conditions that could be considered an augmentation to the benefits of a modernist Johannesburg to its African residents, as little consideration was taken into the dynamics of the population and their relationship to the city as well as each other.

There was naturally a reluctance for the African population to move to Orlando due to its distance from places of employment, regardless of the fact that their living conditions would be improved and that rent was cheap.

There were attempts made by various groups of researchers to better understand the needs and cultural contexts of African residents in Orlando by students and academics from Wits during 1937 and the late 1940s, but both attempts fell flat bearing no fruitful

results, the latter attempt being deemed as fascist, anti-democratic, and not locally relevant (53).



Figure 4.2 Aerial view of Orlando during the early 1930s (Foster, 2012: 51).

When World War Two broke out, it caused an exponential growth in Johannesburg's slums. This was partly due to the government suspending influx control into the Witwatersrand area because white labour was leaving for the front, and industrial demands needed to be maintained (Campbell, 2025). Authorities sensed the potential of a large-scale urban crisis, which motivated the state to initiate a nationwide housing program that was unrivalled or comparable to any other initiative undertaken in other colonial countries. The original notion of the township to be constructed in the image of the garden suburb persisted (53).



Figure 4.3 A street view of Orlando housing (Foster, 2012: 51).

Foster notes that the regression of Orlando and other townships due to overpopulation, a lack of services, amenities, and utilities, while being framed by the insecurity of high resident turnover and long commutes, has been well documented. These townships were essentially formed as a way to “warehouse” labour for the mining economy (54). Foster emphasises that the townships’ physical design and location were not the only problems and that the draconian laws implemented by the apartheid state after 1948 added to the weight and distortion of the situation. Foster continues that it is important to understand that Orlando and other townships were partly endorsed by an attempt to “topographically re-imagine the city’s relationship to its hinterland that meant little to township residents, but effectively naturalised the city as a space of racialised representation” (54).

Foster concludes that the simultaneous development of The Wilds and Orlando showcases the vivid power of representation that is at the core of modernism and its important alliance with capital. The Wilds and Orlando also serve as an example where *nature* is used as an agent to accumulate and express economic wealth and power. With the city landscape of Johannesburg during the 1930s becoming increasingly more visible, The Wilds and Orlando served as a vehicle to express a metaphorical “improvement” of the “modernist-nativist socio-nature mediated through different

moments of closure/disclosure (56).” The Wilds represented a “closed” space and a “refuge” for white identity, a place where one can escape the perceived chaos of the city. A playground for the white population where one can remember a particular white national identity that is linked to an idealised version of the “unspoilt *veld*.” Orlando, on the other hand, serves/served as a representation to “disclose” or reveal an envisioned, ordered environment for African residents that was ultimately a method of control. According to Foster, Orlando can metaphorically be considered as a very large “waiting room” where African residents are offered the opportunity to adapt and assimilate to a westernised way of life (56).

It is an eye-opening realisation of what the intentions around the creation of The Wilds were when comparing it to the intentions of creating Orlando. In Johannesburg there is currently an interesting dichotomy at play which speaks to the above. Suburbs such as Sandton and Parkhurst both have informal settlements that have sprung up in recent times next to them. A proverbial eyesore and threat for the residents that have historically been conditioned to understand that such settlements should be beyond the reach of their residing environments (<https://unequalscenes.com/johannesburg> n.d.).

The proximity of these settlements to areas of strong economic activity is also a point of interest, as it could be argued that many of their residents surely find means of financially sustaining themselves in the upmarket areas closest to them. Unfortunately, not much research has been done in these areas. These settlements spring up quickly, and apart from interventions to get rid of them, studies on their influence, economic relevance, and the communities that reside in them are few and far between. One can argue that these informal settlements are a kind of “going back to the beginning” of the informal, unplanned, haphazard origins of Johannesburg. I find this concept to be truly fascinating (Parnell, 2003).

In many ways, I still feel that the power/privilege play of the garden suburb still holds true in many of the middle to upper-class suburbs around Johannesburg. Here the visibly aged tree-lined streets, large lush gardens, and sounds of nature that accompany it continue to subtly assist in representing the sense of enforced privacy

and peace. The physical barriers, such as walls, electric fences, and gated interventions, only compound the sonic perception of interiority and solitude, however “tranquil” the environment sounds.



Figure 4.4 An informal settlement in Innesfree Park near Sandton; this settlement has since been removed, with many of its residents relocating to the greenbelt that passes by Sandton (<https://unequalscenes.com/johannesburg> n.d.).

4.7 Placemaking

In “Listening Together, Making Place,” Katherine Norman examines the various metaphors of place and placemaking when discussing how we understand the world through the experiences of the individual, known as phenomenology. She does so with specific consideration held towards sound-based music and art concerning the environment as well as listening to environmental sound (Norman, 2012).

Norman tries to figure out how to create a stronger sense of “connectedness” in the environment by thinking about how to include elements of placemaking in works that can be heard (2012: 257). She quotes environmentalist and sound artist David Dunn, who proposes that “we require new modes of experience that can help recover those

aspects of human integrity that are rooted in a fundamental sense of connectedness with the non-human world” (Dunn, 1997: 4 as quoted in Norman, 2012: 257). Norman further continues that there is a requirement for the role that art and artists play to bring up a higher sense of social awareness through the “very metaphors we use to organise reality” (257). She further continues by stating that in using those metaphors as a means of engagement through the listening experience, artists might find new ways of elevating the sense of connectedness through the experience.

Norman directs her focus to metaphors of *place* and of *place perception* when considering certain sound art, with specific reference to how artists might use these metaphors of *place-making*. She also considers how we collectively exploit these metaphors unknowingly in our regular engagement with the environment (257).

Norman points out that where she disagrees with Dunn’s above statement is that the methods of experience that these metaphors might inspire are not “new” at all. She believes that the metaphor’s familiarity creates a sense of invisibility in our everyday encounters with the environment. Norman also maintains that an examination of both human and non-human sonic activity, already considered integrated and intertwined, must be part of the “environment.” Norman points to her personal view that it is firstly impossible to separate human and non-human worlds within a utopian physical or philosophical state. Second, if the above was the preferable state, how does a connectedness with the environment make sense when expressed as absence rather than presence? To Norman, an environment devoid of the “artefacts of social discourse,” that is to say, the sounds of human and non-human presence intertwined, can be as discomfoting as if the natural environment had been completely removed by uncaring human activity. Norman further posits that the answer to the above problem might occur when our human presence is to be placed in the forefront so that we can foster a “self-educating” response to our relationship with the environment at large (257).

Norman explores three different works by three different artists: Steven Feld’s *Rainforest Soundwalks* (2001), David Monacchi’s *Integrated Ecosystem* (2009), and

Francisco López *La Selva* (1998). The lived body in all three works is present in different ways. Either physically through performance (Monacchi), or implicitly by how the sounds of the environment are manipulated (Feld), or through the occasional sounds of human presence (López). All of the above works are recordings of rainforests that are each located in different parts of the world. In as much as the sounds of the environments, understood to be areas that are under threat from human activity, are aurally captivating and important to anyone with their rich sonic variety and “density,” there is still a barrier that is placed between the listener and the environment, according to Norman. For the listener to experience a “sustained sense of knowing a place,” a mandate is placed on the listener to somehow understand an environment that they are familiar with. To most of us, the rainforest is a long way from what we are familiar with and therefore carries with it the risk that the listener, through the experience, will exoticise the soundscape (258).

A common understanding of *place* is in reference to a known area. Most people also understand the additional and elemental definition as a “gathering”-“of feeling, memories and habitual actions” (258). Norman uses the example of inviting friends into your house while urging them to feel “at home,” which carries the meaning of feeling freedom, safety, and pleasant memories. This encoded message carries with it a certain discursive understanding of *place*, not derived from the external environment, but from what we make of it (258). The relationship between “the perceiver and the perceived” is what defines a place, which is not bounded by the parameters of the locale. Therefore, a sense of *place* is fused with sensory perception that in turn becomes a place within our memories. This memory then carries a potential to be re-understood in time if it is required. Norman uses the example of purchasing a piano. Where the piano was purchased can be understood as a *place* within a lived experience that includes visiting the showroom, communicating with the owner, trying out various pianos, and finally purchasing it. Norman thus posits the question of whether sound-based music and art can evoke similar “investment through, somehow, encouraging place-making metaphors (258)?”

Norman discusses the work of Edward Casey and understandings of *place* within phenomenological traditions when regarding sound-based music and art in relation to *place* and *place-making*:

1. **“Places not only are, they happen”** (Casey, 1996: 27 as quoted in Norman, 2012: 258). How we perceive and make sense of a *place* is continuous. As we develop, grow, and accumulate more knowledge, it in turn aids in informing our sense of place. It requires our lived experiences and “bodily presence,” even if it is metaphorical (258).
2. **“..the body is ‘basic to place and part of place’”** (Casey, 1996: 24 as quoted in Norman, 2012: 258). The articulated human form, which is inherently situated within an environment and actively engages in placemaking through movement, is characterised by a continuous state of motion, even when outwardly appearing to be at rest (258).
3. **“Bodies and places ‘interanimate each other’”** (Casey, 1996: 24 as quoted in Norman, 2012: 258). As the body is understood to be in constant development and growth through movement, living, and experience, this evolution is therefore viewed as essential to the experience and continuation of *place*, as *places* are as fundamental to the progression of human existence (258).
4. **“Perception must have an ‘ingredient’ that conveys place”** (Norman, 2012: 258). If our perception of the world is key to understanding *place*, then our insights must consist of qualitative “ingredients” to be able to perceive a *place*. In other words, we are perceiving by a defined rule set. Norman expands on Casey to further explain that as humans, we are informed by a vast consciousness stream of “perceptual experience” to draw from, instead of a constant flux of unbounded sensory data. According to Norman, Casey’s exploration of the depth and breadth of how we perceive *place-making* as an activity, is reliant on the perspective that perception is accompanied by both “cultural and social components, embedded in the lived body that does the perceiving (258).”
5. **“We are both ‘with’ and ‘in’ place** (Norman, 2012: 258).” If *places* are something that we define through our perceptual experience, they can be

considered as not external to us. Therefore, through being in the environment, they exist and define us. Our “withness” to an environment is a fundamental component of our individual experiences and is “responsible for the body’s unique contribution to our experience of the world in general and of place in particular’ (Casey, 1997: 214 as quoted in Norman, 2012: 258). A.N. Whitehead, a mathematician and philosopher, introduced the concept of “withness,” which is interpreted as the perceiving body’s awareness in two ways: 1) as a perception that is influenced by experience and 2) as a located “position in the landscape of perceived objects” (258). Norman uses Whitehead’s example of observing a chair, where we “see” the chair with our eyes, but we “touch” the chair with our hands. Thus we objectify the chair in one way, but we also objectify our eyes and hands in another way. All are considered important factors in the “experience of the subject” (Whitehead, 1978: 62–3, as discussed in Norman, 2012: 259).

Norman concludes, when considering the above, that “our” experience of place and how we attempt to understand, express, and define its formation can be viewed as a collective coming together that is both personal and communal at the same time. In as much as a writer can draw on imagined “communities of people” and specifically readers into the *place* of their ideas. This concept holds true for the physical experience, as well as (in my case) the listening experience, where placemaking is a collective act. To Norman, environmental art is “effective, and affective” if it influences our relationship with the world and makes us more self-aware of how connected we are to that world and its locations. The “positive” impact should be long-lasting and constitutive.

The above text had, and still has, a profound impact on me. This is a substantial and somewhat overwhelming ideal to pursue, and I perceive my current understanding of my own and others' place in Johannesburg to be nominal. As a collective body of people living in Johannesburg, we are inherently linked to our past, almost without the option of exiting it. Our bounded spaces and links to a historically imposed natural urban environment are plain to see, and so too the sonic signatures and environments that accompany it are plain to hear, even if arguably a little more vague.

4.8 Informed Artists

During my research, I have discovered a number of other South African sound artists that have researched various topics around the soundscapes of Johannesburg. Much of their collaborative efforts form part of a global collective of artists and researchers that have found their inspiration from artist Pauline Oliveros and her 1989 composition called *The Witness*, a “deep listening composition” that consists of “three open strategies for listening, attuning, and responding to ourselves and to one another” (*The Witness*, n.d.).

This global collective of artists all contribute to a website also called The Witness (Lleiman, 2022), with the Sound African arm of the project all participating under the banner: “Excavating the historic sounds of Johannesburg.” The group’s biography explains that “climate change and the encroachment of the cacophonous urban soundscape have put historic aural environments in jeopardy, making it more important than ever to save our intangible collective heritage.” (*The Witness*, n.d.). Two of the artists whose work I took particular interest in are Jill Richards and Jurgen Meekel.

Pianist, artist, and researcher Jill Richards uses the platform to focus on topics around Johannesburg, such as pre-apartheid spatial division, deep listening soundwalks, and ancestral acoustic ecologies. Her collection of work is recorded in the form of interviews as well as soundscapes and sampled audio recordings. *Pause* is a series of sonic compositions (recorded soundwalks) of Johannesburg soundscapes that were made for headphones. It requires participants to go on their own walk through the city whilst listening to the recordings, creating a “superimposition” with one walk being mandated by another (*The Witness*, n.d.).

Richard's recording and sampled audio, made up of sounds created by hitting an iron-stone rock gong that is located outside the Origin Centre entrance inside Wits University, was a very interesting sonic experience to me. While the reason for the use of rock gongs is largely unknown, the idea that there were pieces of stone that were used by our ancestors to create bell-like sounds is fascinating to me and reveals a sonic palette that is most definitely lost to the modern world. (*The Witness*, n.d.).

Jurgen Meekel is another of the artists/researchers that have contributed to the investigation of Johannesburg soundscapes. In his multimedia installation of video and soundscape recordings, *Somewhere in Between*, Meekel initiates a creative response to the visual as well as acoustic environments through the lens of field recordings and artistic input. Meekel interestingly categorises areas of Johannesburg into “distinct areas of acoustic transmission”, namely industrial areas, townships, the inner city, and leafy suburbs. Meekel argues that these distinct zones were caused by apartheid-era planning that was based on racial lines and segregation and also contributes to how the city shaped itself around its perception of noise (*The Witness*, n.d.).

I found much inspiration after reading an interview with Nigerian sound artist Emoh Ogboh (Francis, 2023). The interview revolves around Ogboh’s creative processes. The artist has received critical acclaim for the “transportive qualities” of his works. When I first listened to his musical works, I was struck by the sense of inquisitiveness it aroused in me. I also found his choice in soundscapes similar to what was described by the Positive Soundscape Project (Davies et al., 2013) participants, due to some of his compositions having an acoustic vitality that I found sonically appealing.

The artist discusses his catalogue of numerous field recordings that he has recorded whilst living in Lagos, Nigeria. Ogboh addresses the various forms of soundscape recordings, anthropophony, biophony, and geophony. Sounds that signify urban areas fall under anthropophony. Biophony includes sounds from the natural living world, whereas geophony refers to soundscape recordings that consist of weather patterns and geological movements (Francis, 2023).

In the interview, the journalist, Joseph Francis, tells Ogboh of his personal experience when listening to his compositions, likening it to “audio travel”. Francis then posed the following question: “Does the sound of a place inherently question the listener’s capacity to be open to different ways of being and living?” to which Ogboh replied, “It’s really about how tolerant and how open you are to experiencing new stuff. Some people, even when they don’t like it or it’s harsh to them, are still open to it because it’s different. I’m

always genuinely blown away when people are like, “Oh wow! We love your music! We love Lagos!” (Francis, 2023).

The above led me to question whether similar sonic exposure into the different parts of Johannesburg could lead a listener to open up their self-awareness to the different spaces that collectively give rise to our sonic identity in Johannesburg. How will the experience influence the meaning that I and the listener form around the acoustic ecologies we find ourselves in? These questions form a valuable part of my creative inquiry into the acoustic territories we find ourselves in on a day-to-day basis (Labelle, 2019).

Marcus Maeder is a sound artist, acoustic ecologist, researcher, and composer who focuses on “ecoacoustic investigations of areas, communities, and organisms under the influence of climate change and other environmental issues” (Marcus Maeder, n.d.). Maeder situates his artistic and scientific work in the fields of acoustic ecology, soundscape ecology, and artistic research. Maeder’s artistic research approach as well as his various sound installations is what spawned the initial idea of having my installation in an outdoor environment (Marcus Maeder, n.d.).

Sounding Soil is an “inter- and transdisciplinary research and art project that investigates the acoustics of soil ecosystems.” The outcome of the project takes the form of a sound installation (Maeder, 2022b). The installation itself consists of a three-metre container with a small garden on top. The container houses a touchscreen console with an audio map and a spatial audio system. The container on the inside is painted dark to simulate the darkness of soil systems. The sound map in the container contains 20 selectable recordings of different soil types and areas around Switzerland. When listening to the recordings, one immediately becomes aware of another world in flux. Maeder points out that almost every living organism produces sound waves as the embodiment of a living system (2022: 46). The installation’s recording captures the sounds of a diverse array of insects present in the recorded habitats. Acoustic indicators measured the soil biodiversity of the recordings. Conventionally farmed arable land was found to be a lot quieter with less sonic activity than organically managed meadows

(2022: 46). It was discovered that forest soil was generally quieter than that of a sunlit meadow due to the cooler temperature and reduced activity of fauna. Other natural elements were also heard, such as rain when it hits the soil and seeps into it, or wind blowing through the vegetation with the movement being picked up in the soil. Lastly, environmental noise, such as aeroplane noise, vibration from roads, and noise from buildings, could also be heard and would adversely affect the recordings that were being captured. (2022: 46).

The final part of the installation that takes place is the music that starts to be played when no soil sounds are selected. It consists of sound patterns that are executed at three different volume levels. Measurements such as light intensity, amount of rain, surface and soil temperature, and solid moisture levels control the music heard. All the data for the music is received from a small weather station that is on top of the container (Maeder, 2022b).

Maeders' sound installation provided the incentive to understand the various ways in which data could be gathered from natural elements to not only sonically explore but also to use as an element in the creative process, which could potentially dictate how certain sounds are experienced within the installation, with specific reference to how and what I sonically explore under the research topic *Nature*.

For the most part—I am yet to find an example—soundscape art performances or installations are located within a space separated from the environment in which the sounds are captured in, and therefore the located space carries its own meaning, whether that be historical or an art gallery of your choosing. Each indoor or outdoor environment, therefore, has an impact on the overall performance, whereby added meaning and/or the acoustic properties of the environment play a role in the overall sonic experience of the installation/performance.

Soundscape artists Jane Grant and John Matthias, in their 2018 installation entitled *Fathom Atlantic*, designed an immersive installation in an old reservoir in Plymouth in southwest England. The installation was built six feet off the ground. "Visitors were

immersed in an underwater sound-environment where the minute fluctuations of the sea are heard as they move around the space” (“Fathom Atlantic (2018),” n.d.).

Sounds that were being emitted through the sound system included sounds such as ferries that were manoeuvring into Mill Bay, more minute sonic events of smaller vessels that operated in the estuary, as well as the tidal activity of the waterway. The collections of these sounds all became an underwater sonic representation of the Tamar Estuary.

As visitors climbed higher up onto the stage, they were able to “breach” the underwater sonic activity and were made aware of sounds that could be found just above the water surface, such as seagulls, airflow, and human-made sounds. Grant states that the experience created, “a vast but specific volume of sound, with a definite but mutable boundary that differentiates the world of water from our world of air.” (“Fathom Atlantic (2018),” n.d.).

Although I am unable to experience the installation itself, I was able to listen to the recordings performed on the video documentary of the experience. It was a fascinating project and I believe it was an attempt by the artist to make the visitors of the installation aware of sounds that are not heard in everyday life on the surface as well as how our human activity still played a role in the underwater activity of a used estuary in the region. It is interesting to consider how the installation informed the visitors of their sense of place in the acoustic environments they find themselves in.

Another art installation that I found of interest on my journey of discovery was James Webb’s *The Black Passage* (theotherjameswebb, n.d.). Webb recorded the sound of an empty elevator cage descending into and ascending out of the South Deep gold mine, at that time the deepest twin shaft gold mine in the world. The sounds of the occurrence were broadcast by a series of speakers at the end of a twenty-metre black tunnel. A frame of golden light that is emitted behind the array of speakers is the only visible representation that can be seen by the visitors at the rear of the tunnel. The sounds of the recording were “diffused at high volume and can be experienced as both an auditory and a physical sensation” (theotherjameswebb, n.d.).

I found the installation to be a fascinating attempt to make visitors aware of sonic environments that the everyday public was not aware of. The installation potentially addresses our notion of placemaking and how our sonic environments can aid in informing this notion. The ties between the discovery of gold mining as well as the developments and expansion of Johannesburg as a city are intrinsic, and yet many civilians above ground are never exposed to the underground acoustic ecologies of gold mining.

Both artists' works are reminiscent of the writing of Brandon Labelle. Labelle discusses the *underground* and its signifiers in his chapter *Underground: Busking, Acousmatics and the Echo* (2019). Labelle suggests that the *underground* is a mirror reflection of the “hidden materiality” of the above-ground urban topography (2019: 14). In the case of Johannesburg’s historical origin and the underground mining activity that persists today, this statement holds true. The underground of Johannesburg is a space that is “distinct from others” and provides a contrast that is different from the acoustic ecologies that are found above ground (2019: 23).

Grant, Matthias, and Webb both incorporated soundscapes not typically found above ground into their above-ground installations. Locating the installations in specific above-ground locations likely added their own *signifiers* to the performance of the installations (Labelle, 2019). The output of my installation is different because of the attempt to divorce it from the location where it is experienced. Locating it within a tin box adds a different set of *signifiers* to it. I would argue that the experience of the installation would be similar to that of experiencing catalogued soundscapes, locations, and recordings kindred to the motivations of the members of The World Soundscape Project. Listeners are able to perceive and experience soundscapes as an object of study to be considered in itself, where the location the installation is found does not play a significant role in the overall experience of the soundscape.

The visual artist Willem Boshoff is another influence that inspires me, and his works align more with how I aimed to create a visual representation of the soundscapes catalogued by my experiences within the locations I explored. I am specifically referring

to his installation known as the Blind Alphabet Project (1997). The installation functions as a three-dimensional dictionary, housing 338 sculptures within boxes. Visitors rely on the reading skills of blind readers that serve as guides to the installation. The objects in the boxes are hidden from clear view, and gallery rules prevent them from being opened by sighted visitors. Visitors to the installation can see that the artwork looks like a cemetery with endless rows of boxes, with the intention of disorienting them. The blind guides are not aware of sighted visitors' sense of bewilderment, as they can only experience one object at a time. Each work is labelled in Braille so that the blind guide might gain the opportunity to enlighten those that can see (Balanoid, 1996).

In the case of my indoor installations, I have attempted to remove recorded soundscapes from their location as well as visually represent and catalogue the soundscape within an object. The recorded soundscapes are of my experience during



Figure 4.5 The Blind Alphabet installation (“BLIND ALPHABET—Willem Boshoff Artist,” n.d.)

the soundwalks that are located in the various areas I chose to explore, and the visitor forms a part of my experience. I find inspiration from Boshoff in the way he visually represented *The Blind Alphabet*, with the objects on the inside of the boxes removed from sight and still catalogued as something to witness and experience while being led by the blind guide. The visitor to my installation is “blind” to what I saw on my soundwalk and is therefore left to create their own imagery and opinion of the locations whilst experiencing the acoustic ecology of each location that is led by my own experiences. How the individual soundscapes on playback therefore inform their sense of place and placemaking is left up to them, just as the locations aided in informing my sense of place.



Figure 4.6 A Blind guide reading Braille to the visitors of the exhibition

(“BLIND ALPHABET—Willem Boshoff Artist,” n.d.).

5. Methodology

In my investigation into the extent to which an indoor environmental sound installation can influence the listener's sense and experience of place within urban communities in the Johannesburg Metropolitan area, I employed a blend of methodologies. I incorporated Artistic Research as practice through the lens of autoethnography as well as soundwalking as methodology.

Autoethnography can be described as "an autobiographical genre of academic writing that draws on and analyses or interprets the lived experience of the author and connects researcher insights to self-identity, cultural rules and resources, communication practices, traditions, premises, symbols, rules, shared meanings, emotions, values, and larger social, cultural, and political issues" (Poulos, 2021: 4). Artistic Research as Practice is a methodology that can be understood to be "a contemporary phenomenon that broadly refers to rigorous and systematic research undertaken in academic contexts by arts practitioners on their own creative processes and artistic products" (Doğantan-Dack, 2022: 13). Soundwalking can be interpreted as a method for identifying soundscapes and the sonic features that make up the soundscape (Schafer, 1994: 212).

5.1 Artist as researcher

"When is research artistic?"

Julian Klein, director of the Institute for Artistic Research, Berlin. (Doherty & Stolp, 2021)

The duality of my study, being both a research study that wishes to answer a question and an autoethnographic endeavour that attempts to creatively utilise all sonic options available to me, makes artistic research as methodology an integral part of my ongoing process in researching and critically exploring the subject matter. Research informs my creativity, and conversely, my creativity informs my research, forming the foundation of my ongoing investigation.

The basic understanding of Artistic Research as Practice, according to Darla Crispin, is that there is an additional manner of functioning that goes beyond the intuitively curious nature of the artist, where the application of critical reflection during the Artistic Practice as *input phase*, *process phase*, and *output phase* forms “a vital touchstone for testing and evaluating the evidence generated by that process” (Crispin, 2016: 57). This project utilised all three areas of Artistic Research as Practice according to Crispin, to aid in informing my ideas and choices around answering my primary as well as secondary questions. My attempts at *artistic practice* and *artistic research* strove to share a symmetrical relationship when attempting to answer the primary and secondary research questions (Crispin, 2016: 58).

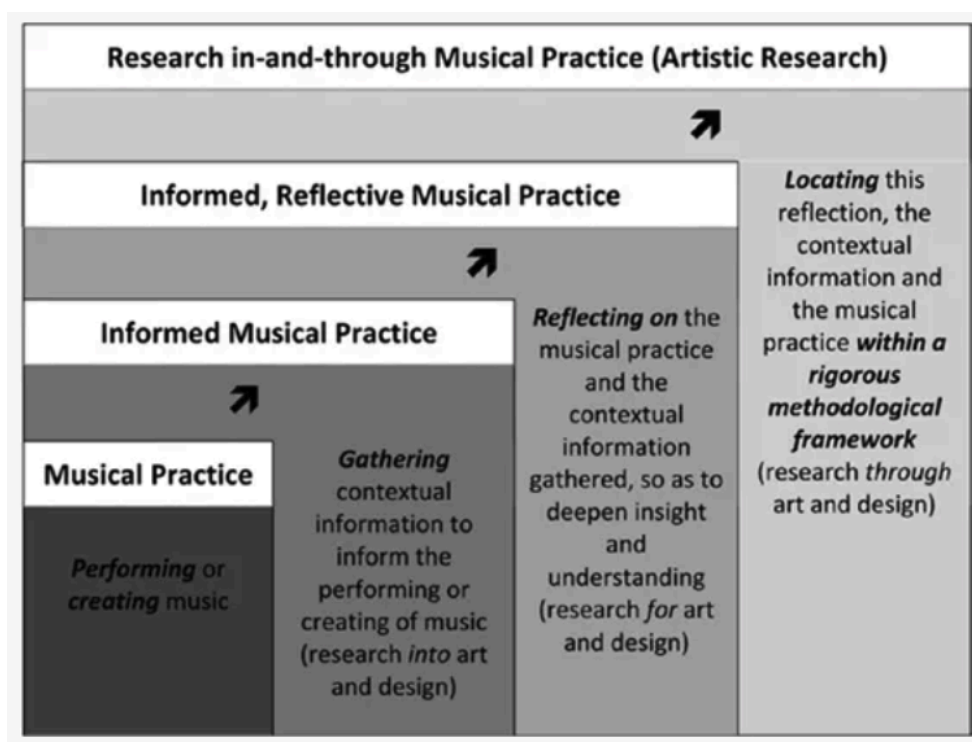


Figure 5.1 A diagram explaining the context of *Artistic Research as Practice* (Crispin, 2016: 58)

Artistic Practice can be understood as planning, executing, completing, and being a springboard for new work. It plays a role in all three areas of a research trajectory, namely the *input phase*, where the research question is generated; the *process phase*,

where the researcher works through the various facets of the generated questions; and the *output phase*, where the researcher draws conclusions to questions generated (Crispin, 2016: 60).

5.1.1 *Input phase*

Artistic Research/Practice *as input* can be interpreted as a *building upon* the tendencies of an artist who has been given free rein to their creative choices and who is therefore guided by their own interests, whether these interests be passing curiosities or enduring preoccupations. This process of "building upon" happens when the artist's interests take centre stage, serving as the primary source of guidance for repertoire selection or compositional parameters (Crispin, 2016: 60).

My lived experiences as a citizen in Johannesburg have, in many ways, guided my interests and subject matter when discussing the acoustic ecology of place within Johannesburg. Apart from personal lived experiences, there are also research precedents for this project, which became guiding factors in its process. One such example is Betina Malcomess and her work in *Routes and Rites to the City: Mobility, Diversity, and Religious Space in Johannesburg* (Wilhelm-Solomon et al., 2016), where my Artistic Research *as input* and the discovery of new knowledge sparked inspiration for creative *processes* and *outcomes* (Crispin, 2016: 60). My initial desire was to capture and investigate the soundscapes (western ridge of Yeoville koppies) and impulse responses (Central Methodist Church) of differing spiritual spaces in and around Johannesburg so as to help answer the question of what informs the acoustic environments many residents of Johannesburg use to find refuge and a sense of community (Wilhelm-Solomon et al., 2016).

At the same time, my lived experiences as a victim and witness of criminal offences in the city have brought me to the realisation that "the fear of crime" plays a significant role in shaping our soundscape worlds and, consequently, our "lived" world in impactful ways, creating sonic boundaries that reinforce those fears—that is, if you have the economic means to do something about it (Dirsuweit, 2014: 902). This led me to become interested in investigating the acoustic ecologies of different environments that

attempt to deal or not deal with the impact of crime. In the two topics that I chose to investigate, in order to answer both main and extra questions, I have come to see how Artistic Research and Practice have come to play a dualistic role in my self-discovery and attempts to execute the project (Crispin, 2016: 60).

5.1.2 Process phase

Artistic Research/Practice as a process can be viewed as the application of self-scrutiny in refining an artist's understanding of the processes that occur, all of which are orientated towards the final outcome of their projects (Crispin, 2016, 61). The application of critical evaluation is documented in various forms that are to be utilised as an opportunity to objectively define the outcomes of both the primary and secondary questions as much as possible. In my case, reflection takes place in the form of an acousmatic diary (Mousavi, 2022).

For the two topics I have chosen, an acousmatic diary served as an important tool to capture the soundscapes, *keynote sounds*, and other significant sonic elements that I found to be of use in my creative endeavours. My acousmatic diary functions as an attempt to answer the first questions: 1) What informs our sense of place within the Johannesburg Metropolitan Area? and 2) What is the acoustic ecology/soundscape that informs the listeners' sense of place within the Johannesburg Metropolitan Area?

My acousmatic diary also serves to help answer all internal and external processes required to reach the outcomes of my project, such as 3) What are the creative processes involved in creating an indoor sound installation? 4) What are the theoretical processes involved in creating an indoor sound installation? 5) What are the technical processes involved in creating an indoor sound installation?

With the use of an acousmatic diary, I aim to fulfil both scopes of the Artistic Research/Practice as *process* component of the method, providing a platform for me to achieve a successful sound installation. It also provides me with a framework to better understand the work I produce and my relationship to it (Crispin, 2016: 61).

An important component that forms part of the Artistic Research/Practice *as process* is the ethical considerations that took place when conducting site visits to the various areas I explored and collected data from. I initiated applications for all site visits in which I conducted soundwalk recordings. The applications were submitted to the Wits ethics committee, and I retrieved necessary consent forms where required. I applied for non-medical human research clearance, depending on the requirements of the sites I visited, as well as completed the research integrity component of the application processes (*Ethics Committees—Wits University*, n.d.).

5.1.3 Output phase

In the final stage of Artistic Research as Practice, namely Artistic Research as *output*, I attempt to provide answers to my primary question (Crispin, 2016: 61). My personal reasoning for the preparation, composition, and performance falls under the *output* phase of Artistic Research. The fundamental idea around Artistic Research as *output* is that the final outcome should not only “embody the meaning” of the research question but also convey the meaning to participants of the sound installation. According to Crispin, there is an “overriding expectation that the artist-researcher will still be engaged in high-level professional practice in the public domain” (2016: 61). This happened in the form of an informal showcase between myself and my supervisor one week before the event day—which was held on the 31st of January, 2025—where my supervisor was provided the opportunity to experience the artworks and provide feedback. On the day it was noted by my supervisor as well as myself that for my second installation the playback volume of certain soundscapes needed to be adjusted. Soundscapes of lower volume were masked by louder ones, preventing the full effect of “blending” between them. I then reverted to the session folders that were created for the second installation and “re-balanced” all the soundscapes output volume accordingly. The feedback received from my supervisor aided immensely in creating a more impactful installation on the day and heightened the experience of the listener, as I will describe in more detail later.

5.2 Soundwalking as Method

The use of soundwalk as a methodology is a practice that was devised by R. Murray Schafer, a method that can be used to identify a soundscape and various components of a soundscape (Adams et al., 2008: 1). Its premise is simple, focusing on the act of walking and listening as a means to better understand the lived environment. Schafer formed the World Soundscape Project during the 1970s and was largely focused on the acoustic ecology of environments and the negative sonic impact the industrial and technological revolutions have had on our natural environments (Adams et al., 2008: 1).

In my research, I was not intent on focusing on the impact of technology and industrialisation on the “natural” soundscape ecologies of the locations I visited. Without critiquing the negative impact of natural versus unnatural implications on the environment, my focus was on the sonically present elements. Where Schafer chose to differentiate what is considered noise and not noise, I intended to be as objective as possible and showcase the location as it is. The research of the Positive Soundscapes project points to the fact that individuals' perception of what is to be considered a positive or negative soundscape is a subjective experience, and therefore it can be argued that Schafer's own viewpoints regarding what constitutes noise are largely a subjective perspective as well (Cain et al., 2008: 3). In my literature review, I discuss the writings of Dylan Robinson (*Hungry Listening*), which further underscore and support the above argument about the biases that Schafer himself held (2020).

All my field recordings at the chosen locations of my research were made through undertaking soundwalks. Other than deciding the location to visit, the routes were fairly unplanned, exploratory, and lasted anywhere from thirty minutes to up to two hours. If there were moments along the route that presented anything sonically interesting to me, I would record the environment itself without my movement, even though my breathing was audible on the recording at times. This practice provided me with “clean” moments of soundscape recordings that I could use in the final output of my project. To track my route, I used a GPS coordinator and tracker software application named “GPS Tracks” to save my route (“GPS Tracks on the App Store,” n.d.). This enabled me to track my

movement and whereabouts when writing down my reflections of the experience afterwards. Upon reflection of the recorded data, I was able to listen to playback and be aware of my route and tracking at the same time because I could replay the route I walked on the GPS tracker application and locate it within the timeframe of my recording playback. For my soundwalks, I relied solely on binaural microphones to record my subject matter and experiences. The microphones are SP-TFB-2 low-noise in-ear binaural microphones that fit within each ear (“Sound Professionals SP-TFB-2 Low Noise in-Ear Binaural Microphones,” 2021). Even with them inserted within each ear, I was still aware of my sonic landscape with relative clarity, as they were not too big and obtrusive to block out the sound of the recorded environment.

I used an application named AudioShare to store and record soundscape recordings onto my iPhone. The application allowed me to record in a hi-fidelity format (24-bit, 48 kHz) and allowed for an accurate immersive representation of the locations in which I conducted soundwalks (“AudioShare,” 2023). Once the soundwalks were complete, I would then transfer the recordings to my computer for cataloguing and post-critical reflection purposes.

The application of binaural recordings in my soundwalks enabled me to create a very immersive sound recording with a particularly realistic stereo field. The microphones fit into the ear canal of a person’s ear. The physical ears of the person recording thus form part of the recording process, enabling a realistic, immersive audio recording of place. There are a few moments when reflecting on the playback of the field recordings where I would be “tricked” into believing that I was hearing something that was actually in my study rather than it being on the actual recording. This would happen if I were walking in or through an indoor environment during the soundwalk whilst reflecting on the recording in an indoor environment like my study.

During my soundwalks, one aspect I was interested in was that of the “positive soundscape.” My motivation was based on the research of the The Positive Soundscapes Project and their work on the acoustic ecology of neighbourhoods in Manchester, UK, where participants were tasked with finding sounds and soundscapes



Figure 5.2 Route of soundwalk around Fordsburg (“GPS Tracks on the App Store,” n.d.).

within their immediate environment that they considered positive, as discussed in my literature review (Adams et al., 2008). The team of researchers found that soundscapes containing sonic vibrancy had an overall positive effect on the listeners.

My autoethnographic choices of environments and moments were meant to give my installation's listeners a positive experience.

Occasionally the situations of the environment were not necessarily suitable for a positive experience but still thought-provoking when considering soundscapes and the sense of identity they create. Cemeteries became a location of interest to me. The role

they play within the city, and the soundscape ecology they manifest fascinates me. Historically, it can be argued that the cemetery is representative of the history and heritage of a location. The racial segregation of the deceased is apparent, as different racial groups were interred in separate areas of the cemetery during the apartheid era. However, after the 1994 elections, the boundaries and divisions were erased as change swept through the country. This shift mirrors the ongoing debate over urban living in the Johannesburg Metropole, where the lines between different social groups are increasingly "blurred." Despite this, many citizens continue to face the same challenges, though now framed in different ways, such as economic inequality and "fear of crime," among others.

One such experience was when discovering the section of child grave sites in Westpark Cemetery. Personally, it was a sombre, bittersweet experience in and of itself. The discovery left me feeling very introspective. I have two children of my own, and the idea of losing them at a young age is enough to stir thoughts of sadness in any loving and caring parent. Sonically, the area was filled with sounds of nature with birdsong and wind blowing through the oak trees above the ever-present sound of transience, such as cars passing in the far-off background of the cemetery. There was nonetheless something beautiful about the moment. The insulated sounds of the cemetery and site, divorced from much human activity, created a moment of solitude, of thought-provoking ideas on the sense of the sombre peace and tranquillity being stirred within me at the site where these young souls, many in number, were laid to rest. The visual impact of what I was witnessing, however, is not present to the listener of the installation. But where parks have sonic evidence of human activity, there is a sense of sonic solitude present at cemeteries—barring the activity of a funeral taking place. In areas such as Brixton cemetery, where for the most part burial has ceased to take place apart from the Hindu crematorium that is still active on the edge of the cemetery, this insulated acoustic ecology is almost always present.

The pursuit of a soundscape that embodied a "positive experience" turned into a complex journey, prompting me to critically consider the classification of certain soundscape ecologies as either positive or negative. The seeking of positive acoustic

environments are, after all, a very subjective experience. Is the acoustic ecology of a gated community with its quieter suburban roadways and ever-present sounds of birdlife a positive experience? The premise of gated communities is, essentially, to keep the “intruder” out and create an insular community that itself underpins a sonic and arguably dysfunctional environment (Dirsuweit, 2014: 901). When comparing the sonic vibrancy of downtown Johannesburg CBD to that of a gated community, there is a stark contrast that highlights the sonic boundaries that have been created. The sounds in both places represent and symbolise a city that, thirty years later, is still trying to deal with the spatial segregation of a colonial apartheid history, all under the guise of “fear of crime,” which is itself a sign of a violent, ignored, and unreconciled past (Bremmer 2008: 180). The research and exploration of the different locations drove me to showcase what is sonically representative of these skewed social underpinnings rather than attempt to naively represent our collective acoustic ecological boundaries as positive.

Nature as a research theme plays an intriguing role in the collective soundscape ecologies we find ourselves in. This is particularly true in gated communities where large, often old trees line the streets, fostering a flourishing environment for birds and their song. Obscured by the low-frequency drones, transient sounds of cars, music blaring from shops, aircon vents, markets, businesses, and commuting residents walking through the city streets in urban communities found in areas such as downtown Johannesburg, nature is masked—not irrelevant and completely inaudible but more hidden. The sounds of nature can therefore be argued to aid in underpinning interiority and the “quiet” of middle to upper-class suburban areas, even if the role nature plays is not intentional. This is a rather unfortunate paradox in the structures that enforce and govern the sonic hierarchies of suburban neighbourhoods. The sounds of nature play a different role, however, in public parks that are open to anyone and where one can potentially find a moment of solace, rest, and reflection on the busy activities of the day ahead or that have gone past.

Due to the issues discussed above, ultimately I decided to disengage from trying to formulate a message of “positivity” to the listener and rather attempt to highlight the

effects of the “sonic boundaries” we intentionally and unintentionally enforce and that inform our sense of identity and placemaking in Johannesburg as a whole.

5.3 *Musique Concrète*

It is to be noted that thus far I have yet to discuss another school of thought that is within the same realm as R. Murray Schafer when it comes to found sound and composition but whose philosophies and approaches differ from the world of soundscape recordings.

The *musique concrète* movement, started in the 1940s by Pierre Schaeffer (roughly 20 years before the establishment of the World Soundscape Project), relied on recordings of found sound used as raw compositional material. Schaeffer aimed to separate the sound of his compositions from their source and promoted the concept of the “acousmatic condition” (Emmerson, 2017: 5). The term “acousmatic” can be understood as what Schaeffer describes as “reduced listening”, a paradigm shift in the way we hear and listen by isolating the sound from the “audiovisual complex” and therefore creating an opportunity where the sound standing by itself can be heard and not in relation to its source (Chion, 1983: 18; as quoted in Emmerson, 2017: 5).

It is reasonable to argue that the *musique concrète* movement established a lineage of other forms of sound art during the 1950s and 60s, of which the World Soundscape Project is one. *Musique concrète* can be viewed as providing the philosophical and political motivation for many breakoff streams and approaches to sound art and expressions found today (Schaeffer et al., 2017).

In my early university years, I primarily focused on music performance and instrument pedagogy. *Musique concrète* was taught in subject streams relating to music history and musicology, to which I was exposed, but from a creative and compositional standpoint, I did not embrace it. Sound and soundscape in my more recent years was relegated to the world of sound engineering, particularly post-production, where sound (foley) and sound design are relied upon to create and support moving pictures and storytelling

such as films. My discovery of sound art and some of its present-day artists was a largely organic discovery that duly played its role in further research and creative outputs but, from the outset, did not form a direct link to the *musique concrète* school of thought and approaches. My personal interest and creative outputs are rooted more in the World Soundscapes Project with its philosophical and methodological approaches when compared to the *acousmatic* conditions established by Schaeffer and *musique concrète*.

In the chapter *It's Not (Just) About History and, by the Way, Which History?* Leigh Landy proposes that the teaching of sound-based (*musique concrète* being the founding genre) music requires a holistic, integrated approach instead of the current silo approach that most universities offer, where history, theory, and practice are taught separately (Landy, 2022: 123). Landy argues that the discipline of "sound-based music" runs the risk of isolation because it does not prioritise its materials as being understandable to non-specialists and diverse communities and therefore does not adequately address the cultural, technological, and social dimensions of electroacoustic music, including its global context and histories (126).

Apart from my own personal ambitions to become a professional saxophonist in my early tertiary years, which was a predetermined goal for a very long time before that, soundscape art was something I was relatively ignorant of and had little exposure to. I do not know if earlier exposure to soundscape art would have dramatically changed the trajectory of my career and interests from a younger age, but I do agree that a more holistic approach to how sound art is being taught will create a greater awareness and ability among people that use found sound as a method to create art.

5.4 The initial idea

The initial idea for the output of my investigation consisted of a soundwalk and four compositions that would be experienced by the listener within the designated zones situated in a public outdoor space. This project would have relied on the source material I gathered as well as my own subjective musical/creative interpretation. Every

composition would have consisted of various composed and recorded/captured tracks. Listeners were given control over which tracks and audio stems of a composition they could play and when, by allowing them to move around in a designated zone for each piece. This approach aimed to enhance the sensory experience and provide a greater sense of control over their immediate sonic environment (Davies et al., 2013: 13).

The start of the installation was to be set up in a circumference of 45-48 meters, with four zoned areas within the circular route, the soundwalk serving as the route towards the sound installation. The soundwalk aimed to make the listener aware of their sonic surroundings before placing their headphones on their head so that they could start experiencing the installation. The headphones would have been connected to wireless audio receivers that are used for live music events as an option for in-ear monitoring instead of the traditional monitoring speaker system that could be found on stage. The headphones were designated to be closed-ear headphones so that no external sound of the outdoor space could interfere with the listener's experience. The signal from a digital mixing console would have sent triggered audio playback events via the transmitter units of the wireless monitoring packs, which would have then been heard through the headphones by the listener.

Each zone was going to be marked, and in the centre of the zone would have been a "marker pole." I decided that the "marker pole" would be made from wood and would have housed an Arduino Uno R3 microcontroller with Wi-Fi capabilities. Attached to it would have been an HB100 Human Presence Radar Sensor. Arduino microcontrollers can be powered by 9V batteries, making them ideal for use over extended periods of time without any external power source challenges. The range of the radar is 16.5 meters and is best suited for sensing human presence and movement. Once a listener enters one of the zones, playback events would have been triggered. These playback events would have been my creative interpretation of the collected data with musical input, and I would have attempted to answer the primary research question. Once the listener exited a designated zone, playback events would have ceased, with new playback events to be triggered if/when the participant moved into a new demarcated area.

5.5 Challenges

For the outdoor installation, two main venues were considered as options for the installations. The first was Nirox Sculpture Park, located on the outskirts of Johannesburg Metropole in an area called Kromdraai off the R540 roadway. Being an outdoor arts facility and park, I found it to be suited for my installation, as there were areas in the park that could facilitate the artwork. The installation itself was not intended to be a permanent installation; the grounds were not to be used longer than one or two days and would not leave a permanent “footprint” on the surroundings, requiring a few wooden poles and a temporary control centre that would be easy to set up and remove after the event day/days.

The second possible venue considered was the open grounds within Constitution Hill, located on Kotze Street in Braamfontein on the border of the Johannesburg Business District. I found this location’s historical significance to be something that could have added meaning to the experience of the installation because it formerly housed a jail that largely dealt with victims/suspects of the apartheid regime. With the installation located within Constitution Hill considered “a living museum that tells the story of South Africa’s journey to democracy” (“Constitution Hill,” n.d.), it can be argued that the event would have metaphorically spoken to the “socio-spatial problematique” of the apartheid city when considering Johannesburg and the rate of social change that has evolved since the end of the apartheid era (Williams, 2000).

Unfortunately, repeated email communication and follow-up communication via email did not prove to be sufficient in securing the above possible venues, having received no reply from either venue. My initial assumption was that I was not a well-known artist within the local arts community in Johannesburg and South Africa. This issue, combined with technical challenges I experienced early in the prototyping phase of the project, motivated me to consider producing two indoor sound installations. I therefore decided to alter my project and consider other possible venues.

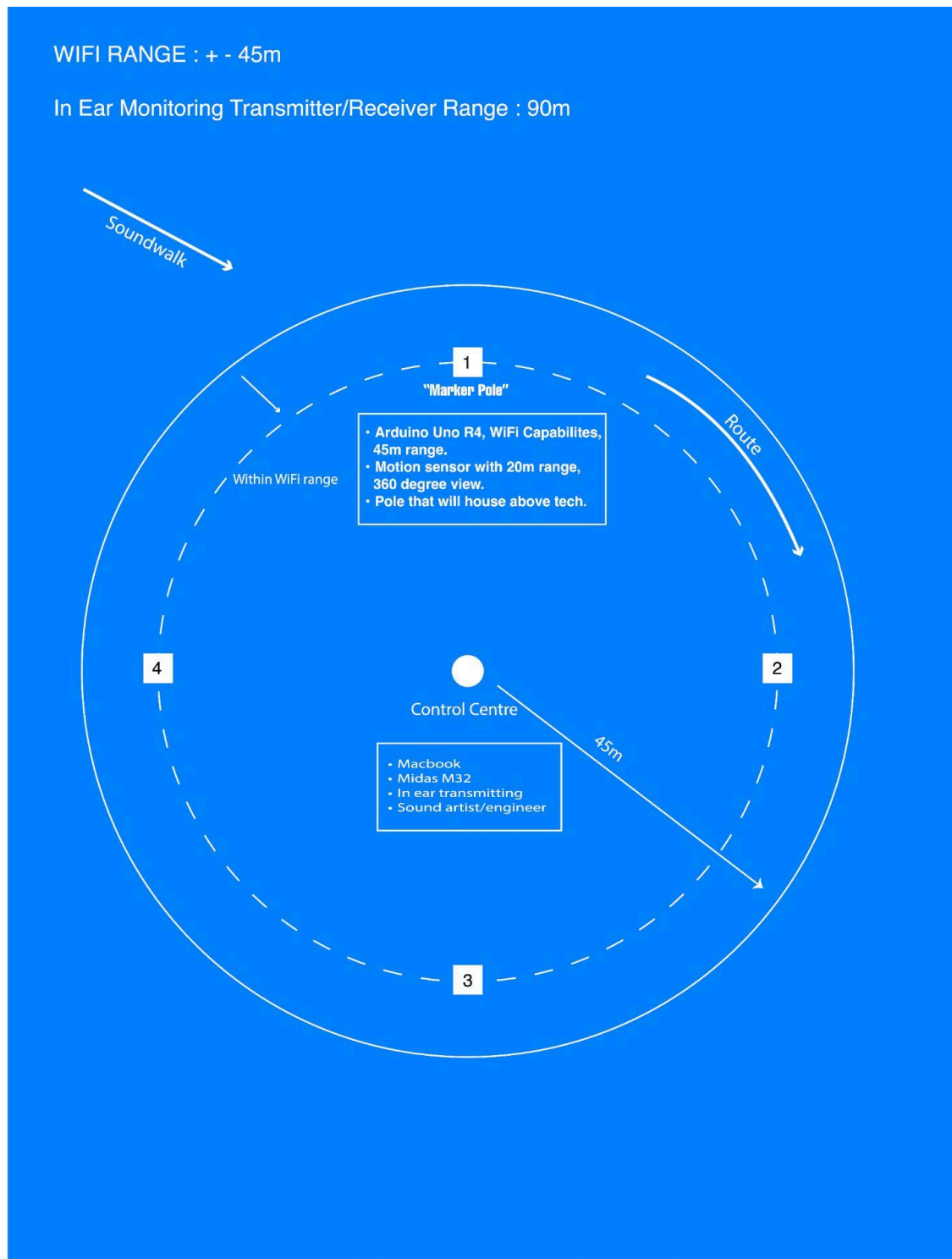


Figure 5.3 Depicts the ground plan of the soundwalk.

5.6 The New Ideas

In the earlier periods of my research and soundwalks I conducted, I began to greatly appreciate the immersive quality of the recordings. The recordings themselves also started to form a sense of value to me: I would find short moments within the recorded soundwalk that I enjoyed listening to and which also seemed to capture the sonic essence of the soundscape environment I was in.

One such moment was when I conducted a soundwalk in Melville Koppies Nature Reserve. There was a moment when I was walking to the western side of the reserve close to Beyers Naudé Drive. My intention was to record the soundscape environment of the area with the Westdene Spruit that passes through the reserve as an audible part of the soundscape. Following a path towards a footbridge that crosses the spruit, there was a moment when one could hear children playing on the opposite side of the reserve and Beyers Naudé Drive. Known as Melville Koppies West, this side of the reserve forms part of the nature reserve, but unlike where I was, it is considered a public open space ("Melville Koppies West," n.d.). Birdsong and the water flow of the Westdene spruit became gradually louder as I moved closer. For me, the recording captured a unique moment of nature, transience (commuting cars), and the activity of water, a scarce commodity in the city at the moment. It also highlighted the unique interaction between the public and the environment in Johannesburg, highlighting the significant role nature plays within the communities that frequent these areas. The children could not be seen at all, but they were heard. I assumed that they were playing in an area that was higher up than my elevation because, even though I could not clearly hear what they were saying, they were very audible above the sounds emanating from the spruit and the traffic passing by on the road.

As my research and soundwalks progressed further, examples of sonic moments started to reveal themselves to me, and my relationship with the work and the outcomes of how I could represent these recordings started to develop. Questions arose regarding how I could form sound into an artefact to appreciate, similar to the way one would appreciate a photo. This concept draws parallels between the aesthetic nature of a

photograph, which is a visual moment captured in time, and a recorded soundscape clip, which can be considered an auditory moment. On 1st June I wrote down in my critical reflection diary an idea that formed the original seed of what would become the new direction of my sound installation. I wrote: “Take an old tin box... put it in a frame... add a little speaker with which you can have playback.”

This is not a new idea. The relationship between photography and a soundscape recording has been present since soundscape composition originated. As Schafer states in the liner notes of *The Vancouver Recordings*, a collection of soundscape recordings recorded in 1973 and released as an album: “To record sounds is to put a frame around them. Just as a photograph frames a visual environment, which may be inspected at leisure and in detail, so a recording isolates an acoustic environment and makes it a repeatable event for study purposes” (Schafer 1973 as quoted in Akiyama, 2020: 57).

Schafer himself notes that all the source material that was gathered throughout the existence of the World Soundscape Project was not an attempt to make art. The team attempted to create a record of the past and present for the study of soundscapes and to assist in formulating a method to underline “soundscape design” (quoted in Akiyama, 2020: 56). Creative interpretation and ways to represent soundscapes would, however, become one of the important features of the World Soundscapes Project as their research evolved. The project itself was conceived by composers, and what was first conceived for impartial study would later evolve into more expressive means (57).

The original inspiration for my revised project developed further as time went by. For me, the idea of “placing” the sound within a tin box for playback formed a metaphor for an object of reflection and consideration. Tin boxes are easily discarded but are also objects that can hold other objects, sometimes an object of value and of valued memory, like pictures or coins. A tin box could also be something that holds an object of historical significance in a person’s life. Finding a soundscape playing in a tin box could help us understand the historical importance of the soundscape ecosystems that people live in every day. This is especially important when we think about the effects and

influences of apartheid on space planning, the "socio-spatial problématique" that this created (Williams, 2000), and the social divisions that came about because people were afraid of crime. It is also my attempt to highlight moments of significance and value on my soundwalks as I explore the various "sonic boundaries" within the Johannesburg area.

5.7 The First Output—*Sonic Boundaries*

I decided to give the artwork that forms my first creative output of this research the same title as that of my overall research topic: *Sonic Boundaries*. My intention for the installation was to showcase the various sonic boundaries and acoustic ecologies that can be found within Johannesburg.

I envisioned there to be several tin boxes of various sizes mounted individually on a wall. The boxes needed to be separated in an equidistant fashion so that when a listener stepped back to look at the installation as a whole, it would give the impression of a street plan from above, including buildings with streets lined in-between, similar to when viewing a GPS map or Google Maps. Next to the installation would hang a pair of headphones that the listener would be able to plug into a TRS jack input that is mounted onto the box. The headphones would be closed-back headphones so that only the recording would be heard and not the surrounding environment of the space where the installation is showcased. Pressing a button would trigger playback of the soundscape that would be heard by the listener, allowing for a personal immersive experience of the soundscape due to the soundscape recordings being recorded by binaural headphones with their immersive quality.

This playback method and experience allowed for a tangible interactive quality, as the installation allowed for the listener to freely choose which box they wanted to experience playback from.

I numbered each tin box, linking each number to the recording location, date, and time. This was represented next to the artwork so that the listener could be provided with additional information about the soundscape recording being triggered. This allowed

the listeners to become aware of the “sonic boundaries” and areas that are not within the listeners’ immediate zones of acoustic ecologies they find themselves in on a day-to-day basis, making the people aware of areas that might be familiar and unfamiliar to them.

For example, the location given on one of the boxes might read: 1. 24/12/16_15:34 *Anstey’s Building, JHB CBD—On The Rooftop.*

The tin boxes were of an antique nature so as to suggest a metaphorical meaning that our present-day soundscapes are still deeply embedded with our colonial and apartheid history.

The outcome of the above installation was not only to locate soundscapes within the areas where they were recorded but also to provide a tangible quality for the listener similar to that of looking at a photo. It's possible that putting the soundscape recording in a box adds to our understanding of soundscapes and the acoustic ecosystems of the different areas people live in around Johannesburg, making the soundscape something we “value” and think about.

Some recordings may have sounded familiar, while others may not have. All of the recordings maintained their own unique sonic identity and fingerprint. As much as each soundscape recording was found within its own physical domain, that is to say, the tin box, all of the recordings represented the collective whole of the soundscape ecology of the Johannesburg region as it was visually represented by mounting the boxes on a wall with an “aerial view” of the “city” and its locations.

5.8 The second output—*Blur*

As I further researched how to create the output for my research questions, I decided to create a second installation that will also be housed in an indoor environment. I settled on calling this installation *Blur*. The intention of the artwork is to “blur” the “sonic boundaries” of the locations citizens of Johannesburg find themselves in during their daily lives, bringing to bear the acoustic ecologies of our environments within the larger

Johannesburg region. This assists in informing and supporting our sense of place within Johannesburg.

While researching how to best achieve the outcomes and experience of *Blur*, I discovered a development board called the Robertronics WAV trigger that was well-suited for the second installation. (“WAV Trigger - WIG-13660 - SparkFun Electronics,” n.d.). The development board was designed to trigger playback of audio files and is equipped with a headphone jack for input. It also has provision for 16 triggers that can be connected to push buttons or a MIDI keyboard that will trigger playback of the loaded audio files. The trigger playback system allowed for up to eight audio files to be played back simultaneously. This facilitates the ability to blend several soundscapes together from different locations.

Blur comprises nine tin boxes mounted on a piece of wooden board with momentary push buttons inserted to trigger the designated soundscape recordings playback. An additional larger tin box was also mounted on the board. In the larger tin box, the *WAV Trigger* was housed along with the TRS headphone input. There was no need to add additional headphone inputs because all recorded playback was heard through the one headphone input.

A micro SD card, inserted into the playback device, holds 65 audio recordings of the various areas where my soundwalks took place, each similar in length to the recordings on my first installation. The recordings are sorted and themed around the following topics:

1. Westpark Cemetery and Brixton Cemetery
2. Gated communities—Westcliff and Houghton estate
3. Fordsburg
4. Johannesburg CBD
5. Water—Emmarentia Park, Braamfontein Spruit, Jukskei
6. Yeoville and Lorentzville
7. Soweto
8. Nature: Melville Koppies Reserve, Emmarentia Park, Thokoza Park

9. Ansteys

In my original proposal, I mentioned that I aim to add musical interpretation to the soundscape recordings of the installations, but I decided not to do that. I was once again reminded of the interview that was conducted with Emekah Ogboh, where the interviewer asked Ogboh at what point sound artists risked exoticising a place when composing music to a soundscape. Ogboh responded that he was taking an anthropological view and that he created music that suits because he spends a lot of

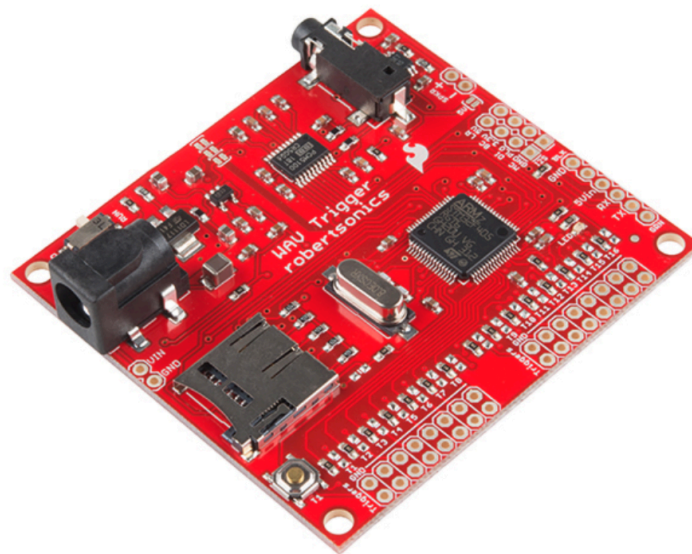


Figure 5.4 (“WAV Trigger—WIG-13660—SparkFun Electronics,” n.d.)

time listening to the recordings before settling on his sound choices. He further continued that he was not exoticising the soundscape recordings because he was actively listening, trying to identify and pick out sounds (Francis, 2023).

As I continued to research and conduct soundwalks at the various locations, the interviewer's question made me reflect on the above statement and the value of composing music to these soundscapes. The majority of my soundwalks are one-time events with the intention of locating sounds that are *present continuous* and found in the

moment of recording and not a vast collection of recordings of specific locations (Drever 2016, 74). Placing myself in the role of a phonographer rather than a soundscape composer, I started to discern that my added musical interpretation would create additional signifiers and meaning to the soundscapes I found myself in (Truax 2012, 195). Musical interpretation would add another layer of subjective meaning to the soundscape and may affect the listener's perception. The location and soundscape should be able to create meaning and placemaking for the listener without needing additional meaning. I believed that it would be more valuable if the soundscape recordings from the various locations could stand alone as a unique experience, incorporating my artistic interpretation in their presentation and experience. I wanted to be a "guide" rather than an interpreter of place and identity formation through additional musical interpretation. Andrea Polli states that "soundwalking by its nature is a subjective experience, and soundwalking compositions often emphasise this subjectivity" (Polli, 2016, p. 89). I therefore deemed my subjective experience of the locations I conducted my soundwalks in sufficient to add additional meaning to the listeners' experience of the installations.

6. Completing the Build

When I finally decided to change direction and move away from the outdoor installation into an indoor environment, I needed to start the development of my project. This component falls under the Artistic Research as Process methodology of my research (Crispin, 2016). Chapters six and seven also serve in answering the following secondary questions of my research:

1. What are the theoretical processes involved in creating a sound installation?
2. What are the technical processes involved in creating a sound installation?
3. What are the creative processes involved in creating a sound installation?

6.1 Prototyping—Sonic *Boundaries*

I sourced an old tin box, which was already in my household's possession, to start the initial prototyping process. The box alloy is made of thin tinplate steel, and the dimensions of the prototype box are 150 mm x 70 mm x 37 mm.



Figure 6.1 The first tin box I used to start the prototyping phase for *Sonic Boundaries*

After some research, I settled on a small audio playback device for a development board that had the capability, with the use of a micro SD card to trigger playback of the audio wave file, namely the MP3-TF-16P. The audio playback device can play 24-bit 48 kHz audio WAV files. This is the highest possible audio fidelity in playback I could source in a microcontroller playback device to support a more realistic immersive experience when experienced by the listener.

The micro SD card I used to load the audio wave sample on was a 16-gig card. Although the 16-gig card was too large for the playback of a relatively small audio file, it met my requirements for project development and experimentation. I had to ensure that the SD card was formatted to the FAT32 file format; otherwise, it would not work when attempting to trigger playback. The playback device also required the correct naming convention for the audio file. In my case, it needed to be read as *0001.wav* (“DFPlayer Mini Mp3 Player—DFRobot Wiki,” n.d.).

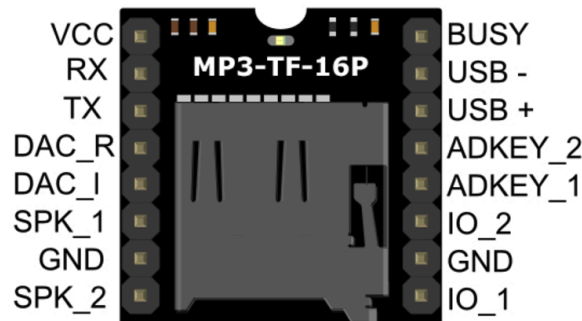
The data sheet below indicates the various pins of the device and what they are used for. The VCC pin links to the power source of the device, which can receive a DC voltage supply of between 3.3V and 5V. The device requires 5V as its extreme power limit, which can lead to issues like glitching and noise after repeated use. A “safer” voltage that should be supplied to the device is within the 4V to 4.5V range (“DFPlayer Mini Mp3 Player—DFRobot Wiki,” n.d.).

ADKEY 1 pin is to initiate the audio file's playback, which ends once the audio file has finished playing. To trigger playback, I used a momentary push button that is connected to the ADKEY 1 pin and the ground pin of the playback device.

The DAC_R and DAC_L pins on the playback device are digital-to-analogue audio converters for headphone playback and are connected via a 3.5mm TRS headphone jack input that I sourced through an electronics shop as well.

The playback device is connected to a 170-pin prototyping breadboard, which is then inserted into the tin box and attached with double-sided tape to the bottom of the box.

The headphone input and trigger button are connected to the playback device with development board jumper cables. One end of the jumper cable tips are removed with



Pin	Description	Note
VCC	Input Voltage	DC3.2~5.0V;Type: DC4.2V
RX	UART serial input	
TX	UART serial output	
DAC_R	Audio output right channel	Drive earphone and amplifier
DAC_L	Audio output left channel	Drive earphone and amplifier
SPK2	Speaker-	Drive speaker less than 3W
GND	Ground	Power GND
SPK1	Speaker+	Drive speaker less than 3W
IO1	Trigger port 1	Short press to play previous (long press to decrease volume)
GND	Ground	Power GND
IO2	Trigger port 2	Short press to play next (long press to increase volume)
ADKEY1	AD Port 1	Trigger play first segment
ADKEY2	AD Port 2	Trigger play fifth segment
USB+	USB+ DP	USB Port
USB-	USB- DM	USB Port
BUSY	Playing Status	Low means playing \High means no

Figure 6.2 The wiring and connection diagram for the MP3-TF-16P (“DFplayer Mini Manual”, n.d.).

wire strippers, which are then soldered onto the connection tips of the headphone input and momentary push buttons, and attached via the breadboard to the various pins of the audio playback device. A 4.5V DC is supplied to the VCC pin of the audio device by the three 1.5V AAA batteries that are serially connected and housed in a battery casing. Initial prototyping was problematic because the positive wire and ground wire did not properly fit into the breadboard. I therefore attached and soldered jumper cable headers to the wires as a solution.



Figure 6.3 (Botshop.co.za “Red Momentary Push Button - Panel Mount,” n.d.)

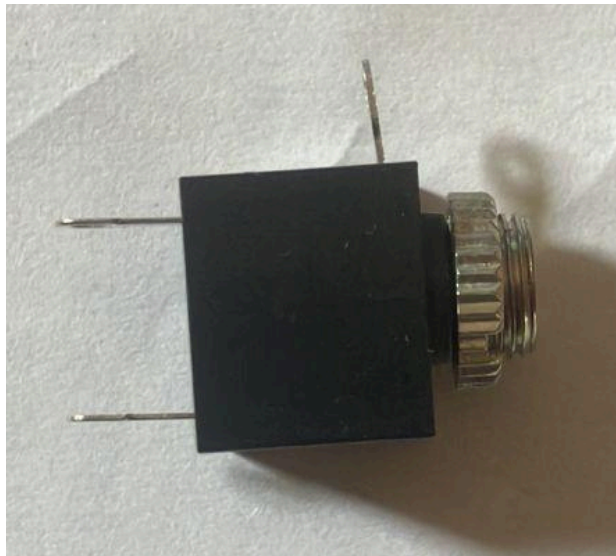


Figure 6.4 TRS headphone jack socket.

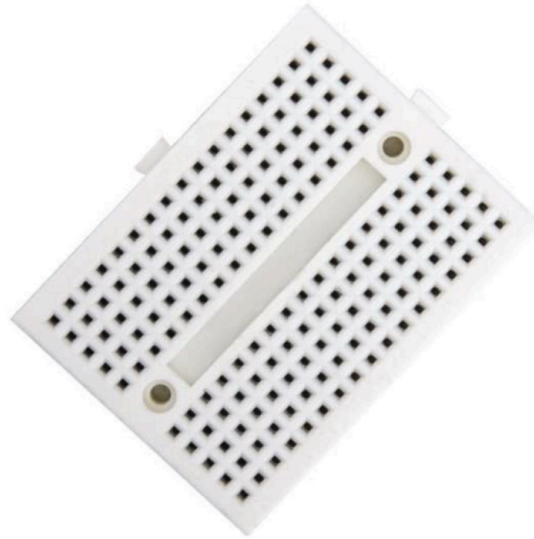


Figure 6.5 Breadboard.

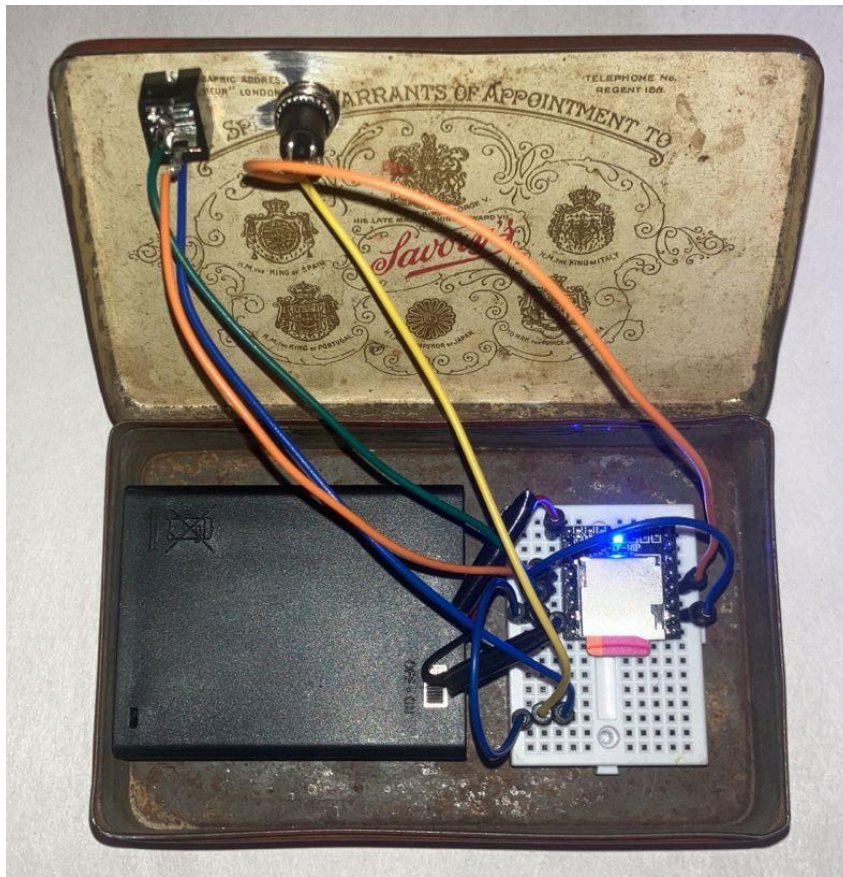


Figure 6.6 The tin box has all the components inserted and connected.

The diameter of the input for the headphone is 6 millimetres, and the diameter of the push-button trigger is 6.5 millimetres. To complete the build of the prototype, I needed to drill two holes into the tin box that would let the two devices fit through. I used two cobalt drill bits with the respective diameters to drill the holes. I tested whether the holes would work on another tin box and found the process to be challenging. Drilling at a slow drilling speed, the drill bits would eventually break through, but the drill bit edges would “bite” into the alloy and start to tear it. To try and remedy the situation, I originally used an angle grinder and an angle grinder plate of 120 dim grain size to smooth out the rough edges. The fact that this would damage the image work on the front of the tin box, as seen in figure 4.10, was not satisfactory. After conducting further research, I invested in grinding bits that were compatible with the drill I was using. The drill bits allowed me to remove any edges and bite marks with more ease with minimal damage to the surfaces of the tin boxes.



Figure 6.7 Grinding bits (“1PR GRINDING BIT IMPACT DRILL 10PC,” n.d.).

After some more prototyping and drilling, I found that pressing the lid of the tin onto a piece of wood and drilling from the inside of the box minimised any “bites” and “tears” on the box. I then only needed to grind off the inside of the box, leaving the exterior largely unscathed. The screws that bolted the button trigger and headphone input to the tin box hid any other imperfections well enough. Unfortunately, I realised this drill technique after already drilling through the prototyping tin box. The technique was

however applied to the art installation itself to ensure that the exterior artwork of the tins was not damaged.

6.2 Completing the Build—Sonic *Boundaries*

Once I found all my prototyping and building to be in order, I started to source more tin boxes, components, and parts to complete the build for *Sonic Boundaries*. This task required me to purchase additional components and tin cans. I decided that I needed to build 24 units for the installation as the final number of units. When researching where I was going to purchase the various components, I found that there was limited stock when attempting to source the MP3-TF-16P microcontroller units. The maximum number of units that I could source at the time was 24. I therefore decided that it would be the wisest choice to settle on building 24 units. There were also a number of other components and tools that I would require to complete the installation's build.

The collective list of purchases and prices thereof is:

"Sonic Boundaries" Installation			
Type	Amount	Unit Price	Total
MP3 -TF-16P Audio Player	24	45	1080
Audio Input Jack 3.5 (10 per pack)	40	11.85	474
Momentary Push Buttons	42	3.8	159.39
AAA Batteries - (24 per pack)	6	150	900
AAA Battery Cases	24	18	338.6
16gig Micro SD Cards	24	56.01	1344.24
170 Pin Breadboards	32	9.92	317.58
Jumper wire cables 65per pack	4	34.99	139.96
Tin Boxes	24	150	3600
Digital Electric Soldering Iron Set	1	660.9	660.9
Soldering Wire	1	820.01	820.01
Soldering Wick	2	51.75	103.5
6mm Cobalt Drill Bit	1	75	75
6.5mm Cobalt Drill Bit	1	119	119
8mm Cobalt Drill Bit	1	159	159
4mm Cobalt Drill Bit	1	59	59
6mm Concrete Drill Bit	1	119	119
Grinder Drill Bits 5pc	1	399	399
Double Sided Tape - 2 pack	1	78	78
Hot Glue Gun	1	109	109
Hot Glue Gun Glue Sticks	5	5	25
Hooks For Hanging Headphones	2	39	78
6 x 35mm Nail in Anchors (20pc)	3	50	150
		Total Price	11308.18

Figure 6.8 Collective purchases and price list for *Sonic Boundaries*.

Over a period of roughly two months, I dedicated daily time to completing the build. Every tin box had different dimensions and depths, and careful consideration was needed regarding where all the components were to be placed so that all parts fit into the box without any complications.

I started to rely on using a hot glue gun and glue as the build progressed. I found that when opening and closing the tin boxes with all the components inside, sometimes the connections would become loose or the soldered ends of the wires would break. The glue does not conduct electricity and therefore could be used to strengthen soldered points as well as connection points when placing the jumper cables into the 170-pin breadboard. This process gave me significantly more confidence that the individual tin boxes would function and operate smoothly.

The photo below shows the boxes I chose for installation and one of the final wall-mounting drafts.



Figure 6.9 Depicts the initial attempt at the Sonic Boundaries layout.

The choice of tin can I used played an important role in what I believed the outcome of the installation should represent. As I have mentioned before, I was intent on sourcing tin cans that were antique and fairly dated. There are, however a few tin cans that are more modern. It was more challenging to source antique cans than I expected. I used platforms such as Facebook Marketplace and visited many antique stores. I never expected sourcing antique cans to be such a costly endeavour. Some cans were cheaper than the average price listed above, but others were more expensive as well.

In the final two weeks before my exhibition, I completed the build and prepared the soundscapes that were to be inserted into each one of the boxes via the MicroSD cards I purchased.

6.3 Choosing Soundscapes—Sonic *Boundaries*

In total I conducted 21 field recording site visits and soundwalks. In January 2025, I dedicated time every day to work through the recordings and located potential sections within the recordings that I believed to have potential interest and meaning. The sound clips I selected ranged between a minute and 30 seconds. From the prototyping process, I found that this time frame was best suited for experiencing the individual soundscapes by the listener. I also found that informal discussions and experiences I had with friends and family aided in my decision that a soundscape recording of a minute in length would be enough to provide a holistic sense of the environment being captured.

I used the digital audio workstation Pro Tools to edit and mix the sound recordings. As I was adamant about maintaining the recording's balance, I implemented minimal mixing. I also aimed to maintain the fidelity of the sound experience as much as possible. For the most part, I applied gated compression to the frequency range between 20 Hz and 200 Hz. This process allowed me to tame the low-frequency rumble of car noise that could be heard on many of the recordings and sonically enabled me to make sounds in the upper frequencies more audible. On the master bus of the each session, I inserted a dynamic resonance suppressor and limiter. The dynamic resonance suppressor (Soothe) resulted in “smoothing” and dynamically taming any harsh resonances that

were present on the recording ("Oeksound: Soothe2" n.d.). The inserted limiter function was to ensure that any gain increase within the recording would not become a problem and cause distortion. I did not use the limiter "aggressively" because I wanted to show how dynamic change in a soundscape could vary from moment to moment.

The only editing that took place was the removal of human dialogue where the people present in the recordings were very audible. The presence of human activity and sound in certain areas was very high and formed an important part of the *area's keynote* sounds (Schafer, 1994). My decision to edit out these brief moments was ethically motivated. Even though I received ethical clearance to record in the areas of my choosing, I did not have permission to record individual people in these areas. It was nearly impossible to ask for permission in some areas because there were sometimes hundreds of people on the street.

Initially, the first handful of recordings were only soundwalks without any moments of pause. When listening back to these recordings upon critical reflection as well as in the post-production phase, I found that listening to the sound of my own footsteps as I walked, as well as hearing my breathing, was somewhat of a distraction. As my field trips continued, the main aim for recording was to find instances of interest to me where I could stand still and capture moments of sonic interest. I wanted these moments not only to reflect what was audibly present but also to provide the listener moments of interest with minimal interference created by my own activity. The pace of my own walking and breathing was a cause for anxiety for me, and I did not want the listener to have a similar experience.

In a small number of the field recording snippets I decided to use, one can hear short moments of movement and breathing by myself. Some individuals in the small group of people I informally played these recordings to noticed with amusement that they could hear my presence in those instances. Fortunately, it did not seem to detract from the overall impression created by listening to the soundscapes. That being said, I still believed that it was critical to minimise my audible presence. One does not see the

photographer but the photograph. It's possible to argue that phonography is comparable to photography.

In total I exported 67 field recordings that were usable for both installations. On a day close to the exhibition date, I further sorted through and established the 24 field recordings that were to be used for *Sonic Boundaries*:

6.3.1 Soundscape Locations—Sonic *Boundaries*

1. 24/12/16_15:34 Anstey's Building, JHB CBD - On The Rooftop.
2. 24/12/16_15:50 Church Street, JHB CBD - The Market.
3. 25/01/12_11:26 Emmarentia Park - Close to the Central Dam.
4. 24/05/18_15:06 Fordsburg - Street Activity.
5. 25/01/03_12:11 Yeoville - Street Scene.
6. 25/01/04_14:33 Thokoza Park, Soweto - Playground.
7. 24/01/19_10:25 Braamfontein Spruit - In The Canal.
8. 25/10/25_10:23 Stone Street, Upper Houghton - Abandoned Mansion.
9. 24/05/18_15:30 Fordsburg - Courtyard With Fountain.
10. 25/01/03_14:40 Yeoville - Hunter Street
11. 25/01/03_14:20 Yeoville - Rocky Street.
12. 25/01/03_14:30 Yeoville - Yeoville Market.
13. 24/05/18_15:25 Fordsburg - Fordsburg Market.
14. 24/10/18_11:10 Lorentzville - Children Skateboarding.
15. 24/05/18_16:05 Brixton Cemetery - In the Centre .
16. 25/10/25_10:23 Stone Street, Upper Houghton - Abandoned Mansion.
17. 25/01/04_14:04 Rockville, Soweto - Donkey Cart.
18. 24/10/18_10:43 Lorentzville - Kimberley Road.
19. 24/05/18_15:48 Brixton Cemetery - City on the Periphery.
20. 24/10/18_10:55 Lorentzville - Jukskei River and Human Activity.
21. 23/12/28_11:12 Westcliff - Lawley Road.

- 22. 24/11/15_15:25 Westpark Cemetery - Children's Gravesites.
- 23. 24/01/19_10:10 Braamfontein Spruit - Close to the dam.
- 24. 23/12/28_11:07 Westcliff - cnr Escombe Drive and Palinghurst Road.

Not all the locations I recorded are in the above list. My reasoning for choosing the locations above was: 1) to attempt to answer and embody the primary questions of my research study (Crispin, 2016: 61); 2) showcase moments of interest and sonic vibrancy; 3) choose sonic moments that discuss the two themes I investigated, *The fear of crime* and *nature*; and 4) showcase the sonic juxtapositions and similarities of different locations and acoustic ecologies as effectively as possible.

6.4 Prototyping—Blur

Once the WAV Trigger arrived, I tested the controller's various uses and how to go about utilising it best for my needs. I also familiarised myself with the "WTconfig" program, which is a software configuration application built for the WAV trigger.

The WAV Trigger requires between 6V and 12V DC power supply for it to function and operate. For the prototyping phase, I relied on a 9V battery and a DC power cable that is connected to the DC power supply input on the WAV Trigger.

For me to be able to connect the nine push buttons I intended to connect to the WAV Trigger, I first needed to solder header pins to the areas where the trigger inputs and ground inputs were located. In Figure 6.10, you can see the ground and trigger inputs in the top corner. The inputs are divided into two sections, each with eight trigger inputs. The marking "Triggers" is written onto the PCB board on the right-hand side of the inputs. In Figure 6.11, the header pins have been soldered on. These header pins connect to "female" header jumper cables that slot onto the pins.

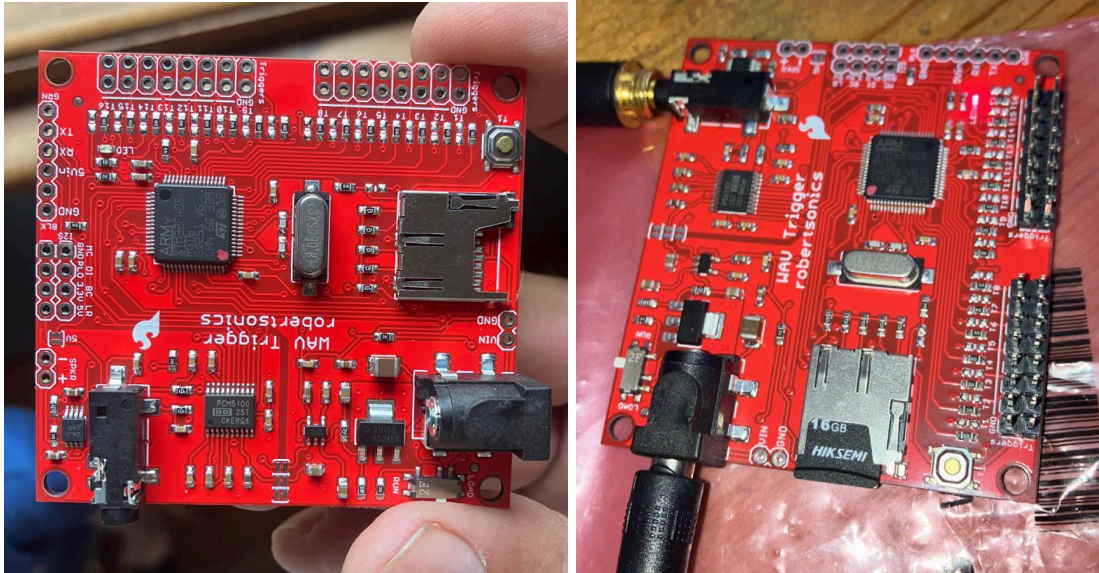


Figure 6.10 Does not have header pins. Figure 6.11 Depicts the header pins.

The next step was to become accustomed to the WAV Trigger software application by starting to develop an understanding of how to use it and to understand how I could influence the interactive engagement of the listener in my final exhibition of *Blur*.

Initially I loaded four audio wave clips onto a micro SD card. The WAV files were numbered as follows: 001.wav, 002.wav, 003.wav, and 004.wav. According to the WAV Trigger manual, the correct naming of the files is important; otherwise, the WAV Trigger will not read the files that were to be triggered (“WAV Trigger User Guide,” n.d.). In the WAV Trigger application, I then programmed how each of the triggers (four triggers during the prototyping phase) should act and perform one of the wave files assigned to each trigger.

I made the following choices for each of the four triggers:

1. Each trigger would have one WAV file loaded on for prototyping.
2. Each trigger’s hardware interface would be set to “Contact Closure.” This setting means that the microcontroller will function as a standalone module with no

need to be connected to a microcontroller like an Arduino that needs a programming language to function and trigger the individual sounds.

3. The type of trigger event is set to “edge.” When the trigger activates, the triggered event will continue to play until the wave file ends.

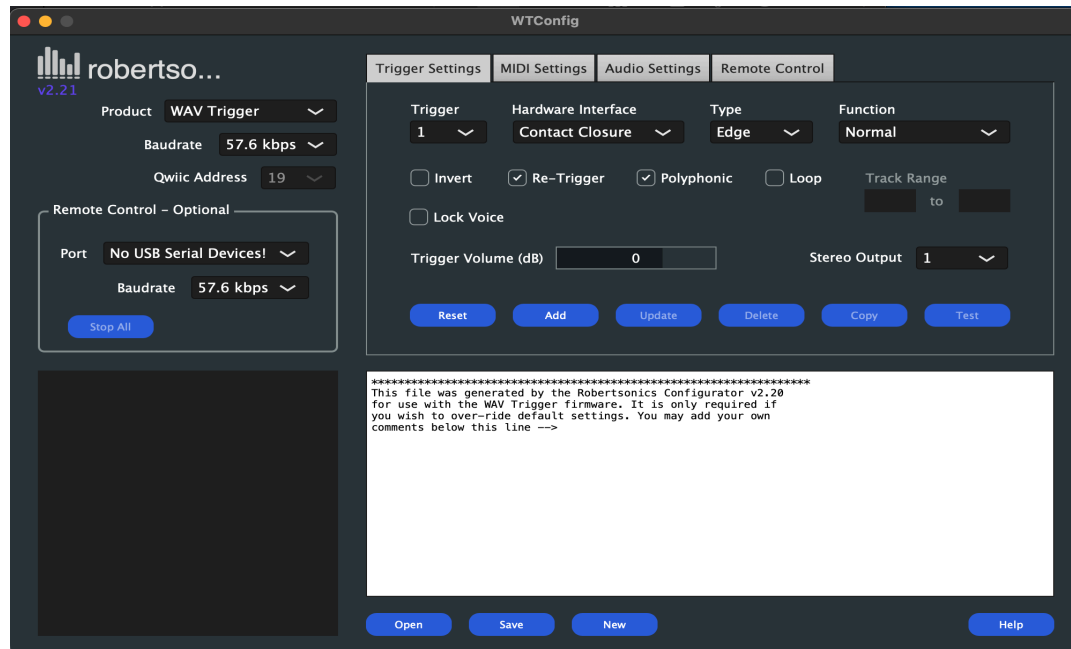


Figure 6.12 “WTConfig” (“WAV Trigger User Guide,” n.d.).

4. As a function, I set the trigger event as “normal.” Since each trigger only contains a single WAV file, I did not need to, or require, to set it to another event. The other options to choose from, such as “next,” “previous,” “random,” “stop,” “resume,” “volume up,” and “volume down,” are relevant and useful when there is more than one track assigned to each trigger.
5. The “re-trigger” option was activated. This means that the allocated WAV file would start again from the beginning every time the trigger was activated.
6. The “polyphonic” option was also activated. This function allows for polyphony when more than one trigger is activated. It also creates the ability to layer a

triggered event and WAV file multiple times due to the “re-trigger” option being activated.

The WAV Trigger inserts the MicroSD into the programming configuration file, which saves an “init.file” along with the WAV files. Upon startup of the WAV Trigger, the “init.file” is read by the controller.

I soldered female header cables onto the connection points of four individual momentary push buttons to test the WAV Trigger’s functionality and connected the cables to the header pins of the first four triggers. I connected a pair of headphones to the controller and found that the performance of the WAV Trigger was effective. The ability to create polyphony and layering of the soundscapes by pressing certain triggers more than once was a pleasurable experience, and I felt that it achieved the goal of being able to blend more than one soundscape together. The researchers from the “Positive Soundscapes Project” found that listeners enjoyed having a more interactive engagement when listening to and experiencing soundscapes (Davies et al. 2013:19) and felt that to be a positive aspect of *Blur*, where the listener would be provided with even more ways of interactive engagement to experience the artwork. The end result of a successful prototyping phase led me to wonder how I could allow the listener even more interactive engagement while experiencing the artwork.

6.5 Completing the Build—*Blur*

For *Blur*, I managed to source a wooden board of *Kiaat* with the dimensions of 400 mm by 500 mm. On the board, I installed nine copper-coloured tin boxes that I bought brand new. The boxes were installed on the board, and each contained a momentary push button that triggers soundscapes catalogued around the nine themes I settled on and discussed in my methodology.

There is also an additional tin box bigger in dimension that was fitted below the nine boxes, slightly below them. This tin box was an antique tin box and was sourced from

an antique shop in the city. It housed the WAV Trigger, the TRS headphone input that was mounted on the lid of the box, and the 9V battery that supplied power to the microcontroller.

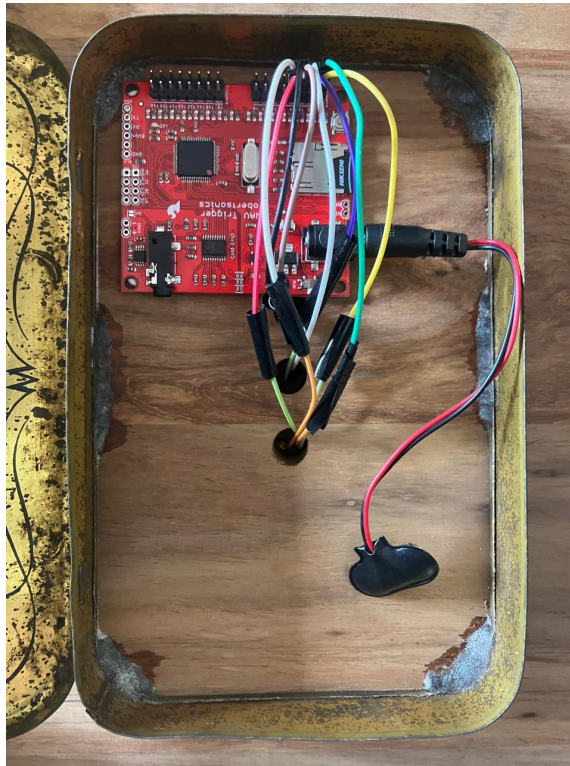


Figure 6.13 Antique tin housing the WAV Trigger.

Below is a SketchUp design I created to showcase how all the boxes would be put together. The dimensions of the board are slightly different because I had not yet been able to find a board that would be appropriate for the installation.

Over the course of a few weeks, I devoted time to completing the build as well as purchasing all the components and parts needed to finish the installation.

The tin boxes that housed the trigger were newly purchased ones because I wanted the boxes to be uniform. This would make it easier to have equidistant placement of

the boxes on the board. I wanted to indicate metaphorically that no theme or soundscape is more important than another.

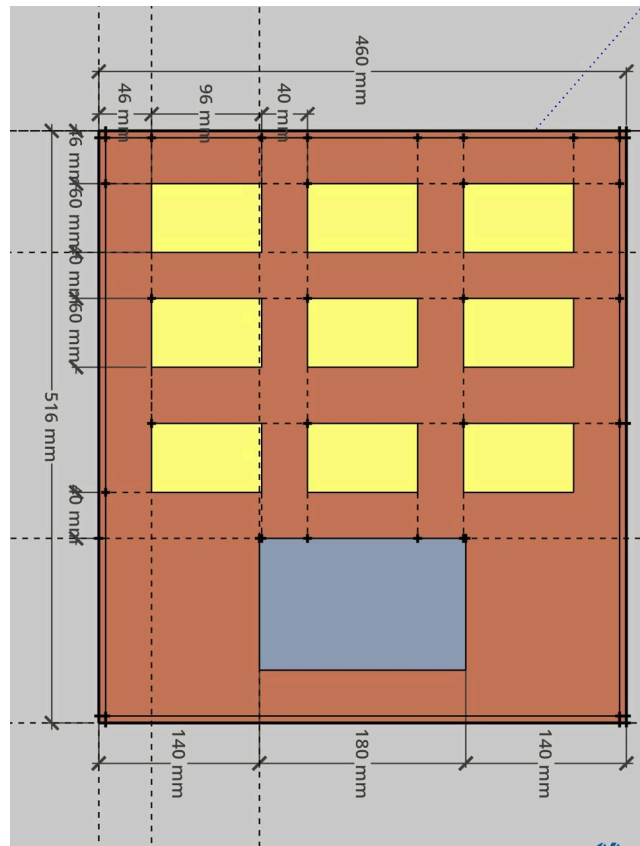


Figure 6.14 SketchUp drawing of the proposed idea.

Each box was placed thirty millimetres apart from the edges of the board as well as from each other. Measurement lines were drawn in with a pencil by using a combination square (a measurement ruler with a spirit level).

The older, larger antique tin box was placed below and in the centre of the remaining space on the board, as you can see in Figure 4.16.

Once I was happy with the layout and placement of the boxes, I removed them and proceeded to drill holes through the wood using a drill and a 10-millimetre “wood drill bit.” These holes were drilled so that I could thread the electrical cabling through the

back of the new tin boxes and wooden board into the antique tin that houses the WAV Trigger.

"Blur" Installation			
Type	Amount	Unit Price	Total
Sparkfun Wav Trigger	1	1119.31	1119.31
Micro SD 64GB	1	99	99
Female to Female Jumper Cables	1	23	23
Momentary Push Buttons	12	3.8	45.6
Automotive Electrical Wire - 10m	2	54.6	109.2
Trigger tins (20pc)	1	439	439
Antique tin box in Wav Trigger	1	280	280
Wooden Board for Mounting - 500mm x 400mm	1	450	450
10mm Wooden Drill Bit	1	65	65
Hook For Hanging Headphones	1	39	39
36 pc Alphabet and Number Meta Stamps	1	326	326
Strap Hangers for Mounting Installation	1	35	35
		Total	1910.8

Figure 6.15 Purchases and price list for *Blur*.

In the area where the antique tin box goes, I drilled three 10-millimetre holes with the same drill bit next to each other, roughly five millimetres apart. I did this so that it would be easier to manage electrical cabling that was connected to the trigger inputs on the wave trigger and to not cause any unnecessary cable congestion when threading the electrical cable and jumper cables into the antique box.

The next step was to drill the relevant holes into the tin boxes that would accommodate the momentary push buttons. The tin boxes needed two holes—a 6.5-millimetre hole on the lid of the box as well as an eight-millimetre hole on the base of the box. The hole in the lid would be where the push button is placed, and the hole at the base of the box would allow me to thread the electrical cable that was soldered and connected to the button through the back of the board into the main antique tin box that is housing the WAV Trigger. I used cobalt drill bits for the respective above hole diameters and used my acquired grinder drill bits to clean off any rough edges.

After all the relevant holes were drilled and I was satisfied, I used metal number punches to number each one of the trigger boxes so that they would numerically correlate to the themes I had established for the installation.



Figure 6.18 Illustrates the layout for the tins on the wooden board

To attach the trigger boxes to the wooden board, I used a hot glue gun and glue. I placed the boxes onto the areas I measured and screwed the momentary push buttons (triggers) to the surfaces of the tin boxes into their relevant holes to make sure that all buttons and boxes lined up symmetrically with each other, as can be seen below. I also placed the antique tin box in the area I designated for it.

I was concerned that the depth of the antique box would not be enough for all the components, trigger connections, and battery. I did not want to use any unnecessary force to make sure all parts and wiring fit. I also did not want to bend any of the trigger connection points because of the lack of depth. In a moment of improvisation, I decided to use a tin can opener to cut open the back of the box. My decision resulted in a positive gain, and I managed to add roughly five millimetres in depth to the antique box. In figure 4.13, you can see that the antique box does not have its usual metallic base

and is glued flush to the wood. I used a forceful epoxy glue called Q-bond to connect it to the base.

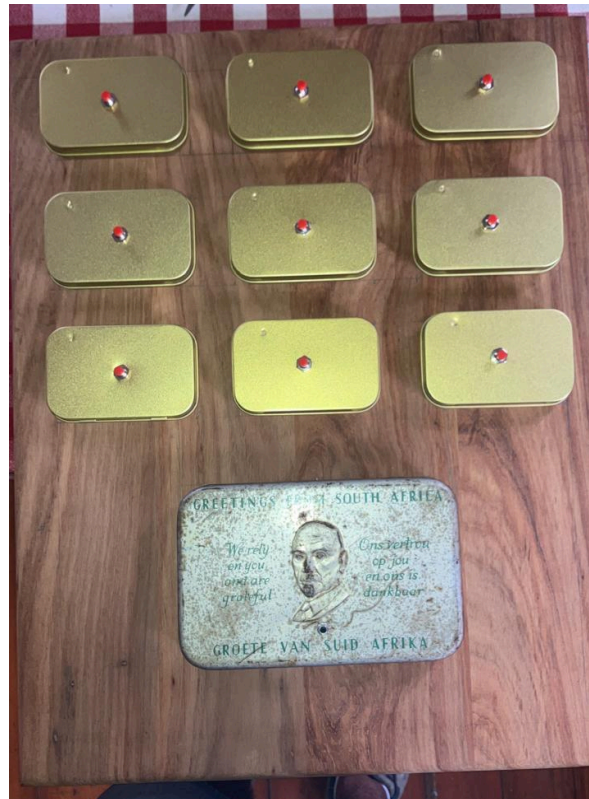


Figure 6.19 All the tins have been mounted onto the board.

After all the tin boxes were placed and glued onto the wooden board, I proceeded to unscrew the push buttons from the “trigger boxes.” I then started the soldering process of connecting the electrical wire to the push-button connection points. I also needed to attach and solder a female header jumper cable to the two separate electrical wires that would be connected to the ground and trigger inputs located on the WAV Trigger.

Once the connections and soldering of the electrical wires were completed, I reinserted the push buttons into the lids of the “trigger tins” and threaded the wiring through the back of the board (via the drilled holes) and into the antique tin. For a final step, I connected the female jumper connection points to the input trigger points of the WAV trigger. I repeated this process for all nine “trigger boxes.”

I used a headphone extender cable to connect the headphone output of the WAV Trigger to the TRS headphone input component installed on the lid of the antique box. I owned the headphone extender cable already, and therefore it cannot be found on my purchase list for *Blur*. I cut the cable to an appropriate size and soldered the relevant “left” channel (red cable), “right” channel (black cable), and “ground” (white cable) to the connection points of the headphone input component.

The final procedure was to prototype the whole build and installation and make sure that everything worked. I used the MicroSD card that I used for the initial prototyping phase of *Blur*, and I was relieved that the installation functioned well and without any issues.

6.6 Choosing the Soundscapes—Blur

Because of the initial work done for *Sonic Boundaries*, I already had a suitable amount of soundscape recordings that were already edited and mixed. It was just a matter of now grouping the relevant WAV files together in the correct order so that it correlated with the themes I decided on (as discussed above) and would be triggered by each of the nine trigger boxes.

For my final consideration of how I wished the listener to experience *Blur*, I settled on the following protocols in the “WTConfig”:

1. Each of the nine trigger’s hardware interfaces would be set to “Contact Closure.”
2. The type of trigger event is set to “edge.”
3. The “re-trigger” option was activated.
4. As a function, I set the trigger event as “next.” Every time the same trigger is being “re-triggered,” the next available soundscape recording that has been set within the trigger range will be played. Once all of the soundscape recordings within the designated trigger range have been played, the event playback will again start at the beginning of the set range of WAV files.
5. For each of the nine triggers, the “polyphonic” option was also activated. The listener would be able to experience up to eight different soundscapes

“blended” together at the same time. With the re-trigger option also activated, the listener is also able to trigger multiple soundscape events from any one of the nine triggers, resulting in even more layering than just being able to listen to eight individual soundscapes simultaneously.

I originally intended to keep the volume levels of the soundscape recordings for *Blur* as close to the original output volume when I recorded the soundscape. However, after my supervisor experienced the installation in my informal showcase session and we had our discussion, it was concluded that a level balance of all the soundscapes being heard needed to take place. Soundscapes that had a lot of sonic activity within the recording and were thus “louder” were “masking” soundscape recordings that were “quieter” with “less” sonic activity. I proceeded to raise the “quieter” soundscape recordings output volume and lowered the “louder” soundscape recordings volume if it was necessary. I aimed for all soundscape recordings on *Blur* to be roughly around 18 dBFS output volume.

Upon testing the artwork again, I found that the above adjustments made were suitable and that no “masking” was taking place anymore, therefore achieving a more effective experience when listening to the various soundscapes as blended.

1. Westpark, Brixton	1	Third section of the childrens graves - Westpark.wav
	2	Second section of the children - Westpark.wav
	3	First section of the children - Westpark.wav
	4	In the middle - train sound - Brixton Cemetery.wav
	5	City on the periphery - ice cream truck - Brixton Cemetery.wav
	6	Getting into the cemetery - Brixton Cemetery.wav
2. Westcliff, Houghton	7	Top of Lawley Road - Westcliff.wav
	8	Middle of Lawley Road - Westcliff.wav
	9	cnr Valley and Pallala - Westcliff.wav
	10	cnr Escombe and Palinghurst - Westcliff.wav
	11	Very Quiet Westcliff.wav
	12	Chainsaw and birds - Stone street.wav
3. Fordsburg	14	First abandoned mansion - Stone Street.wav
	13	Second abandoned mansion - stone street.wav
	15	Restaurant area with fountain - Fordsburg.wav
	16	Market area - 1 - Fordsburg.wav
4. Downtown	17	Market area - 2 - Fordsburg.wav
	18	Street activity-Fordsburg.wav
	19	Higher Up on the church street.wav
	20	Vibrancy of Market - Church Street.wav
5. Water - Spruit, Emmarentia, Braamfontein, Jukskei	21	The market - Church Street - towards Anglo buildings.wav
	22	The market - Church Street - 1.wav
	23	The market - Church Street - 2.wav
	24	Close to the Waterfall.wav
	25	By the bridge close to the canal - Braamfontein Spruit.wav
	26	By the Waterfall Braamfontein Spruit.wav
	27	Jukskei inside vicoria yards - 1.wav
	28	Jukskei inside Vicoria Yards - 2.wav
	29	Rain Emmerentia.wav
	30	Waterflow from damn to wetland - Emmerentia.wav
	31	By the wetlands - Emmerentia.wav
	32	Otherside of the stream - Emmerentia.wav
	33	Close to the Spruit - Emmerentia.wav
	34	Close to the dam as you enter - Emmerentia_1.wav
	35	Close to the dam as you enter - Emmerentia.wav
	36	Jukse, human activity - Victoria Yards.wav
	37	More Stream Activity - Thokoza - Soweto.wav
	38	Stream running through Thokoza - Soweto.wav
6. Yeoville, Lorentsville	39	On Rocky Street close to the market - Yeoville.wav
	40	On Rocky Street at the top - Yeoville.wav
	41	Inside the Market - Yeoville.wav
	42	Close to the market - Yeoville.wav
	43	Down rocky street - Yeoville.wav
	44	In the community centre yard - Yeoville.wav
	45	Yeoville Street activity.wav
	46	Kids Skateboarding outside the Yards - 01.wav
	47	Music and birdsong - Victoria Yards.wav
	48	Jukse, human activity - Victoria Yards.wav
	49	Kimberley road birdsong evident - Victoria Yards.wav
	50	Kimberley Road - Victoria Yards.wav
	51	Lang Street - Victoria Yards.wav
7. Soweto	52	Thokoza Park - Playground - Soweto.wav
	53	More street activity - Soweto.wav
	54	Street activity - Soweto.wav
	55	Donkey Cart - Soweto.wav
8. Nature - Koppies, Emmerentia, Thokoza	56	Somewhere at the top of the koppie - Koppies reserve.wav
	57	In the little forest - Koppies Reserve.wav
	58	Birdlife and cars - koppies reserve.wav
	59	By the wetlands - Emmerentia.wav
	60	Moving towards the middle of the walk - Emmerentia.wav
	61	Otherside of the stream - Emmerentia.wav
	62	Close to the dam as you enter - Emmerentia.wav
9. Ansteys - City Hum	63	On the roof of Ansteys, city hum - 1.wav
	64	On the roof of Ansteys, city hum - 2.wav
	65	Coming out of Ansteys into the market.wav

Figure 6.20 Soundscape recording selection for *Blur*.

7. Artwork Installation

7.1 Installing *Sonic Boundaries*

Seven days before the showcase date, I began the installation of *Sonic Boundaries* and *Blur*.

My showcase was presented at “The Art House,” an art gallery located in Melville, Johannesburg. The gallery consists of a double-storey building with a small central space contained within it that is fairly isolated from the rest of the gallery. This space is where I chose to install my artworks. I intended to create an environment that felt “closed off” from its surroundings, as I will explain in more detail later.

I cut out all the shapes of the 24 tin cans that were to be mounted on paper. When placing the cans on the gallery wall, I wanted to make sure my drafts were correct. I also wanted to be satisfied that the installation placement was neither too high nor too low from the ground.

All cans needed to be visible and within reach of the listener's experience. After I made my final judgements on the placement of the tin cans as well as the overall height of the installation, I moved to start installing the cans on the wall.

From the outset of the project, I envisioned the tin cans of *Sonic Boundaries* to be flush-mounted onto the wall. I did not want them to be mounted onto a board first, which would then be hung on the wall. I felt that flush-mounting them on the gallery would look aesthetically better. This choice was largely personal, without any quantifiable reasoning. I initially attempted to use double-sided tape to mount the cans, but I soon realised that it wasn't an effective method. Shortly thereafter, I began mounting the cans onto the walls with nail-in anchors. This was accomplished by drilling a hole with a 4-millimetre cobalt drill bit at the base of the can for the nail-in screw to fit through. I would then drill a hole in the appropriate area where the can would be mounted with a 6-millimetre concrete drill bit and insert the anchor sleeve into the wall. Using a long

screwdriver, I would then drive the screw, which was already inserted through the tin, into the anchor that had been inserted into the wall. This process was repeated 24 times over the course of a few days.

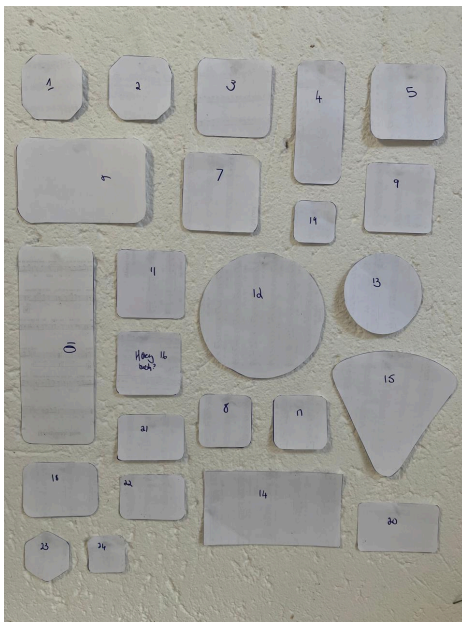


Figure 7.1 Cut out shapes of the tin cans on the gallery wall.

After completing the can installation, I mounted the hooks holding the artwork's headphones just below the installation. For this process, I used the same nail-in anchors, and it was fairly straightforward. The final installation can be seen in Figure 7.4.

7.2 Installing *Blur*

The artwork needed to be mounted using nail-in anchors and two “medium” strap hangers, as the various components of *Blur* were already attached to a wooden board. I chose this method because listeners may physically interact with the artwork more than *Sonic Boundaries*. I needed a sturdy installation with minimal movement because the listener would press all the triggers they chose.

After installing *Blur*, I went ahead and installed the final hook that would house the artwork's headphones. The finalised *Blur* installation can be seen in Figure 7.5.



Figure 7.2 Nail-in anchors for mounting tin cans (“Builders 50 x Nail In Anchor 42 x 6 x 6 Mm Builders,” n.d.)



Figure 7.3 Installation process for *Sonic Boundaries*.



Figure 7.4 The completed installation of Sonic Boundaries (Haggis, 2025).

7.3 Poster and Copy for Installation

To complete the installation space, an introductory poster as well as cards with the relevant information and explanations for the artworks were designed.

To the left of the artworks, when facing them, the introductory poster was installed on its own wall. This ensured that when the listeners entered the space where the artworks were installed, this would be one of the first things they would see.

The information cards for *Sonic Boundaries* consisted of three A5 cards that explained the artwork's intentions as well as the themes that I investigated when researching and recording in the various locations I visited.

These cards were placed to the left of the installation and can be seen in figure 7.4.

For *Blur*, another information card was also attached to the left of the artwork and can be seen in figure 7.5.



Figure 7.5 Final installation of *Blur* (Haggis, 2025)

Once the copy and poster for the artwork were installed, I considered the installation for the most part complete, as I explain when discussing the event day. I felt that the area in the art gallery I chose for the exhibition was the correct one and that the installations, along with the various written copies and introductory posters, made the exhibition space look "rounded off." I felt ready and excited for the exhibition to take place.

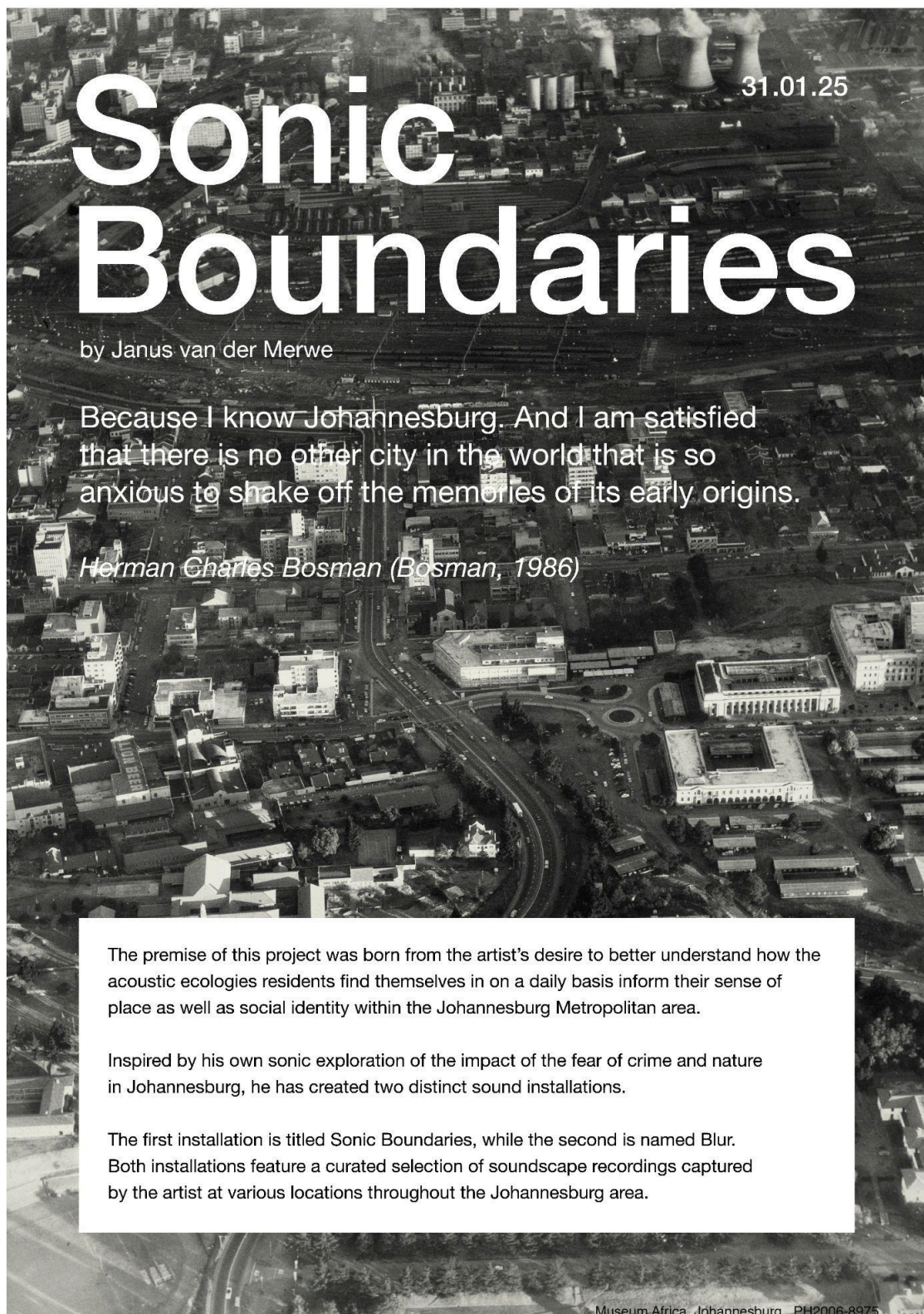


Figure 7.6 Introductory poster for the exhibition. The photo was provided by Museum Africa.

Within each of the 24 tin boxes there is a curated soundscape recording that has been recorded within various locations around Johannesburg.

Headphones are inserted into any one of the tin boxes and recording playback is activated by the red push button on the front of the box next to the headphone input.

Figure 7.7 Copy explaining how *Sonic Boundaries* works.

The Fear of Crime has contributed to the creation of new bounded spaces within the urban landscape of the greater Johannesburg metropolitan area, leading to a problematic othering of the stranger, rooted in the social and spatial interventions of apartheid urban planning. These newly established spaces, in turn, have created sonic environments that reflect the social ecology of the area. The soundscapes found in *Sonic Boundaries* represent the artist's attempt to explore areas that are both familiar and unfamiliar to him, showcasing the sonic activities and juxtapositions of different locations within Johannesburg.

The criminal offers a new metaphor through which to establish continuity between the certainties of the past, the uncertainties of the present and the unknowability of the future.
(Bremner and Law-Viljoen 2010)

Figure 7.8 *Sonic Boundaries*. Copy explaining the theme of *The fear of Crime*

Alongside the densely tree-lined suburbs, Johannesburg Parks and Zoo oversees more than 2000 parks within the greater Johannesburg area. The sounds of nature are evident in many of the soundscape recordings and play an important role in the various locations where recordings took place. The artist also took a specific interest in the sound of water, considering the current state of Johannesburg's water infrastructure and its citizens' relationship with water.

Johannesburg has over 10 million planted trees, making it one of the largest human-created forests in the world.
(Madi, 2020)

Figure 7.9 *Sonic Boundaries*. Copy explaining the theme of *nature*.

There are nine tin boxes, each with individual trigger push buttons. Each tin box randomly triggers a collection of soundscape recordings themed around the areas and topics the artist has chosen to explore, which can be listened to through the headphones already inserted in the bottom box of the artwork.

The themes are:

- ① Westpark cemetery and Brixton cemetery
- ② Gated communities - Westcliff and Houghton estate
- ③ Fordsburg
- ④ Johannesburg CBD
- ⑤ Water - Emmarentia Park, Braamfontein Spruit, Jukskei
- ⑥ Yeoville and Lorentzville
- ⑦ Soweto
- ⑧ Nature - Melville Koppies Reserve, Emmarentia Park, Thokoza Park
- ⑨ Ansteys

The buttons can be triggered multiple times and up to eight individual recordings from different triggers can be heard at the same time.

The artwork allows for an interactive engagement by the listener to metaphorically obscure the sonic boundaries that have been created within Johannesburg.

Feel free to be as explorative as you like.

The triggers can be pushed as many times as you like and are durable.
Up to eight soundscapes can be heard at any one time.

Figure 7.10 Copy for *Blur* explaining the artworks, their themes, and how to interact with the artwork.

8. Discussion of Event

The exhibition was held on the 31st of January, 2025. I scheduled the event to start at 19:30, but guests arrived slightly earlier.

I launched the event advertisement on all my personal social media platforms a week prior. The event poster contains the same photo as the photo of Johannesburg during the 1930s and is used as a metaphor to show the linkage between our sonic past as well as present. It is an aerial photograph of a region of central Johannesburg with the intent of establishing the metaphorical link to the installation of *Sonic Boundaries*, which, when looking at the artwork, becomes a figurative representation of a cityscape from above.

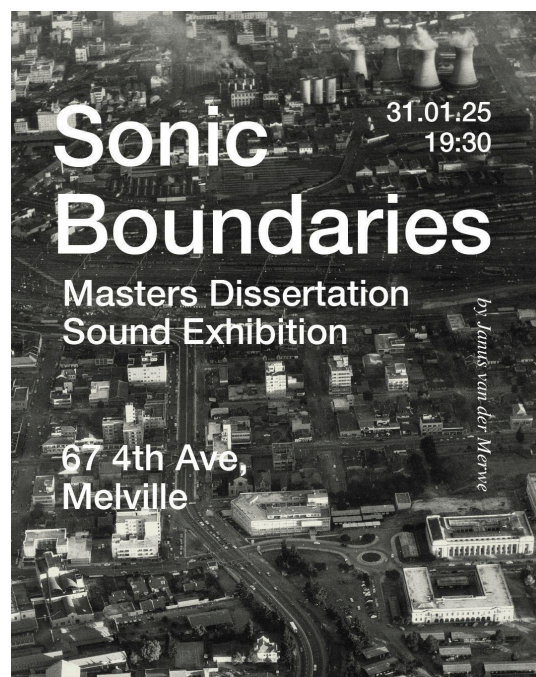


Figure 8.1 Poster design that was used to advertise the event.

The art gallery encompasses a courtyard featuring a koi fish dam, a house serving as an office, and the gallery itself. The kitchen of the office space was used as a makeshift bar area where guests could find refreshments. The bar service area was chosen for

the reason that it was sufficiently distanced from the exhibition area to avoid any unnecessary disturbances.

In the courtyard itself, I placed mobile speakers that I hid from view, each at opposite ends of the courtyard. On each of the speakers, I transmitted 65 soundscape recordings I recorded during my field trips. Each speaker's soundscape playlist was set to avoid playing the same recording simultaneously, creating a blend of soundscapes that varied in prominence depending on the listener's position in the courtyard. These soundscapes then blended with the ambient sounds of the courtyard and the surrounding Melville area.

None of the soundscapes that could be heard were from the gallery area itself. Sounds that are commonly found in residential homes made up the courtyard soundscape. I turned off the fountain, which was part of the koi pond. I strived to remove as many direct sonic cues to the immediate environment as much as possible.

My intention behind doing the above was to start making the listener aware of their immediate environment as well as making them alert to soundscapes that did not belong in the *place* they were. It was an attempt at addressing the ideas around *place-making* and how soundscapes that are perceived add to the encoded messages that inhabit a *place* (Norman, 2012). In my case, I was endeavouring to highlight the juxtapositions of the immediate environment the listener found themselves in and the embedded messages the “foreign” soundscapes were representing. The courtyard is considered an outdoor *space*, but my installation itself was to be experienced indoors, inside the gallery, with the use of “closed-back” headphones so the listener's experience would be as isolated as possible from his immediate environment. I therefore ventured to demonstrate the differences of experiencing soundscapes that are “foreign” within an outdoor environment where visual cues provide direction to what is expected to be heard, to an indoor environment that is isolated from the outside environment and therefore represents a set of integrated messages to our understanding of *place*, a gallery, that is different from “*the outside*.” Norman states that “perception must have an ‘ingredient’ that conveys place (Norman 2012: 258). Therefore, what we hear when we

enter a *place* can be considered an “ingredient” to our sense of *place-making*. Consequently, I was striving to create a sense of dislocation from the immediate physical environment the guests found themselves in whilst also venturing to “prepare” them for experiencing my installations, where both installations deal with bounded spaces that are located within Johannesburg. Loadshedding was scheduled on the exhibition date during the time of the event, and the whole courtyard was lit by candlelight, which rather ironically added to the dislocated effect I was attempting to create.

As mentioned previously, the exhibit was located within a central area of the gallery and was separated from the rest of the gallery by walls. The exhibit space could be entered via two entrance points that were opposite of one another. All of the gallery space was in darkness except for the exhibition space, which was lit with four LED photography lights that were placed on the 2nd floor of the gallery pointing downward into the exhibition area. Fortunately, the lights could be used with batteries; otherwise, load shedding would have impacted how the exhibit location was being perceived.

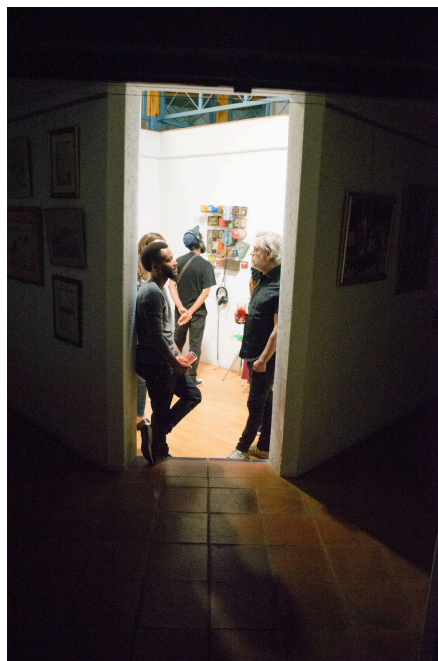


Figure 8.2 The exhibition location in the gallery as it was illuminated (Haggis, 2025).

I wished the guests to experience an isolated environment separated from the “outside” that created a focus on the visual representation of the artworks as well as the area it was located in. The potential to add more augmented meaning when regarding the “exterior” and the “insular” was pursued in all ways I could consider. The above was an example of where I tried to achieve this.



Figure 8.3 A view from the second floor of the gallery looking down into the exhibit space (Haggis, 2025).

Guests started to arrive at the event slightly after 19:00, and soon some of them started to enter the exhibition area to experience the artworks. I briefly explained the artworks as well as how to experience them in a short address just after 19:30; however, the act of guests experiencing the works happened rather organically in many cases before my direction.

Throughout the evening, guests would enter the exhibition space and experience the installations in their own time. As the installations as well as the exhibition are viewed

from an auto-ethnographic lens, I will not comment extensively on the verbal conversations and feedback I received, which were largely positive. It was however encouraging that the feedback revolved around how individual self-awareness was heightened on the role soundscapes play in our daily roles. Listeners also commented on the elevated interactive experience of *Blur* and how they enjoyed creating “new soundscapes” that blended the meaning of the various areas they could hear. The above speaks to the work done by the research of the Positive Soundscapes Project, which highlighted that participants were more engaged in experiences that allowed for an interactive approach, where they were able to manipulate what was being heard through varying the choices that were made available to them (Davies et al., 2013:19).



Figure 8.4 The tin box housing the WAV Trigger audio playback device (Haggis, 2025).

I found it enjoyable when parents brought their children to the event and gave them the chance to experience the installations. Children comprise a large portion of Johannesburg residents, yet their engagement with art is often limited to field trips

rather than formal exhibition events. I did not wish my event to be an example of this. Their engagement with the artworks as well as their presence at the event brought with it a more informal atmosphere that broke barriers to the “informed etiquette” of what an exhibition event should represent and spoke to the use of silence as a form of control and experience. Their experience of the artworks was more animated and expressive when shared together compared to that of the adult guests.



Figure 8.5 Children experiencing *Sonic Boundaries*.

Footage of children experiencing the event can be seen in the video footage that accompanies the submitted work.

Towards the end of the evening, when a majority of the guests left, I took the opportunity to go and experience the installations for myself. Leading up to the event, all my focus went into making sure that both installations worked and were functioning well for the listening experience to take place. I therefore did not devote much time to actually experiencing the artworks themselves beforehand.

Whilst experiencing *Sonic Boundaries*, I enjoyed the process of the selection and listening interaction of every tin box and the soundscape that was being experienced.



Figure 8.6 Guest experiencing the installations (Haggis, 2025)

There was a tangible nature of experiencing every soundscape individually. I took pleasure in the fidelity of each soundscape recording and the “realistic” sonic image that was created by using binaural headphones. The microphones created an immersive experience that other stereo microphones would not be able to recreate. I felt that my intention of creating a physical “holder” for every soundscape within a tin box conveyed and heightened the “value” of the sonic moment, a fleeting event in our daily lives, and therefore metaphorically “framed” it similar to that of experiencing a photography exhibition. I hoped to direct listeners to the importance of becoming more aware of the sonic surroundings, and I believe the “tangible” quality of locating a soundscape recording within a tin box, a metaphorical “memento,” was an accurate attempt at doing so. The physical layout of *Sonic Boundaries*, where I attempted to make the tin boxes resemble a cityscape, was also successful, as you can see in figure 7.4. Flush mounting every tin box to the gallery wall was also aesthetically pleasing and, to me, highlighted the individual importance of every soundscape recording that was found in them. I did not want any soundscape to be represented as being more important than the other, but

rather showcase the difference between the “whole” when considering the bounded spaces Johannesburg residents find themselves in on a daily basis. To me, my attempt at showcasing the “sonic boundaries” of Johannesburg could be heard through the differences that each tin box showcased and informed a sense of sonic meaning and *place-making*. I think my familiarity with all the soundscape recordings and their experiences helped me develop internally and still does. My own sense of *place and self* was and is informed by all my collective efforts. Therefore, experiencing the artwork itself was most likely different for me compared to a first-time listener.

Unfortunately, there was one technical difficulty that occurred with *Sonic Boundaries*. One of the tin boxes towards the end of the evening stopped working. Each tin box's components needed eight different “jumper cables” to be connected for the playback system to function correctly, and there was a risk that one of them would fail to connect properly. Before the event started, I undertook repeated moments to test that everything functioned correctly, but in the end it was not enough. Upon diagnosing the problem with the faulty tin box, I identified a loose connection in the ground cable attached to the AAA battery housing as the cause of the malfunction. This could be remedied by re-soldering it, but with the end of the evening fast approaching, there was not much time to be able to resolve the problem. It was a disappointing moment for me. I dreaded a guest attempting to experience the artwork only to trigger one of the boxes with no audio playback happening. I tried to be vigilant and located myself close to the exhibition area for most of the evening to make sure that this was not the case. Fortunately, this happened at the end of the evening, and *Sonic Boundaries* functioned without any problems during most of the event.

Experiencing *Blur* was a very intimate and enjoyable experience for me. My relationship and physical presence in all the recorded locations likely contributed to this. The ability to blend different soundscapes together to create “new” ones, that, for me, emphasised a sonic density representative of Johannesburg's fast-paced, intense nature. There was a moment during the experience of layering various soundscapes together that I triggered a soundscape that was a recording of rain starting to fall in the park Emmarentia. All of the other blended soundscape recordings being heard were of

events that had no presence of water in them, and it was surreal how the increasing presence of rainfall, rising in volume as it started to rain harder, brushed all the other soundscape events with rainfall, entirely changing the aural perception of all the combined events. Apart from knowing which “theme” was triggered with each of the nine trigger boxes, what was going to be heard was a surprise, and so creating new and unique soundscapes was part of the enjoyable experience. There was a sense of chance and outcome that was unexpected. The interactive experience of having various choices on the outcome of what was being heard was also a positive one, and I can understand why some of the guests commented that they enjoyed the interactive experience of *Blur* more than *Sonic Boundaries*.

All in all, the overall event was a positive experience, and I believe it was successful. Challenges that were beyond my control, such as loadshedding, were something that could be overcome and, in some ways, added to the collective experience of the event in ways that I did not expect. In hindsight I am still frustrated that the one tin box from *Sonic Boundaries* stopped functioning. But if I am fortunate enough to have future events take place, which I plan to do, I believe that there are ways and means to make sure it does not happen again.

7. Conclusion

The entire project, spanning over the last two years, has left an indelible mark on me and, to a large extent, brought to light how deeply entrenched and connected we are to the past when considering the formation of Johannesburg. I find it challenging to consider how we as collective citizens are going to move forward in a way that creates a positive re-evaluation of our sense of place in Johannesburg. But the writing of this dissertation is not about the collective; it is about the singular, my personal experience of the work, the research undertaken, and the medium I chose to express my views.

As a white resident of Johannesburg living in a middle-class suburb, I had to confront, through various progressions of research undertakings and experiences, what my own expectations were regarding the soundscape ecology of *home*, *place*, and *placemaking* and what those links were to the past. How can I deconstruct my notions of soundscape ecology to form a new viewpoint that is better suited to the almost instantaneous shape-shifting of Johannesburg and its landscape? What constitutes an act of inviting the “stranger” into the complexities of interiority that form part of my lifestyle and upbringing? Johannesburg, in the words of John Matshikiza, “has always been a politically and racially charged city. It is said that Johannesburg has been built up and torn down no fewer than five times since it first appeared on the Highveld in 1886. And each time it has reemerged even uglier than before” (Matshikiza, 2008: 230). The “uglier” that Matshikiza refers to when describing Johannesburg represents to me the “charged” complexities and structured/unstructured nature of Johannesburg, and with that, the complex soundscape ecologies that aid in informing it.

I specifically refer to the *home*, *place*, and *place-making* intentionally because to attempt to answer my research question, I have come to realise that it all starts there. The spaces we physically inhabit the most are also the ones that inform our sense of *place* and *self* the most. Therefore, the soundscape ecologies that exist in those spaces are the soundscape ecologies that aid in informing the same notions.

In my rationale, I spoke about my time living in downtown Johannesburg. The soundscapes that are embedded there are vastly different from that of a residential suburb in the northern regions of Johannesburg. As are many of the residential neighbourhoods that are either in the CBD or on its periphery. I discussed how the self-awareness of moving from the CBD back to a leafy, green suburb had a noticeable impact on my naïve realisation that there was a marked difference from what I grew up with and lived with most of my life. Only now do I fully understand the meaning of it.

During my field trips, I revisited the building (Ansties) I lived in, as well as Church Street, a market street right next to the building that is filled with informal traders that sell an array of produce, meals, and wares. I intended to go to the top floor of the building, which consisted of an open balcony viewing area, which I did. From this vantage point, one could hear the activity of the city from high above and metaphorically capture a big-picture sonic perspective of what the city as a whole sounded like. Both *Sonic Boundaries* and *Blur* offer recordings of this event. Wind on the day was a challenge and generally was the “enemy” of my field recording trips. However, if I positioned myself more or less in the centre of the top floor, I could capture the sense of hum and vibration that is emitted by the city’s vibrations. For me, they feel like ghostly fingerprints that signify all the intense movement and transience that is happening down below. Where one feels that activity of “the city” on the periphery in the suburbs, which is not necessarily the city but the busy roadways and highways that have come to represent it, here on the rooftop there is a feeling of sonically being in the “soul” of the city; the heart of it. While on the rooftop recording, nature oddly represented itself with a singular bird flying high above the heads of the skyscrapers, fluting its distinctive sound while passing by. A singular voice within the low-frequency aura of the city at large.

Once I was finished, I proceeded down the stairwell and into the city’s market street. On one of the soundscape recordings that was included in *Blur*, you can hear me walking towards the exit doors in an empty hallway and entering the intense soundscape world of the CBD on a late Saturday morning. This is generally a very busy time of the week for businesses, citizens, and commuters. The stark contrast of the echoey hallway just before exiting and the street just outside is acute. The overall volume level of the

“outside” was so intense that I needed to adjust the gain levels of my recording equipment to avoid any digital “clipping.” Even then, there are still moments that the microphones could not handle the sound pressure levels emanating from the street scenes, the towering buildings on either side creating additional means for acoustic reflection and dynamic gain. As I entered Church Street, the activity was buzzing with commuters, traders, and shoppers. Along some of the shopfronts, music was playing “loudly” on speaker systems at the entrances. This blend of music and street activity was a familiar scene to me, a fond nostalgia, and an area I used to appreciate for purchasing inexpensive fresh produce. When living in the CBD, you become a familiar face to the hawkers in your zone of activity, and not having been there so long, I expected to be viewed with suspicion. This was however not the case; even though I was walking around with less intent than somebody driven by a purpose, I still felt as though I was perceived as just another body passing through the area on my way to somewhere.

During my time living in the CBD, crime was a part of life. Friends and I experienced numerous occasions of petty theft and robberies at knifepoint or gunpoint. We, rather forcibly, quickly became “streetwise” by learning how to best evade such scenarios or nefarious characters through a heightened sense of vigilance and awareness of one's surroundings. This skill is arguably not as important in the “safer” suburbs of the North. During my field trip, I was therefore starkly aware of my presence in an area that has moved past my time there. I felt a palpable sense of personal danger as I contemplated the threat of crime, fearing that I would be noticed as an “outsider,” an easy target, and someone who did not belong there. However, nothing happened, leaving me on my own as I walked up and down the market street. The above can be understood as a typical theme for *the fear of crime* when you are venturing into areas that are considered to be dangerous. If you want people to not go to a certain place in Johannesburg, tell them a crime story or warn them of impending danger, and the myth will do the rest. Be a white resident, like myself, that has lived in securitised suburbs most of their life, warn them of danger, and the rest is history.

There was one sonic moment during my stay in Ansteys that formed part of our city soundscape and was probably a turning point in my experiences of city living. My fiancée, I, and our flatmate stayed on the 13th floor of the building. It was late into the evening, the city assuming a relative quiet compared to the activities of the day, when we were woken by the scream of a woman. The cry was unforgettable; even though we couldn't see what happened, we thought it meant someone was being invaded and violated. The sound was heart-wrenching. I ran down towards the security guards to ask for help, but with them being on the ground floor and sound being able to travel upwards without any obstacles, we could hear what they couldn't, nor was it possible to locate the incident as it could have happened anywhere in the vicinity of the area. The soundscape was "keynoted" that night with a different signifier and tone. I tell this story because, throughout my life in leafy suburban neighbourhoods, I have never experienced such a sonic impact and moment. And the question needs to be, therefore, what other sonic violations residents of the city have heard at night when living in the highrises of the city and its surroundings while only passive participants in the experience? One sonic moment left a big impact on my perception of place and self, and my time in the CBD was brief. The *fear of crime* became a living sonic metaphor and threat that was real and potential. But what is more important is the fact that what we experienced does not come close to what the victim experienced. Child abuse and femicide are tragic and unthinkable. It should not form a part of our society in any way.

I do not know what happened to the victim that night and the extent of harm caused. I don't even know if she is alive. I can only know that the sound I heard was deeply chilling, marking a moment of extreme distress and violation. When crime is not just a myth that drives metaphors of the past, present, and future, as Lindsay Bremner puts so succinctly, and becomes real (Bremner 2010, 199), it becomes an entirely different set of negotiations that need to be dealt with in the realms of the soundscape, the self, the present, and *place-making*.

The field trip back to my old stomping grounds as a student was important because I could personally engage with the area in ways that I can't when visiting areas where I have not resided. It formed a critical part to help my understanding to what extent our

soundscape environment informs our sense of place and self in Johannesburg. Whilst the other densely populated suburban locations and soundscape ecologies I explored and experienced could be appreciated as something that existed, was there, and was important to the overall cultural and social dynamics of the city, I was only a guest or, even less desirably, a tourist. I was not a resident. Drever's 21 questions, as discussed in my theoretical framework, speak to this when considering the ties I have with the context and locations being studied, with specific reference to question number 8 (Drever, 2016: 73-74).

My opinion of *Nature*, based on all my experiences and research, is that it is one of urban intent. The intentions of various groups to introduce it to our urban environments have changed and evolved over the years (Mabi, 2020). Johannesburg's early residents' roots in imperial, colonialist ideals have been well argued by Thandeka Mabi and Jeremy Foster. Johannesburg's indigenous and non-indigenous tree species are found throughout the city. The sounds of nature, in the form of birds, are everywhere. On one field recording trip I undertook in Lorentzville, a semi-industrial residential neighbourhood of Johannesburg to the east of the CBD at the foot of Yeoville Ridge, the soundscape ecology of the area was filled with an abundant presence of birdlife, intermingling with the sounds of trucks and various forms of trade work. There too, jacarandas and oak trees line the streets. Yeoville's jacarandas and oak trees are some of the biggest I have seen and easily compete with suburbs such as Westcliff and Houghton.

Residents of Johannesburg are proud of the city when all the Jacarandas bloom. I and many other residents appreciate our greenbelts and parks. They are important zones where one can escape the madness of the city. It is sad when seeing how many once easily accessible parks are being fenced in once again due to our good old foe, crime, and the perceptions thereof. Green securitised zones of safety, a tragic result of criminal activity and opportunity. The sounds, health benefits, and presence of nature are important; I can only imagine what a nightmare living in Johannesburg would be if there were not as many trees.

The soundscape ecology of *nature*, rather sadly, does start to play a divisive role when the *fear of crime* becomes entangled with it, sustaining sonic metaphors that still cling to our colonial heritage and apartheid past. One such example is of field trips I undertook in the gated neighbourhood of Westcliff, located on a koppie that forms part of the Parktown ridge that runs through towards the east of the city. Westcliff consists of many old-era houses that were built during the early periods of Johannesburg by architect Herbert Baker for the area's elite from 1902 onwards (Davie, 2023). His building style incorporated various styles, including the “garden style” of building and property design. His design aesthetics revolved around the notions of “national” identity and imperialism (Foster, 2014: 32).

The sonic characteristics of Westcliff are ones of peacefulness. Westcliff evokes a sense of privacy and solitude. On my first trip, which took place on a sunny late morning, the sounds of *nature* were very prominent in the form of birdlife. Many of the houses boast very sizable properties with big, lush gardens behind large walls and securitised fencing. The streets are lined with tall trees such as jacaranda and oak. Westcliff can be argued to be an atypical example of the “leafy green suburb.” A place to escape from the chaos of the city within the private gardens and properties (47).

On a Sunday afternoon visit, Westcliff's streets felt unusually heavy with silence. This quiet, so different from the sounds of other neighbourhoods, coupled with the sense of isolation emanating from the walled properties, gave the area a sombre and almost ghostly feel. On my first outing, the characteristic birdsong was strangely absent. I can only assume that it is partly due to the cloudy weather conditions and the time of day I recorded. It was an uncanny and solemn environment and a very unique experience when comparing it to other field trips where sonic activity was present in many forms.

My reflections highlighted how the sonic environment of Westcliff, particularly the sounds of nature, still resonates with its historical context in a profound way. The sounds of *nature* inherently are not a negative experience but seemingly can be captured by people's intentions and ideas around *place-making* when used as a form of escapism towards the “outside” realms within Johannesburg at large. Nature becomes

an “ingredient” that conveys a place and specifically its history, as discussed by Norman. (Norman 2012: 258). There was a very odd moment where I noticed the Union Jack hoisted on a flagpole on a property that was towards the top of the koppie.

I can only wonder what the personal intentions of the homeowner are. When one drives on the M1 highway towards the CBD, one can see it in the distance on the right.

It is important to emphasise that many middle- and upper-class neighbourhoods convey the same encoded messages as Westcliff does. Moreover, many of these neighbourhoods lack gated access. My own neighbourhood, Melville, which is considered by residents and myself as a residential area that boasts a lot of cultural diversity, can at times also sonically resemble the soundscape ecology of Westcliff on quiet days. I believe that the impact of “interiority” and considerations towards our collective ideals around the “home” and our intentional/unintentional notions around the “cultivation of privacy” (Labelle, 2019: 47) is still present and can be heard. I do feel that gated communities, however, enforce these ideals to an extreme that heightens the difference between the “inside” and the “outside” even more.

In neighbourhoods such as Yeoville, where the sonic presence of nature is also evident and often balanced with the sonic vibrancy that exists due to human activity, the links to colonial heritage have been neutralised due to an influx of different races and cultures within the area, many of whom are immigrants and form a part of the lower economic groups. Here, *place* and *placemaking* tell a new story, and the sonic characteristics of *nature* do not seem divisive anymore.

The question to me, therefore, becomes: How do I reinterpret the influence and presence of the soundscapes I inhabit in a way that is positive and breaks through the barriers that are linked to our complicated past? Here I need to consider the power play between “noise” and what is considered to be “silence” as Labelle discusses when examining the “contentious intolerance” towards the “other” (Labelle, 2019: 63).

When one listens to the soundscape ecology of the Soweto locations I visited, one hears people who live their sense of community on the streets outside their houses. On

one street, you can hear people sitting outside their properties on the sidewalk chatting and enjoying beverages. Music can be heard from some houses, whereas the “inner” lives of residents inside their properties can also be heard with ease, such as a lady singing a tune while hanging laundry on the line. Soweto properties in the areas I visited are significantly smaller than properties that are found in the northern regions of Johannesburg, and when cultural expression is added to the spatial situations, a new set of sonic parameters is expressed. In short, the streets of Soweto are far more sonically vibrant due to social interaction than those of a suburban neighbourhood such as Westcliff. The above might not be true in all suburbs that are in Soweto, but it was the case in areas such as Rockville and Orlando West. Similarly, not all northern suburbs are as acute an example as Westcliff. There are suburbs in the north that, while not necessarily very similar to the Sowetan suburbs, are considerably more vibrant than Westcliff and other gated communities, for instance.

How would residents of Westcliff experience Rockville and Orlando West’s sonic vibrancy, social, and cultural expression if it started to take place within their neighbourhood? Where, for example, a section of the communities found in Soweto are now able to locate themselves in Westcliff. Would the residents enforce strict protocols to mitigate against what they perceive to be “noise”? Would the power play of using “silence” be regarded as a way to make the new residents with their “outsider” cultural expressions be put to heel and forced to play by the established set of suburban codes? What would they do if they saw their neighbour and friends sitting outside on the street socialising while music was playing from the car? What happens if all of a sudden it is not just one “problem” property but more properties that start to influence sonic change within the soundscape realm of this quiet leafy suburb? Will the established residents perceive the change in the environment as a threat or as an opportunity for recontextualisation? How would you or I feel when similar examples take place within the locations that we call home?

In many cases our bounded space is maintained and continues to exist. I am once again reminded of John Matshikza’s quote: “Wars begin when people pretend that they cannot see each other ” (Nuttall & Mbembe, 2008). Therefore, in my own capacity, I

have endeavoured to enhance my ability to see and hear and to delve deeper into the realm beyond the established veil of fear and sonic boundaries as we persistently grapple with our past.

My walls are high and electrified, and my neighbours are "far" away, so I cannot see them. Occasionally it feels like the sounds of nature, on a "quiet" day, are the only characteristics that connect me with the world and its residents beyond.

As stated earlier, I believe that there is much more work and research that could be undertaken around the soundscape ecologies we find ourselves in and how they inform our sense of place and self. Soundscapes that are creatively showcased in the form of phonography also represent an untapped medium.

In the future I would like to potentially explore methods of cataloguing soundscapes in more creative and extensive ways than I already have. While we have very comprehensive libraries and archives of photography (the Museum of Africa in Johannesburg serves as a wonderful example), we have, however, very few soundscape recordings of the past. For example, we know what Johannesburg looked like in the 1920s, but we do not have much direct evidence of what it sounded like, which of course is not a surprise when considering the technological advances of audio recording. In the present day, though, I can say that I know what my suburb sounds like right now, but I do not know how different it will sound in ten years time. I find, therefore, that the method of phonography is a potent way of capturing our sonic histories and events, similar to that of photography. There are many digital archives of soundscape recordings, but I have found that when one places soundscapes within tangible objects, it heightens the experience of listening and grounds a fleeting moment into captured space and time.

The last area of research I find much potential in for better understanding how soundscapes inform our sense of place and self is the present-day phenomenon that revolves around informal settlements becoming established next to areas of affluence, as I have mentioned above in my literature review. I believe that such situations will showcase a very stark sonic contrast and speak to many current issues that

Johannesburg is currently grappling with. Ironically, I believe that the above events are not entirely new and have happened since the origin of Johannesburg's establishment. Such informal development during the early periods of Johannesburg arose in haphazard, organic, and very unplanned ways up until the implementation of the Natives (Urban Areas) Act of 1923 (Parnell, 2003: 615). Author Susan Parnell discusses this "ad hoc" nature of early Johannesburg's slums in her article, "Race, Power and Urban Control: Johannesburg's Inner City Slum-yards, 1910–1923." In it she states that "it was not until the balance of power within the ruling white population shifted that local government urban management practices were challenged and the ad hoc approaches to African settlement that had been established through the creation of industrial slum-yards were overturned (615)."

The above research idea would provide a narrower set of locations to investigate compared to the broad picture view I undertook by visiting many differing locations. Through using phonography as a method to capture the diverging soundscape environments that are located in the same area but are distinctly different, there is an opportunity to engage with ethnography as a methodology with more depth whilst positioning it within the historical context of Johannesburg's origins. Here I am referring to Truax's views on how the use of phonography should be considered to ensure ethical considerations are observed, as discussed in my literature review (Truax 2012, 195). I can, for instance, envision a research design that involves the systematic recording of sites multiple times in combination with an overt ethnographic aspect that involves the residents as participants in the project.

In closing, this exploration of Johannesburg's soundscape ecology has revealed the intricate interplay between history, culture, and personal experience in shaping our sense of place. By examining these sonic boundaries, we can begin to understand the complexities of our shared urban environment and potentially pave the way for more inclusive and sonically aware approaches to city planning and community development.

Ultimately, understanding Johannesburg's soundscape ecology requires us to listen more deeply, to engage with the diverse voices and sounds that constitute this city. By

acknowledging our sonic history and embracing the potential for change, we can move towards a more harmonious and equitable urban experience for all its residents.

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9. Appendix

Westcliff Soundwalks and Reflection

Johannesburg CBD and Ansties Soundwalk and Reflection

Brixton Cemetery Soundwalk and Reflection

Victoria Yard and Lorentzville Soundwalk and Reflection

Sonic Boundaries Exhibition Video