

**SOUNDCASTLES:  
Play and process in field-recording composition**

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Submitted in accordance with the requirements for the degree of  
Doctor of Philosophy

The University of Leeds

School of Music

March 2020



**UNIVERSITY OF LEEDS**

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## Acknowledgements

*This research would have been impossible without those who supported me during this long, yet truly worthwhile and fulfilling process. First and foremost, I would like to thank my mother and my father, who gave me all the love and support they had, and who, sadly, couldn't see the fruition of this work. I remain forever grateful. Secondly, I would like to express my sincere thanks to my supervisors, Dr. Scott McLaughlin and Dr. Ewan Stefani, for their true care, support, and guidance all throughout this research. And, last but not least, I would like to thank my wife and my grandmother, who provided me with the emotional and spiritual foundation on which to see this work through.*

# SOUNDCASTLES: Play and process in field-recording composition

## Abstract

*Soundcastles: Play and process in field-recording composition* is a practice-led research in experimental music, which investigates the medium of field-recording as a contested vanguard between the listener and the listened; the self and the soundscape; the composer and the material. The research consists of a portfolio of nine field-recording compositions and a corresponding commentary exploring the ideas, approaches, and discourses behind. It studies the complex boundary where the listener and the sonic environment meet, and explores the music potential of sounds in the urban everyday between the immediacy of their emergence, and the cognitive-emotional context of their subjective perception. In the tradition of soundscape composition with field recordings, a main focus of this research is the integration of the affective and the effective qualities of being in the world and listening. The music properties of urban soundscapes can thus be both emphasised and transfigured, so as to include the subjective aesthetic perception without losing the unique connection to their place of origin. The resulting compositions—soundcastles—become mediations between subject and object, soundscape and inner-scape, the actualised and the potential. This research investigates this liminal space of convergence where a listener encounters the sonic environment, and explores the potency of this encounter. It thus problematises the perceived bifurcation of subject and object of listening, and treats the soundscape in terms of imbricated processes within a network of relationships. Each soundcastle is a process of reducing the continuous acoustic environment to a concrete form as perceived from a standpoint. In particular, the methodology of this practice utilises modern signal processing and editing tools to highlight the subjective experience of a soundscape, while preserving the connection of the composition to the specific place and occasion of its recording. In this way, the *Soundcastles* project aims to situate itself at the in-between space between phonography and acousmatic music within the field of soundscape composition.

**Key words:** field-recording, soundscapes, soundscape composition, phonography, listening, soundwalks, experimental composition

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*In loving memory of my mother and father ...*

## A Soundwalk

It is a late afternoon on 28 July 2012. After a ten-day anthropology conference, and a two-hour bus ride, we arrive by a forest park where one of the last activities for the week is about to take place: a workshop in sound anthropology. None of us is aware of what the latter will entail, but the place instantly gratifies. Located on the southern rim of the Julian Alps, Tolmin is a Slovenian settlement cuddled at the watersmeet of Soča and Tolminka rivers in the Zgornje Posočje valley. The Alpine air peppermints the summer heat. We venture into an area where the last day of the Sajeta Art & Music Festival will take place later that evening.

We learn that the workshop will involve a soundwalk around the area. As none of us knows what that means, we are instructed to simply stroll, led by a guide, for about half-an-hour. While on the soundwalk, we're told to try—as best we can—to focus all our attention fully on the listening of sounds. Naturally, talking among one another must be paused, and every time thoughts surface in the mind, we are to gently sink our attention back to pure listening.

Off we go led by our silent guide. Initial giggles quickly drown flooded with silence. Not silence without, for sounds are abound, but silence within. In the absence of attention-contest with the conscious mind, sounds simply sound. Energy vibrations expanding in space, freely permeating what until moments ago were the boundaries of myself. Rivers, wind, a car-engine in the distance, people, birds—these are all words. Words I am used to summoning in order to tame feral sounds and yoke them into things I think I know. But not this time. Now there are no rivers, there are no birds, for the one who names them is on pause. No longer things, sounds are.

An infinite half-hour later our dispersed group slowly flocks back together. Talk resumes. I sit aside not ready to trade-in listening for speech just yet. As thoughts slowly venture in, I take a pen and reach into my pockets to find the only piece of paper on me: a boarding-pass slip from my flight here. I scribble few impressions on the tiny note: 'sounds: objects in silence'; 'silence: the absence of sound, or the capacity for sound?'; 'listen to sound, not to thought'; 'no thought, no thing'; 'silence: the space around sounds'; 'time??'; 'the soundwalk didn't finish.'

It's now 2019. The soundwalk still hasn't finished. The swells and ebbs of cars passing outside my window as I write remind me of waves by the shore. Is traffic the urban ocean? I wonder how cities will sound once the fuel-storm is over and the engines cease to internally combust. Perhaps like a calm day on the beach. Will we miss the waves? Yet, these, too, are thoughts, while sounds still sound. More cars pass. 'Listen to sound, not to thought.' I still keep that boarding-pass among my things of value. I like to sometimes hold it and remember I once had a soundwalk in the good Slovenian wood. Or should I say, it once had me.

# Chapter 1

## Situating Soundcastles

*'Now I will do nothing but listen...  
I hear all sounds running together, combined, fused or following,  
Sounds of the city and sounds out of the city,  
sounds of the day and night...'*

Walt Whitman, 'Song of Myself'<sup>1</sup>

### 1.1 Introduction

*Soundcastles: Play and process in field-recording composition* is a practice-led research project in experimental composition with field recordings. I conceived the term 'soundcastles' as a simple analogy to sandcastles, so as to imply what the project entails. Namely, we think of sandcastles as aesthetic creations, made at a particular location (usually a beach), out of material present at that location (e.g. sand, stones, shells, sticks, etc.) Further, when making sandcastles, we're inevitably affected by our current sense perceptions, dispositions, culture, mental/emotional states, as well as a subjective sense of aesthetic. In many ways we mould these into the sand. Or mould the sand into them. So what was base material has been reframed and transformed to transcend its origin and manifest human vision and energy, even if only for a short while. At the same time, however, our sand-creation never really leaves its element, as it is completely made of it. As the duality of this composite word suggests, a sandcastle is the synthetic product of a process marrying base material: sand—with human creation and aesthetic—castle.

Analogously, a soundcastle is a soundscape composition, made of a field recording done at a particular place and time, and consisting only of sonic material present in that recording, processed through the composer's aesthetic. Thus, each soundcastle is made of one single take of recording which is then edited and processed to highlight the way the composer/recordist hears it emotionally and aesthetically. Each soundcastle is a process of reducing the boundless acoustic environment into that concrete aesthetic form, which the composer finds closest to the way s/he experiences the sonic material. And by experiencing the sounds, I mean not only hearing of the physically audible, but

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<sup>1</sup> Walt Whitman, 'Song of Myself', in *Leaves of Grass* (New York: Bantam, 2004), pp. 23—76 (p. 46).

attuning to the way the latter is perceived and imagined in the mind and body. A soundcastle is thus not only a sharing of sounds, but an attempt at sharing a listening. It is the synthesis of the encounter between a listener and the acoustic environment. It references both, yet represents neither. It is, in other words, a presentative, rather than a representative process in its nature. The main purpose of this research is to investigate this in-between space of convergence, where a listener and the acoustic environment meet, and explore its creative potential.

The epigraph by Walt Whitman that opens this section is a good point of departure for this project as it expresses an essential prerequisite: a surrender to the sonic abundance without, and a recognition of its affect within. The former being explicit in the words of the strophe, while the latter being implicit in the poetics of its ‘voice’. To paraphrase the notion of soundcastles in poetic terms, this verse could be called a ‘wordcastle’: an aesthetic structure of words designed to evoke both the effect of its meaning and the affect of its cadence. Here, too, poetry happens in-between the poet and the world: between the impulse ‘now I will do nothing but listen,’ and the sounds heard. This passage is also the quote that sets off the seminal book *The Soundscape: Our Sonic Environment and the Tuning of the World* by R. Murray Schafer.<sup>2</sup> Along with his students and collaborators at the Simon Fraser University (SFU), Schafer developed the tradition of phonography and soundscape composition, to which this research strives to contribute.<sup>3</sup>

## 1.2 Research question

As mentioned earlier, this project investigates the liminal space of listening which we normally place somewhere between a listener and the acoustic environment. This betweenness, where sounds and listening meet is the focus of this text. The main research question it asks therefore can be formulated as:

WHERE IS THE BOUNDARY BETWEEN THE LISTENER AND THE ACOUSTIC ENVIRONMENT?

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<sup>2</sup> R. Murray Schafer, *The Soundscape: Our Sonic Environment and the Tuning of the World* (Rochester: Destiny, 1994), p. 3.

<sup>3</sup> The specific practitioners and practices associated with this field are the subject of section 1.3 below.

I address this question in two ways. First, through the practice of field-recording composition and the portfolio of pieces I submit.<sup>4</sup> And second, in this text I discuss key terms, ideas, and discourses from the discipline of field-recording composition in an effort to situate my practice and provide the context from which this research emerges. Some of these concepts I have already mentioned: soundwalks, listening, acoustic environment, phonography, soundscape, soundscape composition. Besides organising and defining them, I will also place them against the research question and see how they can illuminate the relationship between the listener and the sonic environment.

## 1.3 A landscape of horizons: a review of notions and practitioners in field recording

*Was uns als natürlich vorkommt, ist vermutlich nur das  
Gewöhnliche einer langen Gewohnheit, die das  
Ungewohnte dem sie entsprungen, vergessen hat. Jenes  
Ungewohnte hat jedoch einst als ein Befremdendes den  
Menschen angefallen und hat das Denken zum Erstaunen  
gebracht.*

*Martin Heidegger<sup>5</sup>*

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### 1.3.1 Soundwalking

The soundwalk in the Slovenian forest, which I recount at the beginning, is a good start of this section, as besides being an important practice within the field-recording discipline, it also opened up my listening to a completely new level of intimacy and engagement with the world around. This one event has in many ways changed the course of my life, putting me on the trajectory that has led to my writing this text. The meditative immersion in the sounds about—focusing all attention on listening rather than thinking—can reveal a world of musical sound, which is often neglected. In the course of this walk, the sounds about were gradually transfigured before my ears from background noise to what R. Murray Schafer has called ‘a concert of sound that occurs continually around

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<sup>4</sup> A commentary on the both the portfolio as a whole, and description of individual compositions, is found in Chapter 2 of this text.

<sup>5</sup> ‘What appears as natural to us is perhaps simply the habitual of an enduring habit, which has forgotten the non-habitual which spawned it. And yet, this very non-habitual is what has once descended upon humans as the strange unknown, and has astonished thinking.’—Martin Heidegger, *Der Ursprung des Kunstwerkes* (Frankfurt: Klostermann, 2012), p. 9. [my translation].

you.’<sup>6</sup> And yet, much to my surprise, of the dozen or so people who partook in the soundwalk, only two of us reported an experience of similar intensity. The others expressed little else than boredom and frustration. Such an immense contrast in perception, within the same situation and circumstance, highlighted the diverse subjective nature of listening, even from apparently adjacent standpoints.

Field recording and composition pioneer Hildegard Westerkamp is one of the main proponents of the practice of soundwalking. She defines it as ‘any excursion whose main purpose is listening to the environment. It is exposing our ears to every sound around us no matter where we are.’<sup>7</sup> She points to our habitual neglecting of the sonic environment, and promotes the establishing of a ‘natural dialog between the surroundings and ourselves.’<sup>8</sup> We are to ‘give our ears priority’ wherever we are, and to listen for ‘what kinds of rhythms does the [soundscape] contain, what kinds of pitches, how many continuous sounds, how many and what kinds of discrete sounds.’<sup>9</sup> The connection with the environment and with ourselves that this practice nurtures will attune us to the world and help us develop a ‘critical listening’ faculty in analysing our sonic surroundings. She argues that fostering this aural connection will not only transform the quality of our listening, but also inspire improving the quality of the acoustic environment.<sup>10</sup> The latter, she finds far from balanced and writes that ‘listening to our cities as a soundwalker can be a painful, exhausting and rather depressing experience.’<sup>11</sup> This is in line with her work at the World Soundscape Project (WSP), founded by R. Murray Schafer in the late 1960s and early 1970s, where she and her fellow researchers Barry Truax, Howard Broomfield, Peter Huse, and Bruce Davis, developed the field of acoustic ecology.<sup>12</sup>

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<sup>6</sup> R. Murray Schafer (ed.), *The Vancouver Soundscape*, (Vancouver: Simon Fraser University, 1978), p. 71.

<sup>7</sup> Hildegard Westerkamp, ‘Soundwalking’, in *Autumn Leaves: Sound and the Environment in Artistic Practice*, ed. by Angus Carlyle (Paris: Double Entendre, 2007), pp. 49–54 (p. 49).

<sup>8</sup> *Ibid.*

<sup>9</sup> *Ibid.*

<sup>10</sup> *Ibid.*

<sup>11</sup> *Ibid.*

<sup>12</sup> Simon Fraser University, ‘World Soundscape Project’, *Simon Fraser University* <<https://www.sfu.ca/sonic-studio/worldsoundscapeproject.html>> [accessed 11 February 2020]

- A listening-walk and a soundwalk

In *The Soundscape: Our Sonic Environment and Turning of the World*, R. Murray Schafer distinguishes between two kinds of the practice: a listening walk and a soundwalk. He defines the former as ‘simply a walk with a concentration on listening.’<sup>13</sup> He further gives instructions very similar to the ones I received before the workshop in Slovenia: ‘leisurely pace,’ ‘no talking,’ ‘distance between participants.’<sup>14</sup> A soundwalk, on the other hand, involves the use of a score to guide the soundscape exploration.<sup>15</sup> The score can be a map highlighting specific acoustic locations; it can involve a set of exercises to focus the ears on certain sounds and their characteristics; or include walking on different surfaces, such as gravel, grass, wood, pavement, and comparing the sounds heard.<sup>16</sup> According to these two definitions, what I have been describing overlaps with the description of a listening walk, rather than a soundwalk. I have nevertheless decided to stick with the term soundwalk, as it is the most widely used one in the field, encompassing the diversity of the practice. I believe the possibilities for variation of the latter are too many to call for individual terms. Barry Truax, who also espouses the practice, seems to be of a similar opinion. His definition in the *Handbook for Acoustic Ecology*, integrates all related practices stating that a soundwalk is:

A form of active participation in the soundscape. Though the variations are many, the essential purpose of the soundwalk is to encourage the participant to listen discriminatively, and moreover, to make critical judgments about the sounds heard and their contribution to the balance or imbalance of the sonic environment.<sup>17</sup>

This particular definition echoes Westerkamp’s call for a ‘critical listening’ that evaluates the quality of the sonic environment. This rather normative approach of discriminating between a balanced and unbalanced sonic environment is central to the practice of acoustic ecology, as developed at the WSP.

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<sup>13</sup> R. Murray Schafer, *The Soundscape: Our Sonic Environment and Turning of the World* (Rochester: Destiny, 1994), p. 212.

<sup>14</sup> *Ibid.*

<sup>15</sup> *Ibid.*

<sup>16</sup> *Ibid.*

<sup>17</sup> Barry Truax, ‘Handbook For Acoustic Ecology’, *Simon Fraser University* <<https://www.sfu.ca/sonic-studio-webdav/handbook/Soundwalk.html>> [accessed 11 February 2020]

- Phenomenology of soundwalks

In *Sound, Listening and Place: The aesthetic dilemma*, Truax advises that venturing into the field of soundscape recording and composition is best commenced with the experience of soundwalking.<sup>18</sup>

Rather differently from his earlier definition, he argues that:

Soundwalking is best done with the only intent being listening, without the distraction of operating a recorder. It is arguably the most direct aural involvement possible with a soundscape and one where repetition does not dull its effectiveness, since each walk is unique and unrepeatable. It is also a good practice to open one's ears and self to whatever is inherent in an environment, with minimal preconception, ideally treated as a phenomenological experience.<sup>19</sup>

The opening of one's ears and self to the environment can sound deceptively straightforward. It involves devoting one's undistracted attention fully on sound, 'and not on the usual internal dialogue that fills our minds.'<sup>20</sup> This is often easier said than done, as exemplified by the majority of my above-mentioned soundwalking fellows. Yet, soundwalks can prove challenging even for professionals in the field. In *On Soundscapes, Phonography, and Environmental Sound Art*, Marinos Koutsomichalis writes of his frustration with the practice, saying that 'whenever I happened to participate, I found it overwhelmingly difficult to focus on the actual listening experience; being part of a wandering group of individuals proves distracting enough for me to make concentration impossible.'<sup>21</sup> The transformative potential of soundwalking is therefore related as much to the sounds heard, as to the inner state of the listener. Rather than 'ear-grasping' for sounds, the practice invites for a gentle and receptive state of mind where one enters 'into a conversation with the landscape,' as Schafer put it.<sup>22</sup> A conversation in this sense can be a dynamic engagement with the sounds without and the quiet within. One has to make 'space,' as it were, in which the sounds can be received. This entails a withdrawal of cognisance in favour of a more direct and embodied perception, not unlike Husserlian phenomenological reduction.<sup>23</sup> As Koutsomichalis argues:

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<sup>18</sup> Barry Truax, Sound, 'Listening and Place: The aesthetic dilemma', *Organised Sound*, 17 (2011), 1–9 (p. 4).

<sup>19</sup> *Ibid.*

<sup>20</sup> Barry Truax, 'Music, Soundscape, and Acoustic Sustainability', *Simon Fraser University* <<https://www.sfu.ca/~truax/Sustainability.pdf>> [accessed 10 February 2020]

<sup>21</sup> Marinos Koutsomichalis, On Soundscapes, Phonography, and Environmental Sound Art, *Journal of Sonic Studies*, 4 (2013) <<https://www.researchcatalogue.net/view/268080/268081>> [accessed 11 February 2020]

<sup>22</sup> R. Murray Schafer (ed.), *The Vancouver Soundscape*, (Vancouver: Simon Fraser University, 1978), p. 71.

<sup>23</sup> Edmund Husserl, *Ideas Pertaining to a Pure Phenomenology and to a Phenomenological Philosophy*, trans. by R. Rojcewicz and A. Schuwer (Amsterdam: Kluwer Academic, 1990).

There is an implicit metaphysical quality in such an approach, in the sense that the aesthetic lies in the practitioner's very state of being, rather than in the audible per se, or in the effects of some recontextualisation. Since a successful soundwalk depends largely on the practitioner's state of being, consciousness is both the subject and the medium of such a practice, sharing some common ground with early transcendental phenomenology, in that it calls for a shift of awareness towards a fresh, unprejudiced listening of one's surroundings.<sup>24</sup>

This phenomenological approach differs substantially from Westerkamp's and Truax's earlier definitions, as it lacks the critical judgement of the acoustic environment for which they initially advocated. Instead of striving for an acoustic balance without, this practice focuses on a conscious balance within. 'Minimal preconceptions,' yielding to 'whatever is inherent in an environment,' an 'unprejudiced listening,' all these refer much more to the disposition of the listener, than to the state of the sonic surroundings. The more propitious one's inner space, the more substantial the engagement with the aural surroundings. Instead of a struggle against acoustic noise pollution, I would argue, the vanguard has moved towards the abatement of cognitive noise pollution. In my view, this shift of focus from without to within is of great significance, in that it represents a realisation of the intimate connection between a practitioner's state of being and the way they perceive their aural surroundings. This connection, as I will discuss in detail later, is what gives the sonic environment its multiplicity of perspectives, as well as anticipates central notions in the field, such as reduced listening, deep listening, and schizophonia. Before proceeding with that, there is one more aspect of soundwalking that is worth noting. Namely, the connection between the quotidian nature of walking and listening—we all do it everyday—and the transcendental goal of soundwalking.

- Soundwalks and transcending the mundane

While taking place in the mundane, soundwalking entails an attentive listening that aims to go far beyond the mundane. The way one is to listen to the environment during a soundwalk is not unlike listening to a performance in a concert hall. In other words, it is a striving to penetrate through the mundane and hear the sounds around as if for the first time. As John Levack Drever argues in *Soundwalking: Aural Excursions into the Everyday*:

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<sup>24</sup> Marinos Koutsomichalis, On Soundscapes, Phonography, and Environmental Sound Art, *Journal of Sonic Studies*, 4 (2013) <<https://www.researchcatalogue.net/view/268080/268081>> [accessed 11 February 2020]

Taking the everyday as its context, soundwalking mingles in the everyday but is not of the everyday. Akin to other modes of cultural performance, such as the classical music concert, it is a kind of limbo activity, where the goals and stresses of everyday life are temporarily lifted, and the sensation of partaking in a performance event is invoked, but distinctively in soundwalking the relationship between participant and everyday life is conspicuously porous.<sup>25</sup>

Herein, I believe, lies the full power of this practice. Namely, it not only opens one's listening to the neglected sonic beauty of the environment, but it also facilitates transcendence of the mundane and repetitive mind-chatter, thereby revitalising the primordial continuity between self and world. It is a stepping into a 'naivety of experience,' as Drever puts it, 'which the experimental music culture has learned to embrace.'<sup>26</sup> Heidegger, whom I've quoted in the epigraph at the beginning of this section, calls this the 'strange unknown,' which breaks the spell of habitual perception and opens it up to the astonishing. As Drever argues, 'one of the underpinning goals of soundwalking is about circumnavigating habituation, in a process of de-sensitization and consequently re-sensitization, in order to catch a glimpse (un coup d'oreille) of the "invisible, silent and unspoken" of the everyday.'<sup>27</sup>

Finally, even though the discussion is still at an early stage, let us briefly consider the research question about the boundary between a listener and the acoustic environment. If, as argued above, the state of mind of the participant greatly influences the robustness of the aural conversation with the environment, it follows that we have identified the first gap that needs to be bridged in order to establish a fruitful connection with the sonic surroundings. Namely, the boundary between a receptive and a non-receptive state of mind, a prejudiced and unprejudiced listening, a habitual and non-habitual perception. In other words, the line that separates the listener from the acoustic environment, at least in part, goes through the midst of the listener and their current state. Thus, soundwalking holds a possibility for that line to fade and let listening engage with the world more deeply. Following this trail, in the next section I will consider concepts and practices of listening among various practitioners in the field, before proceeding with the notion of soundscape and the relationship between listening, field recording, and composition.

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<sup>25</sup> John Levack Drever, 'Soundwalking: Aural Excursions of the Everyday', in *The Ashgate Research Companion to Experimental Music*, ed. by James Saunders (Farnham: Ashgate, 2009), pp. 163–92 (p. 165).

<sup>26</sup> *Ibid.* p. 192.

<sup>27</sup> *Ibid.* p. 165.

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### 1.3.2 Listening

Listening has understandably been of central concern in the field-recording discipline. After discussing its facilitating through soundwalking, I will use this section to contextualise some of the main approaches and concepts associated with listening. In *Acoustic Communication*, Barry Truax points out that listening is fundamental to communication, as it is ‘the crucial interface between the individual and the environment.’<sup>28</sup> Through it, Truax argues, a listener enters into a relationship with the environment; a relationship through listening that is unique for each individual, whether positive and nurturing, or dysfunctional and oppressive.<sup>29</sup> And just as with the contrasting reactions to the soundwalk in our workshop group, Truax observes that different patterns of communication with the environment render completely different responses among individuals within the same acoustic environment.<sup>30</sup> As Andra McCartney suggests in *Ethical Questions About Working With Soundscapes*, ‘we could imagine the listening horizon of each listener, including the sound maker, as overlapping adjacent listening ecosystems.’<sup>31</sup> This speaks to the complexity of this aural exchange, which goes far beyond the processing of incoming sonic data. Instead, Truax emphasises the inseparability of sound and the cognitive-emotional processes that understand it.<sup>32</sup> Therefore, in his definition of listening, he marries auditory processing with meaning, writing that: ‘[listening] can be defined as the processing of sonic information that is usable and potentially meaningful to the brain.’<sup>33</sup> As the communication model would suggest, therefore, an individual within the acoustic environment is engaged in an active and dynamic exchange with it. As Truax argues, ‘instead of thinking of sound as coming from the environment to the listener and perhaps being generated back again we will think of it as mediating, or creating relationships, between listener and environment.’<sup>34</sup>

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<sup>28</sup> Barry Truax, *Acoustic Communication* (Norwood: Ablex, 1984), p. 13.

<sup>29</sup> *Ibid.* xi.

<sup>30</sup> *Ibid.*

<sup>31</sup> Andra McCartney, ‘Ethical Questions About Working With Soundscapes’, *Soundwalking Interactions* <<https://soundwalkinginteractions.wordpress.com/2010/06/24/ethical-questions-about-working-with-soundscapes/>> [accessed 13 February 2020]

<sup>32</sup> Barry Truax, *Acoustic Communication* (Norwood: Ablex, 1984), p. 9.

<sup>33</sup> *Ibid.*

<sup>34</sup> *Ibid.* p. 11.

- Acoustic communication and levels of listening

This active and meaning-based communication model of conceptualising listening is shared by many practitioners and writers in the field. In *Noise: The Political Economy of Music*, Jacques Attali links the agency of the listener (in their power of audition) and its relationship to the environment and the creation of meaning in an effort to ‘decipher a sound form of knowledge.’<sup>35</sup> The latter being a very similar expression to Truax’s ‘extracting of information from sounds.’<sup>36</sup> Paul Vickers differentiates hearing from listening through the notion of intent. He argues that ‘hearing is a physical activity, a function of the human auditory system, whereas listening is a mental or cognitive activity involving the mind.’<sup>37</sup> Listening, therefore, emerges as a composite of perception, interpretation, and conscious engagement with sound. Besides being pegged to a standpoint in spatial relation to the acoustic horizon, listening also involves a dynamic engagement with the cognitive-emotional dispositions of the listener and their state of mind. Thus, in *Spaces Speak, are you listening? Experiencing Aural Architecture*, Blesser and Salter give a broad definition that listening is ‘a means by which we sense the events of life, aurally visualise spatial geometry, propagate cultural symbols, simulate emotions, communicate aural information, experience the movement of time, build social relationships and retain a memory of experience.’<sup>38</sup> The latter memories Truax calls ‘earwitness accounts,’ which help orient the listener in their environment.<sup>39</sup>

In *Acoustic Communication* Truax identifies three levels of listening in terms of how we extract information from the acoustic environment: ‘listening-in-search,’ ‘listening-in-readiness,’ and ‘background listening.’<sup>40</sup> Listening-in-search is the most active mode of listening, where one focuses on specific sounds of high significance at the exclusion of others, as in the case of listening to a specific voice in a noisy situation (i.e. ‘the cocktail party effect’).<sup>41</sup> In listening-in-readiness mode, one’s attention is wider in scope and less specific, and, while not actively listening ‘for’

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<sup>35</sup> Jacques Attali, *Noise: The Political Economy of Music*, trans. by Brian Massumi (Manchester: Manchester University Press, 1985), p. 4.

<sup>36</sup> Barry Truax, ‘Soundscape Composition as Global Music: Electroacoustic music as soundscape’, *Organised Sound*, 13(2) (2008), 103–9 (p. 107).

<sup>37</sup> Paul Vickers, ‘Ways of Listening and Modes of Being: Electroacoustic Auditory Display’, *Journal of Sonic Studies*, 2(1) (2012) <<https://www.researchcatalogue.net/view/263480/263481>> [accessed 18 March 2020]

<sup>38</sup> Barry Blesser and Linda-Ruth Salter, *Spaces Speak Are You Listening?: Experiencing Aural Architecture* (Cambridge: MIT Press, 2007), p. 4.

<sup>39</sup> Barry Truax, *Acoustic Communication* (Norwood: Ablex, 1984), p. 17.

<sup>40</sup> *Ibid.* p.19.

<sup>41</sup> *Ibid.*

something, one is selectively receptive to sonic information of value.<sup>42</sup> Finally, on the level of background listening, one's attention of the acoustic environment remains below the threshold of conscious awareness, as no information of particular significance is registered.<sup>43</sup> While idle, background listening is also alert to the possibility of jumping to the foreground if a change in the situation calls for a focused listening. Truax notes that, similar to the other two modes, background listening is a quite complex process which involves a sophisticated detection of patterns and features, as well as their tacit evaluation by comparison to accumulated experience. Each of the three levels of listening has its specific place in perception and, as Truax points out, all have complementary functions in the lateralisation of the brain.<sup>44</sup> In *The Master and His Emissary: The Divided Brain and the Making of the Western World*, Iain McGilchrist argues that two distinct types of attention operating simultaneously are necessary for survival.<sup>45</sup> One is a focused, narrow, attention that is fixated with precision on a target object, while the other one must be open as wide as possible to guard against whatever threat that may arise. The above-mentioned levels of listening may have evolved for a similar purpose.

- Causal, semantic and reduced modes of listening

From a different perspective, Michael Chion writes of three modes of listening in *Audio-Vision: Sound on Screen*: namely 'causal listening,' 'semantic listening,' and 'reduced listening.'<sup>46</sup> Causal listening, as the name suggests, is a mode of aural perception focused on extracting information about sound source. In this sense, it is similar to Truax's listening-in-search, as we listen for something. A doctor's use of a stethoscope is an example of causal listening. Semantic listening refers to language and semantic code, and has to do with the linguistic interpretation of meaning through listening.<sup>47</sup> The causal and semantic listening correspond to the 'objective modes' in the terminology of Pierre Schaeffer.<sup>48</sup> The *écouter* and *comprendre* objective modes of listening, as he

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<sup>42</sup> *Ibid.*

<sup>43</sup> Barry Truax, *Acoustic Communication* (Norwood: Ablex, 1984), p. 21.

<sup>44</sup> Barry Truax, 'Soundscape, Acoustic Communication and Environmental Sound Composition', *Contemporary Music Review* (15)1 (1996), pp. 49–65, p. 59.

<sup>45</sup> Iain McGilchrist, *The Master and his Emissary: the divided brain and the making of the Western world* (New Haven: Yale University Press 2010), p. 25.

<sup>46</sup> Michael Chion, *Audio-Vision: Sound on Screen* (New York: Columbia University Press, 1994), p. 25.

<sup>47</sup> *Ibid.* p. 28

<sup>48</sup> Paul Vickers, 'Ways of Listening and Modes of Being: Electroacoustic Auditory Display', *Journal of Sonic Studies*, 2(1) (2012) <<https://www.researchcatalogue.net/view/263480/263481>> [accessed 18 March 2020]

calls them, are focused on gathering information on the object of perception through the agency of sound. Conversely, the subjective modes of listening take sound itself as the focus of attention—*ouïr* and *entendre* in Schaefferian terms.<sup>49</sup> The former is similar to Truax’s background listening, and the latter refers to a selective, attentive, listening to the qualities of the sounds themselves. Finally, reduced listening (*écoute réduite*)—itself a Schaefferian term—aims to make sound itself a self-sustained object (*objet sonore*) by bracketing out any causal or spatio-temporal information from it.<sup>50</sup>

Common among all these levels and modes of listening is their situated nature. By this I mean that they all share a subjective standpoint from which an audition is made. The object of listening, along with its associated focus of attention, is where they differ. In other words, it is between the listener’s agency and the particular situation where auditory perception draws its focus and distribution. Therefore intent, as Vickers argues, plays a significant role in listening and the extracting of causal and/or non-causal information. Pauline Oliveros has tried to integrate the various levels and modes of sonic perception into one through the practice of ‘deep listening,’ where the listener’s intention is to ‘heighten and expand consciousness of sound in as many dimensions of awareness and attentional dynamics as humanly possible.’<sup>51</sup> Akin to sonic meditation, deep listening aims to include all aspects of sound and listening, yet not fixate on any one in particular.

Simultaneously one ought to be able to target a sound or sequence of sounds as a focus within the space/time continuum and to perceive the detail and trajectory of sound or sequence of sounds. Such focus should always return to, or be within the whole of the space/time continuum (context).<sup>52</sup>

- Profound listening

Francisco López has also coined a similar term to express a transcendental kind of phenomenological listening, through which he aims ‘to shift the focus of our attention and understanding from representation to being.’<sup>53</sup> Namely, he calls it the challenge of ‘profound

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<sup>49</sup> Paul Vickers, ‘Ways of Listening and Modes of Being: Electroacoustic Auditory Display’, *Journal of Sonic Studies*, 2(1) (2012) <<https://www.researchcatalogue.net/view/263480/263481>> [accessed 18 March 2020]

<sup>50</sup> *Ibid.*

<sup>51</sup> Pauline Oliveros, *Deep Listening: A Composer’s Sound Practice* (Lincoln: iUniverse, 2005), p. xxiii.

<sup>52</sup> *Ibid.*

<sup>53</sup> Francisco López, ‘Profound Listening and Environmental Sound Matter’ in *Audio culture: readings in modern music*, ed. by Christoph Cox and Daniel Warner (New York: Continuum, 2006), pp. 82–7 (p. 86).

listening,' which he argues does not have the connotation of simplification that reduced listening does.<sup>54</sup>

Much against a widespread current trend in sound art and the customary standard in nature recordings, I believe in the possibility of a profound, pure, 'blind' listening of sounds, freed (as much as possible) of procedural, contextual or intentional levels of reference. What is more important, I conceive this is an ideal form of transcendental listening that doesn't deny all what is outside the sounds but explores and affirms all what is inside them. This purist, absolute conception is an attempt at fighting against the dissipation of this inner world.<sup>55</sup>

Interestingly, pieces like *La Selva* (1998), *Buildings* (2001), and *Wind* (2007), feature unprocessed field recordings, which López insists should not be perceived in a representational way.<sup>56</sup> He argues that, even though pure recordings inevitably sound contextual and referential, they do not represent reality, but construct a hyperreality.<sup>57</sup> The latter, he views as giving a false impression of how the places actually sound, and even more importantly, how we would listen if we were there in real life.<sup>58</sup> In other words, referential listening and its root in habit stifle the possibility for a fresh, unencumbered listening, and reduce true attentiveness and sensitivity to detail. Perceiving these pieces as mere representations would leave most of the complexity and beauty of the inner qualities of the sounds inaccessible to the listener. Through profound listening the latter is, therefore, able to enter a full and unique auditory experience which integrates the sounds heard and the current situation (as perceived) into a phenomenological gestalt. This once again points to the significance of the standpoint of perception, and its unique role in contextualising the listening and its impact. Each instance of aural perception is an unrepeatable, situated, process at the intersection of spatio-temporal perspectives and cognitive-emotional dispositions. The latter perspectives and dispositions will, therefore, play a crucial role in how sounds are perceived; i.e. what it is that the listener hears. In other words, the acoustic environment—filtered in listening through subjective perspectival, dispositional, and socio-cultural peculiarities—takes on the shape, qualities, and meaning, which the individual perceives it to comprise. As Salome Voegelin argues in *Listening to Noise and Silence*, 'there is never a gap between the heard and the hearing, sound is never about the

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<sup>54</sup> Francisco López, 'Profound Listening and Environmental Sound Matter' in *Audio culture: readings in modern music*, ed. by Christoph Cox and Daniel Warner (New York: Continuum, 2006), pp. 82–7 (p. 85).

<sup>55</sup> Francisco López, Schizophonia vs l'objet sonore: soundscapes and artistic freedom <<http://www.franciscoLópez.net/schizo.html>> [accessed 14 February 2020]

<sup>56</sup> Francisco López, 'Blind Listening', in *The Book of Music and Nature*, ed. by David Rothenberg and Marta Ulvaeus (Middletown: Wesleyan University Press, 2001), pp. 163–8 (p. 163).

<sup>57</sup> *Ibid.* p. 165.

<sup>58</sup> *Ibid.*

relationship between things, but is the relationship heard.<sup>59</sup> This point brings us to the next section, namely the notion of soundscape, and the relationship between listening and our sonic surroundings.

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### 1.3.3 Soundscapes and the sonic environment

- Soundscapes: early definitions

Few terms have become more ubiquitous in sonic studies and music composition than the notion of soundscapes. In spite of that, or perhaps because of it, a consensus on the definition of the term remains elusive. Perhaps a good entry point to this discussion is to first consider a couple of dictionary definitions to get a general idea. The *Oxford English Dictionary* defines a soundscape as ‘(a) a musical composition consisting of a texture of sounds; (b) the sounds which form an auditory environment.’<sup>60</sup> As it is often the case with general definitions, these ones, too, cover such a variety of possible examples that one would be hard-pressed to disqualify any collection of sounds on the basis of this interpretation. The case is not much different with *Merriam-Webster* dictionary, where the definition of soundscape is ‘a melange of musical and sometimes non-musical sounds,’ dating its first use to 1964. What’s different here is the tentative allowing for the possibility of using non-musical sounds (whatever that may be) in the melange. Assuming that ‘non-musical’ means something like ‘not produced by a musical instrument or a singing voice,’ this definition opens up the term to the plentiful sounds of the environment. The latter were definitely the focus of R. Murray Schafer who developed and popularised the term in its contemporary meaning. Already in the late 60s he proposed the concept of soundscape to mean a universal composition, played on the world stage, of which we are all composers.<sup>61</sup> Later in the 70s he described soundscapes as ‘any acoustic field of study,’ which included all natural and man-made sonic environments imaginable, such as music compositions, radio programs, city streets and squares, forests, etc.<sup>62</sup> Once again, if one is to go by these definitions alone, it would prove very difficult to find a sonic example or situation, which does not qualify as a soundscape. The sonic environment, along with all sounds in

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<sup>59</sup> Salomé Voegelin, *Listening to Noise and Silence: Towards a Philosophy of Sound Art* (New York: Continuum, 2010), p. 49.

<sup>60</sup> Oxford English Dictionary <<https://www.oed.com/view/Entry/185124?redirectedFrom=soundscape#eid21824372>> [accessed 17 February 2020]

<sup>61</sup> R. Murray Schafer, *The New Soundscape: A Handbook for the Modern Music Teacher* (New York: Associated Music, 1969) p. 57.

<sup>62</sup> R. Murray Schafer, *The Soundscape: Our Sonic Environment and the Tuning of the World* (Rochester: Destiny, 1994) p. 7.

it, seems to be equivalent to the notion of soundscape. As Jonathan Sterne argues in *Soundscape, Landscape, Escape*, ‘a soundscape is a totality, whether we consider that totality something small, like a recording, or something huge, like the entire sonic airspace of a town, country or culture.’<sup>63</sup>

- Acoustic ecology and noise pollution

In an interview with Carlotta Darò, Schafer himself credits the term soundscape, along with few other ideas around the sound of the environment, to geographer Michael Southworth.<sup>64</sup>

Southworth’s 1969 essay *The Sonic Environment of Cities* studies the Boston soundscape and raises issues about urban acoustic planning and noise pollution.<sup>65</sup> Indeed, Schafer’s work was centred around, and dedicated to, the health and design of our shared sonic environment.<sup>66</sup> In the late 1960s and early 1970s, he established the World Soundscape Project (WSP) at the Simon Fraser University in order to study the acoustic environment, identify problems, and promote ways of improving it by design.<sup>67</sup> In the following years, Schafer, along with a number of young students and composers—Barry Truax, Hildegard Westerkamp, Bruce Davis, and Peter Huse among them—were involved in various studies, publications, lectures, and fieldwork in Canada and in Europe.<sup>68</sup> In 1977 Schafer published *The Soundscape: Our Sonic Environment and the Tuning of the World*, which was his most comprehensive contribution to soundscape studies and acoustic ecology.<sup>69</sup> The latter he defines as follows, ‘[e]cology is the study of the relationship between living organisms and their environment. Acoustic ecology is therefore the study of sounds in relationship to life and society.’<sup>70</sup> Inspired by the success of Bauhaus school and their expanding of industrial design to the domain of art and aesthetics, Schafer envisaged a ‘tuning’ of the acoustic environment, in a way that made it healthy and balanced to live in.<sup>71</sup> WSP developed terminology with which to understand and evaluate soundscapes and identified noise pollution as the biggest problem in urban sonic environments. Keynotes, signals, and soundmarks are the main features of the soundscape, with

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<sup>63</sup> Jonathan Sterne, ‘Soundscape, Landscape, Escape’ in *The Soundscapes of the Urban Past: Staged Sound as Mediated Cultural Heritage*, ed. by Karin Bijsterveld (Bielefeld: Transcript, 2013), pp. 181–94 (p. 191).

<sup>64</sup> Carlotta Darò, *Avant-gardes Sonores En Architecture* (Dijon: Réel, 2013)

<sup>65</sup> Michael Southworth, ‘The Sonic Environment of Cities’, *Environment and Behavior*, 1(1) (1969), 49–70.

<sup>66</sup> Barry Truax, ‘From Soundscape Documentation to Soundscape Composition’, *Hal Archives-Ouvertes* <<https://hal.archives-ouvertes.fr/hal-00811391/document>> [accessed 18 February 2020]

<sup>67</sup> *Ibid.*

<sup>68</sup> *Ibid.*

<sup>69</sup> R. Murray Schafer, *The Soundscape: Our Sonic Environment and Turning of the World* (Rochester: Destiny, 1994).

<sup>70</sup> *Ibid.* p. 205.

<sup>71</sup> *Ibid.*

keynotes being the natural sounds of a locale (water, wind, wildlife), signals being prominent sounds in the foreground (sirens, bells, horns), and finally soundmarks (a derivation from geographical landmarks) signify unique sonic features of a locale held in regard by the local community, which Schafer argues should be protected.<sup>72</sup> Further, he distinguishes between Hi-Fi and Lo-Fi soundscapes, depending on the signal-to-noise ratio of the sonic environment.<sup>73</sup> Based on the level to which the ambient noise level obscures the sounds of the environment, the soundscape can be more acoustically transparent (hi-fi), or more obtuse or shallow (lo-fi), where the acoustic horizon sometimes barely extends beyond the length of the human body.<sup>74</sup> Schaefer and the WSP advocated for a hi-fi soundscape, with a deep acoustic horizon, both through noise-abatement and the promotion of good listening practices and design. He juxtaposes the (hi-fi) rural soundscape of the past with the (lo-fi) post-industrial one, and holds industrialisation responsible for the deterioration of our sonic surroundings. Besides disapproving of the noise brought by factories, machines, and traffic, he also identifies a controversial byproduct in the development of electro-acoustic means of transmission and reproduction of sounds. Unlike times past, when ‘all sounds were originals,’ the invention of electro-acoustical equipment made it possible for sounds to be ‘torn from their natural sockets and given an amplified and independent existence.’<sup>75</sup> To signify this sonic split, he coined the term ‘schizophonia,’ and, considering it an aberration, criticised the ‘imperialist loudspeaker’ as yet another contributor to the ‘lo-fi problem.’<sup>76</sup>

- Criticism

Over the years, the framework for acoustic ecology developed by Schafer and the WSP has had its share of criticism. In *Ethical questions about working with soundscapes*, Andra McCartney problematises the assumed preference of hi-fi over lo-fi soundscapes, arguing that many people actively seek lo-fi urban environments, such as the comforting buzz of a busy restaurant, for various reasons.<sup>77</sup> She also argues, there are many natural lo-fi soundscapes, such as the tropical forest at

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<sup>72</sup> R. Murray Schafer, *The Soundscape: Our Sonic Environment and Turning of the World* (Rochester: Destiny, 1994), pp. 9–10.

<sup>73</sup> *Ibid.* p. 43.

<sup>74</sup> *Ibid.*

<sup>75</sup> *Ibid.* p. 90.

<sup>76</sup> *Ibid.* p. 91.

<sup>77</sup> Andra McCartney, ‘Ethical questions about working with soundscapes’, *Organised Sound* 21(2) (2016), 160–5.

night, or the area around a waterfall, which can hardly be called unbalanced or unhealthy.<sup>78</sup> She also gives the example of a prison-experiment-gone-wrong, where the premises and procedures were designed to maximise silence.<sup>79</sup> This approach had to be terminated, however, ‘because of the large number of prisoners who went insane.’<sup>80</sup> Schafer himself recognised the subjective nature of the notion of noise when he favoured its definition as ‘unwanted sound.’<sup>81</sup> Further, in *Schizophrenia vs l’objet sonore: soundscapes and artistic freedom*, Francisco López identifies two main problems with Schafer’s propositions.<sup>82</sup> The first is that the Schaferian ‘tuning’ is in essence ‘silencing’ of the soundscape, assuming noise to be inherently evil.<sup>83</sup> López argues that the preferences for hi-fi sonic environments are based on those of Western (and particularly North-Western) cultures, and as such, end up conflating the health of the soundscape with a narrow aesthetic judgement. López’ second criticism also has to do with the normative nature of Schafer’s propositions, namely, the negative connotation of the term schizophrenia.<sup>84</sup> He argues that to consider it an aberration is to close the door to the use of recorded sounds creatively as sound objects (*objet sonore*), as suggested by Pierre Schaeffer.<sup>85</sup> In this sense, instead of an anomaly, therefore, schizophrenia should be considered a feature, and, indeed, embraced as what provides the *concrète* element in *musique concrète*.<sup>86</sup>

- Noise

Between the publication of the WSP works in 1977 and present day, Barry Truax has taken the ideas and terminology around acoustic ecology and soundscapes much further, and developed a significantly more sophisticated and nuanced framework of understanding and working with the sonic environment. In considering the term noise, Truax writes of its complex nature already in *Acoustic Communication* published 1984.<sup>87</sup> By analysing sounds as information bearers, he

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<sup>78</sup> Andra McCartney, ‘Ethical questions about working with soundscapes’, *Organised Sound* 21(2) (2016), 160–5

<sup>79</sup> *Ibid.*

<sup>80</sup> *Ibid.* p. 162.

<sup>81</sup> R. Murray Schafer, *The Soundscape: Our Sonic Environment and Turning of the World* (Rochester: Destiny, 1994), p. 183.

<sup>82</sup> Francisco López, ‘Schizophrenia vs l’objet sonore: soundscapes and artistic freedom’, *Francisco López* <<http://www.franciscoLópez.net/schizo.html>> [accessed 18 February 2020]

<sup>83</sup> *Ibid.*

<sup>84</sup> *Ibid.*

<sup>85</sup> *Ibid.*

<sup>86</sup> *Ibid.*

<sup>87</sup> Barry Truax, *Acoustic Communication* (New Jersey: Ablex, 1984)

identifies (at least) three ways in which noise can be interpreted in a non-normative fashion.<sup>88</sup> First, it can refer to meaningful and recognisable sounds, which are nevertheless disrupting and annoying. High frequency of traffic horns or sirens can be an example. Secondly, noise may function as a mask, obscuring the oncoming information in one's sonic environment.<sup>89</sup> Depending on the situation it can, for example, make for a more peaceful and uninterrupted sleep, or concentrated reading, as with the introduction of white noise in dormitories or libraries; or have the opposite effect of alienating a worker from his colleagues and environment if introduced in the workplace. And third, referring to the work of Gregory Bateson, Truax considers noise in terms of yet unpatterned and unordered information that is a unique and powerful source of creativity and innovation.<sup>90</sup> By decoding and understanding unintelligible information, he proposes, we can extract 'signal' from 'noise.'<sup>91</sup> Truax summarises this argument as follows,

Noise in this its most abstract sense is not just the opposing force that is the enemy of information, or the pain that complements our pleasure in sound. It is also the symbol which offers hope for new meaning to be created—assuming that noise on the physical level does not debilitate us in the meantime to the point where we are incapable of achieving such growth!

Finally, in *From Soundscape Documentation to Soundscape Composition*, Truax reconsiders the term noise once again, to decouple it from its physical properties, such as amplitude or periodicity, which have proven so problematic.<sup>92</sup> There, he argues that the problem of our acoustic surroundings is not noise itself, but any element which 'dulls people's inclination to listen.'<sup>93</sup> He proceeds to put noise in the following terms:

It is anything that simplifies or weakens the relationship of the listener to the environment, anything that reduces the desire to listen or the opportunity to make sounds. In practice what noise creates is an information-poor environment, one in which there is little desire to listen because there is so little that is meaningful to listen to.<sup>94</sup>

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<sup>88</sup> Barry Truax, *Acoustic Communication* (New Jersey: Ablex, 1984). p. 86.

<sup>89</sup> *Ibid.* p. 87.

<sup>90</sup> *Ibid.* p. 88.

<sup>91</sup> *Ibid.*

<sup>92</sup> Barry Truax, *From Soundscape Documentation to Soundscape Composition*, *Hal Archives-Ouvertes* <<https://hal.archives-ouvertes.fr/hal-00811391/document>> [accessed 18 February 2020]

<sup>93</sup> *Ibid.*

<sup>94</sup> Barry Truax, 'Electroacoustic Music and the Soundscape: The Inner and Outer World' in *Companion to Contemporary Musical Thought Vol. 2* ed. by John Paynter et al (London: Routledge, 1992), pp. 374–9 (p. 378).

This is quite an innovative definition compared to the earlier ones, attempting to solve the issues arising with subjective preference and normativity. By subtly shifting the marker of noise from sonic qualities to information content, Truax elegantly links noise to sound void of meaning. Nevertheless, this definition, in my view, still leaves a substantial margin for confusion in some of its applications. In the case of the above-mentioned quiet prison experiment, for instance, we could argue based on this definition that silence itself can be noise. For it was silence that created ‘an information-poor environment’ thereby reducing inmates’ desire to listen, thus driving them to insanity. As ingenious as it may be to make a case for calling a silent environment noisy, it makes the term rather hard to apply in practice, for calling a silent room noisy would be nonsensical. Also, it doesn’t quite solve the subjectivity issue, as what some listeners find ear-pleasing, others may find dull or annoying, and therefore reducing the desire to listen. By this measure, just as classical music can be meaningless and boring for a teenager—therefore noise, so can their favourite music be noise in the ears of the parents; not to mention experimental music, which would likely fit this noise definition for a large part of the public. And if signal can be noise and noise can be signal, then the two words perhaps lose their utility. John Cage approached this differently. Instead of differentiating between signal (wanted) and noise (unwanted), he explored the quality of listening and the focus of attention as the relevant objects of study. ‘Wherever we are, what we hear is mostly noise,’ he argues, ‘when we ignore it, it disturbs us. When we listen to it, we find it fascinating.’<sup>95</sup> In his ‘The Future of Music: Credo,’ Cage embraces noise and, rather than criticise it or call for its abatement, he expresses the belief that noise will play an ever greater role in music composition and performance.<sup>96</sup> In this sense, it is ultimately in the ears of the beholder that signal and noise tessellate or diverge, based on whether they be listened to or ignored by conscious awareness. Thus, as was the case with soundwalking and listening, we once again find that the listener’s standpoint—comprising auditory, cultural, and cognitive-emotional dispositions—is crucial in considering what constitutes noise vs. a healthy and balanced sonic environment. In the last part of this section, I will revisit the concept of soundscapes and the way it was developed over the years. Here too, the listener will play a crucial role in defining its dimensions and topography.

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<sup>95</sup> John Cage, ‘The Future of Music: Credo’, in *Silence: Lectures and Writings* (London: Marion Boyars, 2011), pp. 3–7 (p. 3)

<sup>96</sup> *Ibid.*

- Soundscapes: later definitions

As discussed earlier, when the term soundscape first gained popularity in the late 1960s and 1970s, it was very much synonymous with the notions of acoustic environment and sonic surroundings. In general terms, borrowing from the geographical landscape, it signified the sound of an environment. This objective, even positivist, approach was challenged in subsequent years, as a new ‘reflexive turn’ was taking over academia and social sciences, most notably with the writing culture debates set in motion by James Clifford and George E. Marcus in the 1980s.<sup>97</sup> Reflexivity, in this sense, refers to the realisation of how significant an impact the observer, or listener, have on the seen or heard.<sup>98</sup> In terms of the geographical analogy above, for instance, a landscape only looks a certain way to an individual looking from one particular location. The landscape of a terrain, therefore, cannot be an objective field of study, but only a non-representative interpretation of a viewpoint. So, to work reflexively, a practitioner of any discipline of study must pay continuous attention to how the subjectivity of their presence and perception influence both the field itself, and its understanding and mediation.<sup>99</sup> Based on such observations, John Levack Drever has suggested many commonalities between the responsibilities of a soundscape composer and those of an ethnographer, and has advocated for a more reflexive approach in working with soundscapes.<sup>100</sup> A good example of such a reflexive approach in soundscape composition is Hildegard Westerkamp’s *Kits Beach Soundwalk* from 1989, in which the recording includes both the sounds of the environment and her voice commenting on her perceptions and applied techniques as she records.<sup>101</sup> By including the recordist into the soundscape, Westerkamp reveals the subjective nature of listening and recording and emphasises the deep relationship between the listener and the soundscape. This approach is very much in line with the developments in social science at the time and the increasing integration of the subject into the object of observation.

In their development over the years, therefore, the concepts of sonic environment and soundscape gradually diverged to accommodate subjectivity. Already in *Acoustic Communication*, Truax emphasises the difference between the two by pointing out that,

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<sup>97</sup> James Clifford and George E. Marcus (eds.), *Writing Culture: The Poetics and Politics of Ethnography* (Los Angeles: University of California Press, 1986).

<sup>98</sup> Charlotte Aull Davis, *Reflexive Ethnography: A guide to Researching Selves and Others* (London: Routledge, 1999).

<sup>99</sup> Rosanna Herz, ed. *Reflexivity and Voice* (London: Sage, 1997).

<sup>100</sup> John Levack Drever, ‘Soundscape composition: the convergence of ethnography and acousmatic music’, *Organised Sound*, 7(1) (2002), 21–7 (p. 24).

<sup>101</sup> Hildegard Westerkamp, ‘Kits Beach Soundwalk’, *Transformations* (empreintes DIGITales, 1996) [on CD].

[W]hereas the ‘sonic environment’ can be regarded as the aggregate of all sound energy in any given context, we will use the term ‘soundscape’ to put the emphasis on how that environment is understood by those living within it—the people who are in fact creating it. The individual listener within a soundscape is not engaged in a passive type of energy reception, but rather is part of a dynamic system of information exchange.<sup>102</sup>

In this sense, a soundscape is redefined as an abstraction of the sonic environment as perceived from a subjective standpoint. This addresses some of the issues associated with previously treating the soundscape as an ‘aggregate of all sounds in any given context,’ precisely because the latter is impossible to access or demarcate unless from a standpoint of perception. Therefore, by acknowledging and emphasising the subjective perspective, the soundscape is brought back to the domain of an embodied standpoint. As Dwight Conquergood argues, ‘[ethnography] privileges the body as a site of knowing... Ethnography is an embodied practice; it is intensely sensuous way of knowing.’<sup>103</sup> As discussed earlier, listening, too, as a qualitative engagement with the acoustic surroundings, is an intensely sensuous and embodied practice. Hence Drever’s call for cross-pollination between the fields of ethnography and soundscape composition. If the sonic environment is the absolute aggregate of all sounds (and silences) and their manifestation in spacetime, a soundscape is any perceptual point of access with its necessary limitations. A soundscape, defined this way, is a reduction of the absolute to the concrete; a collapsing of the whole into the particular. Unless pegged to such a bound perspective (with its physical and interpretational limitations), the soundscape would remain inaccessible to audition, for that would require an undifferentiated, omniaudible, distributed perception.

A good analogy of this is the cubist art movement, associated largely with Pablo Picasso and Georges Braque, where objects and scenes are depicted simultaneously from multiple perspectives (standpoints) and presented as a singular image on a two-dimensional canvas. What happens when the vanishing point vanishes? Since each of us can only ever occupy one standpoint at a time, seeing works that integrate multiple viewpoints perplexes and confuses us. What is revealed by such a practice is the inherent formlessness of a god-perspective (a look from everywhere), whereby form only comes into focus when the totality of perspectives collapses into a single one. As John Cage argues, ‘[f]rom a non-dualistic point of view, each thing and each being is seen at the centre,

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<sup>102</sup> Barry Truax, *Acoustic Communication* (Norwood: Ablex, 1984), pp. 9–10.

<sup>103</sup> Dwight Conquergood, ‘Rethinking ethnography: towards critical cultural politics’, *Communication Monographs*, 56 (1991), 179–94 (p. 180).

and these centres are in a state of interpenetration and non-obstruction.<sup>104</sup> In other words, a standpoint only presents a dualistic state of affairs as ossified through its gaze. This state of affairs, as perceived from that standpoint, gives a soundscape its peculiar content and structurality. A soundscape is thus a seeming sonic structure as presented by the limitations and properties of a standpoint. A soundscape is what a standpoint sounds like. And the boundaries of the soundscape are the boundaries of the standpoint.

Pauline Oliveros talks of the soundscape as ‘[a]ll of the waveforms faithfully transmitted to our audio cortex by the ear and its mechanisms.’<sup>105</sup> While this only covers physical perception and omits interpretation, it points to the body as the receptacle of a soundscape. For the sounds transmitted to one’s audio cortex, along with their amplitudinal and spatio-temporal distribution, are unique for each point of perception (cortex). Yet, as Merleau-Ponty has argued, perception is never pure or undifferentiated, but always constituted in the complexity of the body as a field of knowledge.<sup>106</sup> Thus, when those sound waves converge with the listener’s imagination and cognitive-emotional depositions, the soundscape becomes an even greater reduction of the boundless sonic environment into bound form. As Voegelin points out at the start of *Listening to Noise and Silence*, ‘it is in the engagement with the world, rather than in its perception, that the world and myself within it are constituted, and it is the *sensorial mode* of that engagement that determines my constitution and that of the world.’<sup>107</sup> Similarly, Truax argues that ‘instead of thinking of sound as coming from the environment to the listener and perhaps being generated back again, we will think of it as mediating, or creating relationships, between listener and environment.’<sup>108</sup> I would argue, therefore, that ‘soundscapes’—in plural—is a rather misleading term. There is only the one soundscape (Truax’s acoustic environment) and within it we find a plurality of standpoints, each with its own aural perspective. It is, therefore, the multifaceted perceptual limitation of standpoints that differentiates various perimeters within the soundscape, and calls them ‘soundscapes.’

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<sup>104</sup> John Cage, ‘Composition and Process’, in *Silence: Lectures and Writings* (London: Marion Boyars, 2011), pp. 18–57 (p. 38).

<sup>105</sup> Pauline Oliveros, *Deep Listening: A Composer’s Sound Practice* (Lincoln: iUniverse, 2005), p.18.

<sup>106</sup> Maurice Merleau-Ponty, *Phenomenology of Perception* (New York: Routledge, 2012), pp. 3–12

<sup>107</sup> Salomé Voegelin, *Listening to Noise and Silence: Towards a Philosophy of Sound Art* (New York: Continuum, 2010), p. 3. [my emphasis].

<sup>108</sup> Barry Truax, *Acoustic Communication* (Norwood: Ablex, 1984), p. 11.

T. E. Hulme talks about ‘intensive manifolds’ when describing such overlapping, interpenetrating, things we all know but can’t clearly delineate.<sup>109</sup> He argues that the intellect insists on analysing complex things as an aggregate of separate elements whose boundaries can be diagrammed. Nature, however, is not made of separate things, he argues, but is instead a flux of interpenetrating intensities. ‘The intellect would then be unable to understand the nature of these things, for it persists in forming a diagram, and in a diagram each part is separated from every other part.’<sup>110</sup> Or as philosopher A. N. Whitehead has pointed out, ‘[t]he contemporary world is continuous: divisible but not divided.’<sup>111</sup> This conceptualisation of the sonic environment as an interrelated mesh of relations, each with its own point and perspective, has prompted Marinós Koutsomichalis to consider soundscapes as ‘typical Deleuzean rhizomes.’<sup>112</sup> He argues that,

Acoustic encounters with a location are relative to the listener’s positioning in space and time and are merely fragments of a broader scheme. That is to say, individuals are intrinsic nodes of a broader generative rhizome, rather than autonomous elements. Soundscapes are, thus, inaccessible to direct experience in their true polymorphism. Nonetheless, they can be structurally and conceptually denoted as meaningful gestalts which signify the sound characteristics of a particular location...<sup>113</sup>

Andra McCartney also tries to imagine these ‘intensive manifolds’ of the acoustic environment and its imbricated soundscapes, as ‘overlapping adjacent listening ecosystems.’<sup>114</sup> All of these different ways of conceptualising and interpreting the notion of soundscapes point to a certain perplexity associated with its meaning. And the fact that none of the interpretations has so far established itself as the most precise, useful, and clear one, makes it ever harder to use the term without further explanation. As Koutsomichalis observes,

I think that the term soundscape is rather ill-defined and far from having a useful signification, most likely due to the plethora of disciplines related to so-called soundscape studies and their corresponding offshoots. To a certain extent, any technical or theoretical

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<sup>109</sup> T. E. Hulme, *Speculations: Essays on humanism and the philosophy of art* (London: Routledge & Kegan Paul, 1960), p. 180.

<sup>110</sup> *Ibid.*

<sup>111</sup> Alfred North Whitehead, *Process and Reality* (New York: The Free Press, 1985), p. 62.

<sup>112</sup> Marinós Koutsomichalis, On Soundscapes, Phonography, and Environmental Sound Art, *Journal of Sonic Studies*, 4 (2013) <<https://www.researchcatalogue.net/view/268080/268081>> [accessed 11 February 2020]

<sup>113</sup> *Ibid.*

<sup>114</sup> Andra McCartney, Ethical Questions About Working With Soundscapes, *Soundwalking Interactions* <<https://soundwalkinginteractions.wordpress.com/2010/06/24/ethical-questions-about-working-with-soundscapes/>> [accessed 13 February 2020]

engagement with environmental sound is specific to one's understanding of what a soundscape is and how it manifests itself.<sup>115</sup>

He is not alone in challenging the concept of soundscapes. In conclusion of this section, I will succinctly consider one of the more comprehensive criticisms of the term. In *Being Alive: Essays on movement, knowledge and description*, Tim Ingold lays out his 'Four Objections to the Concept of Soundscape,' stating that, in his view, the term should be abandoned altogether.<sup>116</sup> The first objection directly relates to the discussion so far, namely that the totality of the world is not cut into slices—soundscapes—based on our sensory perceptions and incidental location.<sup>117</sup> The environment is undivided 'whatever path we take, and in perceiving it, each of us acts as an undivided centre of movement and awareness.'<sup>118</sup> Ingold's second objection has to do with soundscapes as captured on a medium, such as in field-recordings and compositions. He warns of the potential danger of conflating sonic artefacts and the power of listening.<sup>119</sup> He argues that it is to light, not sight, that we should compare sound. Drawing from Merleau-Ponty's phenomenology of perception, Ingold points out that sound is not a material that can be auditioned or recorded, but it is the experience of hearing.<sup>120</sup> This is his third objection: comparing sound to light, he argues that just as we don't see light, but we see in light, so we don't hear sound, we hear in sound.<sup>121</sup> And finally, the fourth objection to the notion of soundscape has to do with the notion of landscapes, on which the former is modelled. Namely, by comparing the sonic environment to a landscape, Ingold sees an undue emphasis on the 'surfaces of the world in which we live.'<sup>122</sup> In contrast, he argues that sound and light are 'infusions of the *medium* in which we find our being and through which we move.'<sup>123</sup> In this sense, sound is not a topography to be perceived, but is a quality of the world. Comparing it to weather, which cannot be imagined as fixed on surfaces, Ingold argues that 'perhaps our metaphors for describing auditory space should be derived not from landscape studies but from meteorology.'<sup>124</sup>

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<sup>115</sup> Marinos Koutsomichalis, On Soundscapes, Phonography, and Environmental Sound Art, *Journal of Sonic Studies*, 4 (2013) <<https://www.researchcatalogue.net/view/268080/268081>> [accessed 11 February 2020]

<sup>116</sup> Tim Ingold, *Being Alive: Essays on movement, knowledge and description* (New York: Routledge, 2011), p. 136.

<sup>117</sup> *Ibid.*

<sup>118</sup> *Ibid.*

<sup>119</sup> *Ibid.* p. 137.

<sup>120</sup> *Ibid.*

<sup>121</sup> *Ibid.* p. 138.

<sup>122</sup> *Ibid.*

<sup>123</sup> *Ibid.*

<sup>124</sup> *Ibid.*

The various definitions and criticisms of the notion of soundscape point to a certain difficulty in establishing a shared and clear understanding of what precisely is meant by the term. Its rather indiscriminate use in popular culture hasn't helped either. While not yet universally accepted, its differentiation from the acoustic environment by pegging it to perception has been an important development. If we think of the soundscape strictly as the acoustic horizon afforded by a peculiar standpoint perception, we naturally circumvent the problem of representation and objectivity. In this sense, to return to the initial question of this research, we could suggest that the boundary between the listener and the acoustic environment is exactly the soundscape: the interface between a bound individual perspective and a boundless sonic expanse. But perhaps Ingold is right in that the term has been rather unfit for purpose and overused beyond its utility. Whether its redefinition will stick or be replaced altogether remains to be seen. In the last section to this chapter I will consider the notion of soundscape composition based on the relevant literature and composers.

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### 1.3.4 Soundscape composition

Throughout this text listening has been at the heart of the terms and propositions discussed. And quite justifiably so if we consider it to be, as Barry Truax suggests, 'the primary interface between the individual and the environment.'<sup>125</sup> A relationship between the two is forged in the complex, multifarious, information exchange afforded by listening. And it is through the latter's capturing and mediating that composition with environmental sound is made possible. Relatively new, the term soundscape composition did not even exist when Hildegard Westerkamp began composing with field recordings in the mid-1970s.<sup>126</sup> As a member of R. Murray Schafer's team engaged in the World Soundscape Project (WSP) at Simon Fraser University, Westerkamp and her colleagues set about documenting, recording, and working with soundscapes.<sup>127</sup> The main task of the WSP was to analyse and describe environmental soundscapes, and to promote critical listening and public awareness of the acoustic environment.<sup>128</sup> At the same time, another activity emerged naturally

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<sup>125</sup> Barry Truax, *Acoustic Communication* (Norwood: Ablex, 1984), p. xii.

<sup>126</sup> Hildegard Westerkamp, 'Linking soundscape composition and acoustic ecology', *Organised Sound*, 7(1) (2002), 51–6 (p. 51).

<sup>127</sup> Barry Truax, 'Soundscape Composition as Global Music: Electroacoustic music as soundscape', *Organised Sound*, 13(2) (2008), 103–9 (p. 105).

<sup>128</sup> Barry Truax, 'Soundscape, Acoustic Communication and Environmental Sound Composition', *Contemporary Music Review*, 15(1) (1996), 49–65 (p. 54).

within the WSP. ‘Since most participants were composers,’ writes Truax, ‘they began applying electroacoustic techniques towards processing the recorded sounds creating compositions that range from those whose sounds are transparently manipulated to those that are much more transformed.’<sup>129</sup> Their work was complemented on the other side of the Atlantic by Luc Ferrari.<sup>130</sup> Barry Truax first calls this practice ‘soundscape composition’ in his 1984 book *Acoustic Communication*.<sup>131</sup> Today the term is ubiquitous, and yet ‘no-one really seems to know what is meant by it, myself included,’ writes Westerkamp in 2002.<sup>132</sup> In this final section to this chapter I will consider some of the main principles and considerations within the discourse on soundscape composition, as well as exemplify its various approaches with key works and composers. Since it all begins with listening to, and recording the sounds of the environment, let us start there.

- Listening and Field-recording

In *Listen: A History of Our Ears*, Peter Szendy asks two questions central to the subject of this discussion: ‘Can one *make a listening listened to*? Can I transmit *my* listening, unique as it is?’<sup>133</sup> The subjective, agentive, nature of listening underlies both these inquiries. Further, the tentative possibility for transmission of one’s listening, as afforded by a practice such as environmental sound recording, opens up the field for what we ultimately can refer to as soundscape composition. Namely, the transmission of one’s listening would somehow have to involve not only the raw sonic information, but also include its unique interpretation and subjective perception. In considering the complexity of this situated audition and the possibility for its transmission, Lawrence English argues it is possible to come to a new form of listening, which he calls a ‘listener’s listening.’<sup>134</sup> Describing the term, English writes that:

It considers listening that is agentive, embodied, and rooted in affect. The listener’s listening senses a unique perspective within the flux of sound in place and across time. Such a listening as agentive and attentive must also be defined temporally. This listening is

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<sup>129</sup> *Ibid.*

<sup>130</sup> Barry Truax, ‘Soundscape Composition as Global Music: Electroacoustic music as soundscape’, *Organised Sound*, 13(2) (2008), 103–9 (p. 105).

<sup>131</sup> Barry Truax, *Acoustic Communication* (Norwood: Ablex, 1984)

<sup>132</sup> Hildegard Westerkamp, ‘Linking soundscape composition and acoustic ecology’, *Organised Sound*, 7(1) (2002), 51–6 (p. 51).

<sup>133</sup> Peter Szendy, *Listen: A History of our Ears* (New York: Fordham University Press, 2008), p. 5.

<sup>134</sup> Lawrence English, ‘Relational Listening: A politics of Perception’, *Contemporary Music Review*, 36(3) (2017), 127–42 (p. 138).

not an ongoing or usual state; it requires action that cannot be maintained indefinitely. In this sense, the listener's listening is a durational undertaking shaped by the preoccupations and interests an artist maintains in sound and place. The listening, as a creative act, is forged by their commitment to an intensive execution of audition reflecting their wills and desires, moment to moment.<sup>135</sup>

In this sense, field recording alone is bound to fail at capturing this listener's listening. Only sensitive to acoustic information, phonography is impervious to the creative interpretation of a listener's standpoint. As Marinos Koutsomichalis argues, 'the relationship of a soundscape to a recording of it is inherently superficial.'<sup>136</sup> For the listener's listening and its tentative transmission are an expression of what Katharine Norman calls 'a fusion of listening and imagination.'<sup>137</sup> A field-recording uproots sounds from the context of their arising, while its reproduction replants them in a totally new environment, which can be (and most often is) totally alien to them.<sup>138</sup> In this sense, Koutsomichalis qualifies the nature of field recordings, arguing that:

A recording is always something more—and, at the same time, less—than the sound it captures; less in the sense that a recording is, in essence, a de-reference of the original sound the microphone picked up; more in the sense that it substantially distorts the ontological status of sound.<sup>139</sup>

Based on this observation, he contends that schizophrenic is therefore inherent to all phonographic practices.<sup>140</sup> Koutsomichalis further points out that regardless of whether an artist employs creative processing, or attempts to merely reproduce environmental sound as accurately and directly as possible, they nevertheless transform it into something completely different from its original emanation.<sup>141</sup> Choosing a particular location to frame, distributing the recording through art distribution channels, presenting it as art, all contribute content extraneous to the recording and position it as an artefact of artistic value.<sup>142</sup> Referencing Duchamp's *Fountain*, however,

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<sup>135</sup> Lawrence English, 'Relational Listening: A politics of Perception', *Contemporary Music Review*, 36(3) (2017), 127–42 (p. 138).

<sup>136</sup> Marinos Koutsomichalis, On Soundscapes, Phonography, and Environmental Sound Art, *Journal of Sonic Studies*, 4 (2013) <<https://www.researchcatalogue.net/view/268080/268081>> [accessed 11 February 2020]

<sup>137</sup> Katharine Norman, 'Real-World Music as Composed Listening', *Contemporary Music Review*, 15 (1996), 1–28 (p. 2).

<sup>138</sup> Marinos Koutsomichalis, On Soundscapes, Phonography, and Environmental Sound Art, *Journal of Sonic Studies*, 4 (2013) <<https://www.researchcatalogue.net/view/268080/268081>> [accessed 11 February 2020]

<sup>139</sup> *Ibid.*

<sup>140</sup> *Ibid.*

<sup>141</sup> *Ibid.*

<sup>142</sup> *Ibid.*

Koutsomichalis argues that it is exactly because of these issues, rather than despite them, that phonography can be regarded as artistic work; as music.<sup>143</sup> In other words, the schizophrenic aspects of the practice, the re-contextualisation of sonic artefacts by framing them through recording and presenting them as music, is in fact what makes them that. He further asserts that ‘artistic merit lies not in environmental audio per se, but on the very way artists choose to address the problematics of the recording-reproduction paradigm and, consequently, the conceptual and experiential artefacts of artistic practice.’<sup>144</sup>

Lawrence English engages this latter point by a concept he calls ‘relational listening.’<sup>145</sup> Namely, it addresses these very problematics of listening, recording, and reproduction. The field of focus is the relationship between what English identifies as the two horizons of audition: the organic ear (in all its perceptual subjectivity) and the prosthetic ear of the microphone and recording equipment.<sup>146</sup> As the name suggests, the notion of relational listening refers to the ways in which these two horizons relate to one another, and how the recordist manages to bring about their synergistic fusion. In order for the realisation of ‘a listener’s listening’ to be successful, English argues that the ‘philosophical and practical nexus’ of relational listening must be employed ‘to align the expression of an artist’s listening, and the technologies used to realise the field recording.’<sup>147</sup> The first horizon of audition—the organic ear—is highly interpretative, subjective, and internal. It is the situated standpoint-perception in all its complexity, as I have discussed it throughout this text. The unique nature of its content and proclivities carries the possibility of using our ears, as English suggests, ‘not so much as tools for extraction of information, but as tools of creation.’<sup>148</sup> The second horizon of audition—the recording equipment—while often able to render audio information of much higher resolution than human hearing, does not actually ‘listen.’ Insensitive to the listener’s listening, it merely documents information as captured within the range and characteristics of its components. ‘Sound is captured, but not considered,’ writes English. Hildegard Westerkamp also talks about this when she points out that,

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<sup>143</sup> Marinós Koutsomichalis, On Soundscapes, Phonography, and Environmental Sound Art, *Journal of Sonic Studies*, 4 (2013) <<https://www.researchcatalogue.net/view/268080/268081>> [accessed 11 February 2020]

<sup>144</sup> *Ibid.*

<sup>145</sup> Lawrence English, ‘Relational Listening: A politics of Perception’, *Contemporary Music Review*, 36(3) (2017), 127–42 (p. 138).

<sup>146</sup> *Ibid.*

<sup>147</sup> *Ibid.*

<sup>148</sup> *Ibid.*

The ear has a capacity to focus, to blend in and out, to pay attention to specific sounds and to switch the attention from one sound to another, i.e. it has selective characteristics. In contrast, the microphone's ways of hearing is non-selective, or rather it is limited by its technical specification.<sup>149</sup>

Neither of the two horizons alone is able to capture and transmit a listening's listening. It is in bringing the two together, and using each to its strength, that the challenge has a chance of success. Hence, argues English, 'the technological horizon must be made to realise the agentive interest of the listener.'<sup>150</sup> And it is this tethering of the two horizons, in all its quirks and intricacies, that brings us to the last part of this chapter—the practice of soundscape composition.

- Soundscape Composition Principles and Approaches

As suggested above, composition with recordings of environmental sound has to do with the ways in which a composer works with, and chooses to present, the recorded audio. All considerations, techniques, and limitations that are involved in such an artistic practice are based in one way or other on the trilateral relationship among the recordist, the recording, and the field. To refer back to the main question this research poses, we could say that field-recording composition is a process oriented towards exploring and negotiating that very boundary between the listener and the acoustic environment. The vanguard in question is in fact the soundscape, as perceived in a situated fashion along the two horizons discussed above. The soundscape is, as argued in the previous section, a synthetic product of the dialectic encounter between a listener and the acoustic environment. And composing with (or through) it, as English suggests, can be thought of as the practice of bringing the organic and prosthetic horizons into a synergetic whole. But before we consider the different techniques and approaches within this practice, let us start with its emergence and development from the field of acoustic ecology.

In the late 1960s and early 1970s, R. Murray Schafer's ambition to draw attention to the sonic environment, its health and possible design, resulted in the establishing of the already mentioned

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<sup>149</sup> Hildegard Westerkamp, 'Linking soundscape composition and acoustic ecology', *Organised Sound*, 7(1) (2002), 51–56 (p. 53).

<sup>150</sup> Lawrence English, 'Relational Listening: A politics of Perception', *Contemporary Music Review*, 36(3) (2017), 127–42 (p. 139).

World Soundscape Project (WSP) at Simon Fraser University (SFU).<sup>151</sup> Although the initial work done by the WSP research team was primarily directed at documenting the sonic environment and promoting its importance and health, some members began experimenting with the recordings by applying studio techniques available at the time.<sup>152</sup> In the beginning, most processing was subtle: some transparent editing and corrective equalisation. By the mid-1970s bigger projects at the WSP, such as the ten-part radio program *Soundscapes of Canada*, saw the development and increasing sophistication of the approaches and techniques applied in the work with the field recordings.<sup>153</sup> A new field—one that Barry Truax will later call soundscape composition—was emerging.<sup>154</sup> Its defining characteristic from the start, despite all subsequent transformation and branching in technique and approach, has been the ‘the listener’s connection to a place.’<sup>155</sup> As Truax argues:

The soundscape composer ... always seems to be drawing the listener back into the real world, perhaps to stress an ecological perspective, or to rejuvenate the listener’s aural sensibilities. The progression from phonographic documentation to a more abstracted approach to ultimately a virtual synthetic soundscape is one that takes the listener from surface level of an environment, recognising its sound sources and ambiences, to at the mental world of psychological and cultural associations, memories and symbolism provoked by those sounds, and the to the unbounded world of imagination.<sup>156</sup>

This strong connection between recorded sounds and the context of their field of origin is also one of the most significant differences between soundscape composition and *musique concrète*.<sup>157</sup> In contrast to Pierre Schaeffer’s *objet sonore*, whereby sounds are emancipated from the environment of their arising, soundscape composition embraces not only sounds’ relation to the field, but also that to the listener’s perception.<sup>158</sup> Hildegard Westerkamp, herself a pioneer in the field from its very inception, struggling to come up with a thorough definition of the practice, emphasises that its essence lies with the artistic mediation through sound of the multiple meanings on a spatial, temporal, environmental, and perceptual levels.<sup>159</sup> ‘In my experience, the term eludes any further

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<sup>151</sup> Barry Truax, From Soundscape Documentation to Soundscape Composition, *Hal Archives-Ouvertes* <<https://hal.archives-ouvertes.fr/hal-00811391/document>> [accessed 18 February 2020]

<sup>152</sup> *Ibid.*

<sup>153</sup> *Ibid.*

<sup>154</sup> *Ibid.*

<sup>155</sup> *Ibid.*

<sup>156</sup> *Ibid.*

<sup>157</sup> Barry Truax, ‘Soundscape Composition as Global Music: Electroacoustic music as soundscape’, *Organised Sound*, 13(2) (2008), 103–9 (p. 105).

<sup>158</sup> *Ibid.*

<sup>159</sup> Hildegard Westerkamp, ‘Linking soundscape composition and acoustic ecology’, *Organised Sound*, 7(1) (2002), 51–6 (p. 52).

definition,' adds Westerkamp. This connection to the field of the recording also represents the first of four characteristic principles of soundscape composition, which Barry Truax identifies. Namely, these are:

(a) listener recognisability of the source material is maintained, even if it subsequently undergoes transformation; (b) the listener's knowledge of the environmental and psychological context of the soundscape material is invoked and encouraged to complete the network of meanings ascribed to the music; (c) the composer's knowledge of the environmental and psychological context of the soundscape material is allowed to influence the shape of the composition at every level, and ultimately the composition is inseparable from some or all of those aspects of reality; and ideally, (d) the work enhances our understanding of the world, and its influence carries over into everyday perceptual habits.<sup>160</sup>

By thus fostering the various levels of connection between the composer and the environment, Truax argues that the 'real goal of soundscape composition is the reintegration of the listener with the environment in a balanced ecological relationship.'<sup>161</sup> To facilitate this reintegration, Truax advocates that the composer shall allow the context and syntax of the field recording to deeply influence the composition. He emphasises the 'potential of electroacoustic sound to evoke the internal world ... of imagination, dreams and memories, aided by the inherently disembodied nature of electroacoustic sounds whose original sources are not physically present.'<sup>162</sup> Instead of thinking about composing 'with' environmental sounds, Truax uses the distinction made by Walter Branchi in *The State of Anxiety*, which suggests that we should rather think in terms of 'composition within' sound.<sup>163</sup> While subtle, the distinction differentiates soundscape composition from works utilising field recordings for the purposes of sound effects or acousmatic sound art.<sup>164</sup> Instead of composers adapting environmental sound to fit their artistic vision, it is the sound that leads the direction of the composition.<sup>165</sup> Truax maintains, therefore, that the material should drive the work of the soundscape composer, and argues that, as far as the creative process is concerned, 'in essence, one is both composing and being composed through the sound.'<sup>166</sup> This makes soundscape composition

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<sup>160</sup> Barry Truax, 'Soundscape Composition as Global Music: Electroacoustic music as soundscape', *Organised Sound*, 13(2) (2008), 103–9 (p. 106).

<sup>161</sup> *Ibid.*

<sup>162</sup> Barry Truax, 'Music, Soundscape, and Acoustic Sustainability', *Simon Fraser University* <<https://www.sfu.ca/~truax/Sustainability.pdf>> [accessed 10 February 2020]

<sup>163</sup> Walter Branchi, 'The State of Anxiety', *Computer Music Journal*, 7(1) (1983), 8–10 (p. 10).

<sup>164</sup> Barry Truax, 'Soundscape, Acoustic Communication and Environmental Sound Composition', *Contemporary Music Review*, (15)1 (1996), 49–65 (p. 60).

<sup>165</sup> *Ibid.*

<sup>166</sup> *Ibid.*

a highly context-dependent art, hence the difficulty of defining it in general terms. Of course, every composer will bring their own artistic vision and aesthetic sensibilities, just as any field recording comes with a unique content and context. So it is the encounter between the composer's qualities and sensibilities, on the one hand, and the recording's sonic qualities and context, on the other, that yields the singular nature of the practice of soundscape composition.<sup>167</sup> The resulting pieces, therefore, are as much in dialog with the environment of their origin, as with the poise of the composer's listening and sonic imagination in response to that environment.<sup>168</sup> In this vein, Truax emphasises the balance between 'the inner complexity of the sonic organisation' and the 'outer complexity of relationships in the real world.'<sup>169</sup>

This relationship ratio between the above-mentioned inner and outer complexity represents one of the important ways for situating soundscape composition within the wider field of working with environmental sound. The whole field in question can be viewed as a continuum, where at the one end we have works focused on the inner complexity of sound, and at the other end, works focused on outer complexity, or the context, of sounds. Along this continuum various techniques and styles of composition can be placed, depending on where on it they fall.<sup>170</sup> When internal complexity (which Truax also calls 'text') is dominant, it is the sound itself, as filtered through the composer's imagination, which leads the process, while the influence of the environment is more inspirational than literal.<sup>171</sup> This end of the spectrum produces works in the direction of acousmatic music and virtual soundscapes.<sup>172</sup> The piece *Riverrun* by Truax, realised entirely through granular synthesis, is an example of a virtual soundscape.<sup>173</sup> He points out that the title takes the fluidity and stasis of a river as a metaphorical inspiration for the sound.<sup>174</sup> At the other end of the spectrum, when external complexity is dominant (i.e. context), it is the sonic presentation of environmental and other contextual information that drives composition and produces works known as sonification.<sup>175</sup> The latter represents the practice of creating sonic pieces and installations through the mapping of real world data (of all sorts) onto sound producing instruments, thereby translating quantitative/

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<sup>167</sup> Hildegard Westerkamp, 'Linking soundscape composition and acoustic ecology', *Organised Sound*, 7(1) (2002), 51–6 (p. 52).

<sup>168</sup> *Ibid.*

<sup>169</sup> Barry Truax, 'The Inner and Outer Complexity of Music', *Perspectives of New Music*, 32(1) (1994), 176–93 (p. 191).

<sup>170</sup> Barry Truax, 'Sound, Listening and Place: The aesthetic dilemma', *Organised Sound*, 17(3) (2011), 1–9 (p. 2).

<sup>171</sup> *Ibid.*

<sup>172</sup> *Ibid.*

<sup>173</sup> Barry Truax, *Riverrun* (1986) <<https://www.sfu.ca/~truax/river.html>> [accessed 10 February 2020]

<sup>174</sup> *Ibid.*

<sup>175</sup> Barry Truax, 'Sound, Listening and Place: The aesthetic dilemma', *Organised Sound*, 17(3) (2011), 1–9 (p. 2).

parametric information onto sound. For instance, Andrea Polli's work with environmental issues and climate change often utilises sonification in creating sonic sculptures that are activated by data from the real world fed into the system.<sup>176</sup>

In some cases, [Polli's] work as an artist is to mediate between scientific data collected by experts and the public's understanding of that data. The artistic skill involved is dedicated towards communication about the environmental issue involved, rather than to produce a self-contained work of art.<sup>177</sup>

In the middle of this inner-to-outer/text-to-context continuum is phonography, which maximises the documentary, unprocessed, value of the field recordings. Phonography is therefore characterised by untreated recordings, save for minimal transparent editing and mixing.<sup>178</sup> It finds itself equal distance on the continuum between the scientific literality of sonification (to the left), and the high abstraction of acousmatic music/virtual soundscapes (to the right).<sup>179</sup> Thus, phonography represents the concrete, realistic, end of the spectrum of soundscape composition. Works by Francisco López like *La Selva*, *Buildings*, and *Wind* are examples of soundscape compositions of minimal editing and barely any processing.<sup>180</sup> In an essay about *La Selva*, however, López argues that despite the realistic soundscape, the piece in fact aims to address 'the illusion of realism and the fallacy of the real.'<sup>181</sup> It is the very reality of the soundscape that López insists gives the possibility for the listener to transcend the real and perceive it as an abstraction.<sup>182</sup> Thus, it is through the cultivation of what López calls 'profound listening' that the abstract sound of an otherwise unprocessed recording can be accessed.<sup>183</sup> Despite this provocative and exciting take on the piece, it nevertheless is a good example of straightforward phonography, where the field recordings are seamlessly edited together and left largely untouched by signal processing. Towards the other end of that spectrum, soundscape composition can involve increasing levels of abstraction. The emphasis on preserving the sounds' recognisability and connection to their space of origin, however, prevents soundscape composition

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<sup>176</sup> *Ibid.* (p. 3).

<sup>177</sup> Barry Truax, 'Music, Soundscape, and Acoustic Sustainability', *Simon Fraser University* <<https://www.sfu.ca/~truax/Sustainability.pdf>> [accessed 10 February 2020]

<sup>178</sup> John Levack Drever, 'Soundscape Composition: the convergence of ethnography and acousmatic music', *Organised Sound*, 7(1) (2002), 21–7 (p. 22).

<sup>179</sup> Barry Truax, 'Sound, Listening and Place: The aesthetic dilemma', *Organised Sound*, 17(3) (2011), 1–9 (p. 3).

<sup>180</sup> Francisco López, *La Selva* (V2\_Archief, 1998) [on CD]; Francisco López, *Buildings* (New York) (V2\_Archief, 2001) [on CD]; Francisco López, *Wind* (Patagonia) (and/OAR, 2007) [on CD].

<sup>181</sup> Francisco López, 'Environmental Sound Matter', *Francisco López* <<http://www.franciscoLópez.net/env.html>> [accessed 10 February 2020]

<sup>182</sup> *Ibid.*

<sup>183</sup> *Ibid.*

from reaching complete abstraction. The piece *Pendlerdrøm* by Barry Truax follows a passenger's train journey in Copenhagen.<sup>184</sup> As the journey progresses, Truax gradually transforms the sound to an increasingly abstract level. In doing so, he aims to emulate the inner experience of daydreaming that many of us experience during our daily commutes.<sup>185</sup> The increasing abstraction is then abruptly interrupted, as it often is in real life, by the sound of a slamming of a compartment door.<sup>186</sup> This symbolic journey of *Pendlerdrøm* from realism to a dream-like state and back is a powerful example of how, through the processing of sound, a composer can emulate actual listening experience that cannot be captured by phonography alone. Where a particular piece will end up on the spectrum between phonography and transformed soundscape depends highly on both the material itself, and on the composer's response to it. One's aesthetic and conceptual preferences play a big role in deciding on the level of intervention with the field recordings.

Annea Lockwood's *Sound Map of the Danube* is another good example of unprocessed phonographic work.<sup>187</sup> Drawn to the sounds of water and the river Danube, she recorded over 80 hours of material, crossing over ten countries, resulting in this transparently edited, straightforward trilogy. 'Listening to the river and re-experiencing the river's flow,' writes Lockwood, 'can bring it into your being and remind you of its nature and its being.'<sup>188</sup> Unprocessed pieces have an immersive quality that can dislocate and suspend the listener in-between their place of audition and the concrete space suggested by the sound. In contrast, the intention with abstraction usually is to increase the ambiguity of sounds in order to foster the listener's free association and aural imagination.<sup>189</sup> For example, in his granular synthesis work *Ocean*<sup>190</sup>, Truax points out how the stretched crashing of waves 'sounds remarkably like a choir of distant voices.'<sup>191</sup> The range of all these different practices situates soundscape composition along the fuzzy line between pure phonography and contextualised abstraction. As Truax points out,

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<sup>184</sup> Barry Truax, 'Soundscape Composition as Global Music: Electroacoustic music as soundscape', *Organised Sound*, 13(2) (2008), 103–9 (p. 105).

<sup>185</sup> *Ibid.*

<sup>186</sup> *Ibid.*

<sup>187</sup> Annea Lockwood, *A Sound Map Of The Danube* (Lovely Music, 2008) [on CD].

<sup>188</sup> Annea Lockwood, 'Annea Lockwood', in Cathy Lane and Angus Carlyle, *In the Field: The Art of Field Recording* (Axminster: Uniform, 2013), pp. 27–38 (p. 33).

<sup>189</sup> Barry Truax, 'Soundscape, Acoustic Communication and Environmental Sound Composition', *Contemporary Music Review*, (15)1 (1996), 49–65 (p. 57).

<sup>190</sup> Barry Truax, 'Ocean', *Pacific Rim* (Cambridge Street Records, 1991) [on CD].

<sup>191</sup> Barry Truax, 'Soundscape, Acoustic Communication and Environmental Sound Composition', *Contemporary Music Review*, (15)1 (1996), 49–65 (p. 62).

In terms of the balance between inner and outer complexity, phonography resides largely in outer complexity, abstract composition in inner complexity, with soundscape composition and some of the more abstracted forms of acousmatic music based on the interplay between the two.<sup>192</sup>

These variations of the practice—from ‘found sound’ to abstracted soundscapes—as based on the level of audio manipulation, Truax calls macro-compositional approaches.<sup>193</sup> In these terms, soundscape composition spans this whole spectrum, while maintaining a degree of recognisability of the sounds and their context.<sup>194</sup>

In addition to the macro-compositional approaches, Truax identifies three structural approaches within each composition. Namely, these are: (1) fixed spatial perspective, (2) moving spatial perspective, and (3) variable spatial perspective.<sup>195</sup> Truax mentions the three *Presque Rien* works by Luc Ferrari as good examples of the three perspectives.<sup>196</sup> The fixed spatial perspective refers to a stationary standpoint of recording/audition. The listener’s position here is fixed, while time and events pass relative to that standpoint, thereby emphasising the passage of time. ‘Time is created by the movement of sound, not that of the listener,’ writes Truax.<sup>197</sup> Ferrari’s *Presque Rien No. 1*, for instance, temporally compresses the original recording by transparent editing, while leaving the sounds unprocessed.<sup>198</sup> The liner notes emphasise Ferrari’s preference of straightforward phonography over audio manipulation:

Instead of forcibly eliminating every trace of the origins of the material which has been taken from reality, Ferrari uses its reference to reality in order to appeal to the hearer’s experience and imagination...an undistorted portrayal, although in fast motion, of daybreak on the beach, it is electroacoustic natural photography, in which *Cage*’s respect for reality is crossed with the dream of a sounding ‘minimal art.’<sup>199</sup>

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<sup>192</sup> Barry Truax, ‘Soundscape Composition as Global Music: Electroacoustic music as soundscape’, *Organised Sound*, 13(2) (2008), 103–9 (p. 107).

<sup>193</sup> Barry Truax, ‘Genres and techniques of soundscape composition as developed at Simon Fraser University’, *Organised Sound*, 7(1) (2002), 5–13 (p. 6).

<sup>194</sup> *Ibid.*

<sup>195</sup> *Ibid.* p. 8.

<sup>196</sup> Luc Ferrari, *Presque Rien* (INA, 2004) [on CD].

<sup>197</sup> *Ibid.*

<sup>198</sup> A geographic error seems to be repeated in papers referencing this piece, as they claim Ferrari recorded it on a Black Sea beach in former Yugoslavia (e.g. Andra McCartney, *Ethical questions about working with soundscapes* (Koli: WFAE Conference 2010); Eric Drott, ‘The Politics of Presque Rien’ in *Sound Commitments: Avant-Garde Music and the Sixties*, ed. by Robert Adlington (Oxford: Oxford University Press, 2009). However, Yugoslavia has never had access to the Black sea, which on its European side borders with Ukraine, Romania, Bulgaria, and Turkey. The village where Ferrari recorded the piece seems to be in today’s Croatia on the Adriatic coast.

<sup>199</sup> Luc Ferrari, *Presque Rien* (INA, 2004) [liner notes]

The second approach—a moving perspective—is characterised with creating the sensation of a journey.<sup>200</sup> The latter may represent a symbolic journey, as in tension and release, a psychological one like that of a rite of passage, or simply an aural adventure of sorts.<sup>201</sup> Dallas Simpson's binaural soundscapes, such as *Sonic Bathing 1*, are a great example of the ways in which a performative journey through field recording can be made possible.<sup>202</sup> Following Simpson's movement through different terrain and sonic environments invites the listener to experience this journey and translate the sounds heard onto one's own imagination and background. For the third—final—approach, the advances of signal processing in the studio allow for a combination of a fixed and a moving perspectives to be created.<sup>203</sup> By extracting elements in the recording and giving them motion, or time-stretching or compressing them, while keeping others unchanged, variable perspective compositions can be created.<sup>204</sup> These can involve both emulating the experience of an abstracted inner journey amid a concrete environment, as well as that of moving through an environment.<sup>205</sup> As Truax points out,

I would argue that the 'outer world' of [variable perspective] pieces may include the inner world of memory, dreams and metaphor as fluid imagery unconstrained by the acoustics of real spaces; hence the variable perspective offers an unlimited range of approaches. At the level of everyday listening, I have argued that both acoustic and electroacoustic soundscapes are frequently intertwined and experienced with familiarity.<sup>206</sup>

All three structural approaches can also be complemented by a 'narrative, poetic or oral history component.'<sup>207</sup> Hildegard Westerkamp's *Kits Beach Soundwalk*, and Chris Watson's *A Journey South* and *Alcedo Volcano*, are examples of pieces in which the composers verbally describe the location, their impressions, and the technical approaches and considerations while recording.<sup>208</sup> The immersive storytelling and verbal interpretation of the sounds in these records lead the listener's

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<sup>200</sup> Luc Ferrari, *Presque Rien* (INA, 2004) [liner notes] p. 9.

<sup>201</sup> *Ibid.*

<sup>202</sup> Dallas Simpson, *Sonic Bathing 1* (Farfield Records, 2004) [on CD].

<sup>203</sup> Barry Truax, 'Genres and techniques of soundscape composition as developed at Simon Fraser University', *Organised Sound*, 7(1) (2002), 5–13 (p. 11).

<sup>204</sup> *Ibid.*

<sup>205</sup> *Ibid.*

<sup>206</sup> Barry Truax, 'Soundscape Composition as Global Music: Electroacoustic music as soundscape', *Organised Sound*, 13(2) (2008), 103–9 (pp. 107–8).

<sup>207</sup> Barry Truax, 'Genres and techniques of soundscape composition as developed at Simon Fraser University', *Organised Sound*, 7(1) (2002), 5–13 (p. 8).

<sup>208</sup> Hildegard Westerkamp, 'Kits Beach Soundwalk', *Transformations* (empreintes DIGITALes, 1996) [on CD]; Chris Watson, *A Journey South* (Touch, 2010) [on MP3]; Chris Watson, *Alcedo Volcano* (Touch, 2006) [on MP3].

attention and point it to specific elements of the soundscape. The composers contextualise the sonic environment by communicating both specific, and general, information about the field which would otherwise remain opaque to the listener. Comparing Watson's two pieces to López' *La Selva*, Koutsomichalis points out that:

[R]ecording is, effectively, an act of decontextualization that isolates physical sounds from their intellectual, perceptual, socio-cultural, and psychophysical tokens. While Watson artificially recreates such associations in order to achieve a meaningful representation of an environment, López relies on schizophonia to focus on the inner qualities of environmental sonic matter. Both Watson and López are well aware of the limitations of the recording technology and the problematics of representation. For all that, they exploit them accordingly to arrive at two diametrically opposed goals: essential representation and non-causal listening.<sup>209</sup>

Another seminal piece by Chris Watson—namely *El Tren Fantasma*—is the result of a month's journey onboard a (since discontinued) coast-to-coast train service through Mexico.<sup>210</sup> All tracks are composed strictly from field recordings made at a specific location. Interestingly, the location in this case is not so much geographical, as it is situational. Here the recordist is moving through the landscape, while his means of transportation becomes the focus, or at least the organising principle, of the soundscape. The phantasmagorical atmosphere of the otherwise familiar environment is achieved through the careful layering of sounds and spaces, rhythmical repetitions, and the filtered fusion of sonic contrasts. Here, the variable spatial perspective is achieved by the multiple standpoints of audition both on the train, and on the ground as the train passes or is sitting still. Interestingly, when recording in a compartment, the perspective is at once fixed and moving: while the space within the compartment is still, the compartment itself is in motion. This paradox, along with the skilful transitions between spaces and points of audition, enhances the immersive and abstracted nature of this work.

As argued earlier, all these techniques and approaches are meant to serve the impetus of the field recordings. They are the tools a composer uses to bring the organic and prosthetic horizons together, in creating a soundscape that integrates the outer and the inner worlds. As Westerkamp argues, 'a fundamental truth about soundscape compositions is that they emerge, they can only be pre-planned

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<sup>209</sup> Marinos Koutsomichalis, On Soundscapes, Phonography, and Environmental Sound Art, *Journal of Sonic Studies*, 4 (2013) <<https://www.researchcatalogue.net/view/268080/268081>> [accessed 11 February 2020]

<sup>210</sup> Chris Watson, *El Tren Fantasma* (Touch, 2011) [on CD].

to a limited extent.<sup>211</sup> And that is the result of the rich context and inherent unpredictability of both the acoustic surrounding, and the perception thereof. Environmental sounds are never *objet sonore* in isolation, but instead are nodes of relationships, both internal and external, that can be explored and re-discovered like the very environment from which they originate.<sup>212</sup> The processing of sounds in the studio, then, Westerkamp argues ‘is perhaps the technological equivalent to our ear’s selective capacity. That is, our aural perception of the soundscape and our experience of it can potentially be built into our compositions by virtue of available sound processing tools.’<sup>213</sup>

Before concluding this chapter, I would like to mention four more works of soundscape composition which exemplify the discussion above. I’ll start from the phonographic, transparently edited and processed, end of the soundscape spectrum and proceed toward higher abstraction.

*Cho You 8201m - Field Recordings from Tibet* is a soundscape work by Geir Jenssen under his own name, who otherwise works with electronic and acousmatic music under the moniker Biosphere.<sup>214</sup> Also a professional mountain climber, Jenssen recorded the ten-piece album during a 45-day climb to the Cho You peak (8201) in the Himalaya in 2001.<sup>215</sup> The only recording equipment he used was a simple Sony minidisk and a matching Sony microphone.<sup>216</sup> Due to the rich experiential and contextual content of the sounds, the compositions are minimally processed to maximise the outer complexity of the recordings. A masterful editing work, however, has combined the recordings into a layered atmospheric listening experience with deeply immersive qualities. The spatial perspective varies from piece to piece, and minute to minute, from fixed to moving, creating an intimate sense of aurally joining the recordist on this formidable adventure.

Another record I want to mention is *Bora Scura* by Slovenian composer Simon Šerc.<sup>217</sup> The Bora is the local name for a strong seasonal northeastern wind that blows over the Adriatic coasts of

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<sup>211</sup> Hildegard Westerkamp, ‘Linking soundscape composition and acoustic ecology’, *Organised Sound*, 7(1) (2002), 51–6 (p. 54).

<sup>212</sup> *Ibid.* p. 51.

<sup>213</sup> *Ibid.* p. 53.

<sup>214</sup> Geir Jenssen, *Cho Oyu 8291m (Field Recordings from Tibet)* (Ash International, 2006) [on MP3].

<sup>215</sup> Geir Jenssen, With Adventure Peaks to Cho Oyu <[http://www.biosphere.no/cho\\_oyu/cho\\_oyu.html](http://www.biosphere.no/cho_oyu/cho_oyu.html)> [accessed on 14 February 2020].

<sup>216</sup> Geir Jenssen, *Cho Oyu 8201 m - Field Recordings From Tibet* <<https://geirjenssen.bandcamp.com/album/cho-oyu-8201-m-field-recordings-from-tibet>> [accessed on 14 February 2020].

<sup>217</sup> Simon Šerc, *Bora Scura* (Ambientfabrik, 2018) [on CD].

Slovenia, Croatia, and Italy, with gusts exceeding 200 km/h.<sup>218</sup> The ten pieces on this record, called *Actions*, are soundscape compositions from field recordings Šerc made in February 2015 in the area of the town of Ajdovščina, Slovenia.<sup>219</sup> Due to the challenging recording situation, most soundscapes are of fixed spatial perspective. Recording strong wind is a notoriously challenging undertaking, and the way Šerc managed to do it is by using DIY windshields and places of natural cover so that the microphones pick up sounds without being themselves overwhelmed by the wind.<sup>220</sup> The intensity and variability of the sonic environment make for a dynamic and captivating sound that Šerc chose to leave without audible processing. Both *Bora Scura* and *Cho You 8201m* are on the phonographic end of the soundscape composition spectrum despite some extensive, yet transparent, editing work. The focus here is on the contextualised recorded material as it has the power, diversity, and urgency to facilitate a deeply immersive and engaged audition.

Further towards abstraction is Marc Behrens' work on the album *Sleppet*.<sup>221</sup> Consisting of four compositions of approximately ten minutes each, the album is part of a collective project among artists Natasha Barrett, Bjarne Kvinnsland, Steve Roden, Chris Watson, Jana Winderen and himself, who went on a ten-day recording trip in the Norwegian Westlandet region.<sup>222</sup> The focus of *Sleppet*, the inspiration for which originates with Norwegian composer Edvard Grieg, is a pondering of nature and the transformative energies and processes of early spring.<sup>223</sup> Behrens' compositions are contemplations on this subject, utilising melodic and creative processing to bridge outer and inner complexity. The topic of transformation and energy of change is explored through a combination of spatial perspectives and levels of abstraction, ranging from pure phonographic episodes, through industrial drones and melodic inflections, to hyperrealistic soundscapes. Here abstraction is used as a tool to explore the variety of meanings that transformation and a change of seasons can take. The outer and the inner, the text and the context, the literal and the symbolic, here dance among one another to signify the subjective dynamics of the experience.

Finally, Jana Winderen's *Out of Range* is a 40-minute work that spans the whole scope of soundscape composition, with parts in the composition that range from phonographic to almost

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<sup>218</sup> Bora, *Encyclopedia Britannica* <<https://www.britannica.com/science/bora>> [accessed 14 March 2020]

<sup>219</sup> Simon Šerc, *Bora Scura* <<https://music.pharmafabrik.com/album/bora-scura>> [accessed 14 March 2020]

<sup>220</sup> This information has been shared personally by the composer in direct communication.

<sup>221</sup> Marc Behrens, *Sleppet* (Crónica, 2009) [on CD].

<sup>222</sup> Marc Behrens, *Sleppet* <<https://cronica.bandcamp.com/album/sleppet>> [accessed 14 March 2020]

<sup>223</sup> *Ibid.*

acousmatic.<sup>224</sup> While the connection to the acoustic environment is never fully lost, the level of abstraction is allowed at times to heavily overpower reality. The waves of transformation draw the listener into an eerie soundscape of drones and tones that take one to a dreamy, inner, world, before slowly emerging back in a realistic, contextualised, sonic environment. Winderen uses ultrasonic equipment and hydrophones for some of the recordings, which capture sounds beyond the human hearing range, hence the album's title.<sup>225</sup> The ultrasounds are then time-stretched to bring their pitch down to within our hearing range.<sup>226</sup> The exquisite mixing and production work on this record is a great example of successful fusion between the organic and prosthetic ears, and the bringing of the two horizons into a creative whole. Winderen's imagination and sonic aesthetic here play equal role to the quality and inventiveness of her phonography. With this, I proceed to chapter two where I bring my portfolio of soundcastles into focus and discuss how each one is constructed and how it relates to the discussion so far.

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<sup>224</sup> Jana Winderen, *Out of Range* (Touch, 2014) [on CD].

<sup>225</sup> Jana Winderen, *Out of Range* <<https://janawinderen.bandcamp.com/album/out-of-range>> [accessed 14 March 2020]

<sup>226</sup> *Ibid.*

## Chapter 2

### Composition portfolio

The selection of compositions I submit with this text are all made of recorded instances within a continuum of listening practice precipitated by the soundwalk I describe at the start of this text. This single experience seemed to open up a world of sound around me, which continues to unfold today, ever fascinating and beautiful. Yet it was puzzling for me to realise that it was not the sounds around me that changed with that soundwalk. It was my listening that changed. Music has been my constant companion since very early childhood, and hardly a day has ever passed without my being immersed in one record or another. But now was different. Now, the space between records filled up with music too. Suddenly I could hear it in everything. How could that not have been the case before? How can it be the case now? What changed?

This research evolved from reflecting on these initial questions while listening closely to the world around me. Instinctively I knew that the sounds, although always changing, couldn't have qualitatively transformed on a collective scale to match my aural aesthetic. They must have always been around, my ears taking them for granted. So the shift must have been internal, not external. Yet, if it were my 'ears' that changed, then how much of the musicality I hear around me is intrinsic to the sounds, and how much of it is a fiction of my sonorous imagination? The answer to these questions I felt can only be found in practice and in corroboration with others. By critically listening not only to my environment, but also to my listening itself, I noticed that it wasn't all in my head. There was always musicality to be found out there, and it was I who was the latecomer. Furthermore, there was the whole tradition of field-recording composition to confirm that and further inspire my exploration.

The research I embarked on with this work was a way for me to try and understand this mystical relationship between my listening and the listened. Can my listening be somehow captured; can it be transmitted and shared with others, as Peter Szendy had asked in *Listen: A History of Our Ears*.<sup>227</sup> As I discussed in chapter one, it quickly became obvious to me that there is a huge difference between listening to a place and listening to a recording of a place. The embodied experience when present at a location seems to comprise so much more than the frequencies, amplitudes, and transients microphones can capture. In this way, today's modern microphones share the same limitation as Thomas Edison's late 19th century phonograph, as Douglas Kahn argues in *Noise, Water, Meat* (1999).<sup>228</sup> As beautiful as those physical properties of sound can be in and of themselves, there is also a psycho-emotional affect of being there, imagination, temperature, view, taste, smell, etc., all of which opaque to recording equipment. And so, if I were ever to attempt to share my listening, I had to try and include all of it, as best I can. I could relate to the two horizons

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<sup>227</sup> Peter Szendy, *Listen: A History of our Ears* (New York: Fordham University Press, 2008), p. 2.

<sup>228</sup> Douglas Kahn, *Noise, Water, Meat: A History of Sound in the Arts* (Cambridge: MIT Press, 1999), p. 5.

Lawrence English talks about, and their merging through relational listening and composition, as soon as I read his work. While I wouldn't come across English until much later, I had intuitively sensed something very similar from the start. Only I had called the two horizons 'a soundscape' and 'an inner-scape.' Yet essentially I was trying to negotiate the same asymmetry between what I was hearing in situ with my ears and what came out of the recorder. I heard in some ways so much more—and in many ways so much less—than the microphone was able to record. First, the whole psycho-emotional part of embodied listening was missing in the recording. And further, the particular sonic image, the mix and bias of certain sounds over others, was no longer there. Other sounds, which I don't even remember hearing were revealed in the recording and sometimes even took a prominent position. The sound I remember hearing was now submerged in its background. When listening, I realised it was my brain that was doing sound engineering in real time through focus and attention. Thus, in order for my composition work to stand a chance of approximating my listening I had to conceptually and phenomenologically experiment with two sets of relationships: (1) that between the two horizons (organic and prosthetic), and (2) that between a listener (standpoint) and the sonic environment. The latter has been the main subject of this text so far: surveying the boundary between the two. The former is the main subject of the empirical side of this research—my composition portfolio. Namely, to try and integrate the 'organic' and the 'prosthetic' ears through composition and postproduction. In the remainder of this section, I will try to describe the compositions both in terms of this disparity between the embodied listening and the raw recording, as well as the connection between each piece and the discussion of listening, standpoint, and the acoustic environment.

I have consistently chosen the locations I record to be public spaces, as opposed to natural environments. The reason is that most of us nowadays live in cities, and so the 'abject sounds that no one cares about,' as Felicity Ford calls them, are mostly the sounds of our quotidian lives.<sup>229</sup> For better or worse, most of us are bound to spend the majority of our lives listening to the city. As I mentioned in the previous chapter, deep listening is not so much about what is listened to, but how it is listened to.<sup>230</sup> When active, the thinking mind can (and does) always qualify incoming sensorial information. Thus, one may 'love' the paralysing 90dB roar of a Harley Davidson motorcycle and detest the tedium of a mountain creek, or the song of a bird. As far as the *Soundcastles* project is concerned, such qualifications are irrelevant by virtue of inevitably arising in hindsight after an a-priori sensorial perception. As Voegelin points out in terms of sight, 'what I see is always already gone, it engraves itself into my retina as a picture of its past.'<sup>231</sup> Therefore, it shouldn't really make a difference, from the perspective of reduced listening, what qualities the sounds heard have, as long as they are heard fully. And so it makes sense, in the context of urban existence, to focus on, and unveil, the sounds we live with every day, rather ones from far-away places. For the listener

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<sup>229</sup> Felicity Ford, 'Felicity Ford', in Cathy Lane and Angus Carlyle, *In the Field: The Art of Field Recording* (Axminster: Uniform, 2013), pp. 85–96 (p. 89).

<sup>230</sup> Indeed even who is listening and to what s/he thinks they're listening.

<sup>231</sup> Salomé Voegelin, *Listening to Noise and Silence: Towards a Philosophy of Sound Art* (New York: Continuum, 2010), p. 169.

who develops aural sensitivity to the immediate sounds of her environment, this new territory—as Francisco López calls it—would create ‘a very vivid world to live in.’<sup>232</sup> The alternative of composing with soundscapes inaccessible to most of us, carries the risk of exoticising the practice, thereby alienating the listener from the musicality of their immediate sonic environment. In other words, inadvertently relating deep listening to an exotic, unfamiliar, out-of-reach, locale. Moreover, when at an unfamiliar place, we already naturally become more attentive to our sense perceptions. As Schafer points out, ‘when man was fearful of the dangers of an unexplored environment, the whole body was an ear.’<sup>233</sup> But this alertness does not necessarily spill over to the habitual and neglected sonic environment. And thus, it is the latter that the *Soundcastles* project strives to highlight.

The choice of equipment for me is simply determined by the capacities of my hearing. If I can’t hear a sound without using a specialised microphone, I don’t use it. This is consistent with my focus on ordinary sounds from the everyday. The sheer fascination with the ubiquitous and inexhaustible sonic environment available to my naked ear has placed the latter at the core of this project. This also makes the small form- and weight-factor of my equipment a priority. I must be able to move as freely and discretely as I do when simply listening. And I also shouldn’t hesitate to take the equipment with me even when I’m not planning to record. To borrow a trope from photography: the best camera in the world is the one you have with you when you need to take a picture. The sustained practice is listening, while recording puts a frame around it. Thus, the microphone is a concession necessitated by the fact that I cannot record directly with my ears. So I outsource my hearing to a recorder through a stereo pair of microphones that approximate my listening experience. This bars from my practice a vast array of microphones, such as ones sensitive to surface vibrations (contact mics), electromagnetic field mics, hydrophones, etc.<sup>234</sup> One disadvantage of using equipment beyond the human hearing range is that one is left with only the sonic horizon of the prosthetic ear. The organic ear is deaf to the recorded sounds outside the equipment. In other words, the organic ear listens through the prosthetic ear. And if the practice of composing with environmental sounds is, as English argues, the bringing of the two horizons closer to one another, here the job of the composer is made that much more difficult and arbitrary.

Most of my recordings for this project were made using an XY stereo pair, as that was the available configuration of my recorder. I also experimented with an MS capsule I had at my disposal, but the favouring of the centre of the stereo field did not seem to yield the width I was after. Towards the final compositions of my portfolio, I started experimenting with binaural recording with very promising results. It certainly rendered the stereo field on headphones considerably closer to the

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<sup>232</sup> Francisco López, ‘Francisco López’, in Cathy Lane and Angus Carlyle, *In the Field: The Art of Field Recording* (Axminster: Uniform, 2013), pp. 99–108 (p. 101).

<sup>233</sup> R. Murray Schafer, *The Soundscape: Our Sonic Environment and the Tuning of the World* (Rochester: Destiny, 1994), p. 24.

<sup>234</sup> While we can still hear in water, I haven’t considered using hydrophones yet, as under-water sounds are not common in our urban soundscape. With the exception perhaps of bath tubs and swimming pools, which can certainly give interesting results, but that is still marginal area of soundcastle composition which must for now remain unexplored.

natural listening of the soundscape, compared to the XY configuration. However, in order for the compositions to translate well on speakers, I had to find a way to do a hybrid version in order to fill the head-shaped gap at the centre of the binaural recording. This is just what I did in my piece *hissar ~ 170104* (described below). By recording simultaneously in stereo and binaural, I captured two stereo images of the same environment. Then, in post production, I carefully combined the two recordings to both make use of the robust stereo image of the pair, and incorporate the spatial width and distribution of binaural. The drawback was the handling noises of the binaural mics, which, due to the cables running from my ears to the recorder, made my every move register on the recording. Thus, I had to stand completely still for the whole duration of the session. Now I have transitioned to a wireless binaural system, which will hopefully remedy this issue.

Along with other field-recordists like Davide Tidoni, I never monitor my recording through headphones.<sup>235</sup> Instead, I usually spend some time before starting to record to make sure the levels are set well with enough headroom to prevent clipping. From then on I simply listen with naked ears while recording.<sup>236</sup> That's the only way for me to really immerse myself in the field and fully absorb not only how the place sounds, but also how it feels. Both of these are crucial for my composition process. Asked about her method of recording, composer Hildegard Westerkamp expresses a similar concern when she says:

Nowadays I often find myself not wanting to record, because I usually monitor my recordings on headphones, which separates me from the environment—even though paradoxically I'm in the middle of it.<sup>237</sup>

While hard to explain exactly how listening to the same soundscape through headphones separates one from the environment, there nevertheless seems to be a tranquil presence in the naked ear which, at least for me, gets lost through a signal chain. As I've argued earlier, the electromagnetic response of the microphone coil renders quite a different sonic image compared to the unaided eardrum. I have so far found the way ears render the soundscape unmatched by any set of microphones, and by a large margin. The sonic intimacy, the spatial expansion, the dynamic range, all seem of far superior quality in the ear than in the earphone. And it is this tranquil presence of the naked ear which expands to encompass the sonic field holistically, and includes both the outer and inner complexity of listening.<sup>238</sup> Yet the microphones only (imperfectly) capture the former. The inner experience can only be felt and imperfectly remembered. Recording without headphones enables me to pay simultaneous attention to both the sound and my response to it. Also, the way the

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<sup>235</sup> Davide Tidoni, 'Davide Tidoni', in Cathy Lane and Angus Carlyle, *In the Field: The Art of Field Recording* (Axminster: Uniform, 2013), pp. 73–87 (p. 77).

<sup>236</sup> And with binaural recording it is inherently impossible to monitor.

<sup>237</sup> Hildegard Westerkamp, 'Hildegard Westerkamp', in Cathy Lane and Angus Carlyle, *In the Field: The Art of Field Recording* (Axminster: Uniform, 2013), pp. 109–22 (p. 114).

<sup>238</sup> This also relates to what Voegelin calls 'intersubjective listening': 'I am in the soundscape through my listening to it and in turn the soundscape is what I listen to, perpetually in the present.' Salomé Voegelin, *Listening to Noise and Silence: Towards a Philosophy of Sound Art* (New York: Continuum, 2010), p. 83.

brain gets tricked by things like sonic reflections and natural filtering often creates uncanny phantom rhythms and melodies that can later be highlighted through processing. For it is this inner-scape—the psycho-emotional response to the environment—which energises and informs the composition process. The deeper I immerse myself in the acoustic environment, the more vivid the image that I can try to render in post-production. Therefore, becoming deeply mindful of what I hear through the organic ears is key to my post-production work with the recording of the prosthetic one.<sup>239</sup>

The portfolio I submit with this research comprises eight compositions. Each of them is made exclusively from a field recording take of a particular place and time, thus with no mixing of sounds from multiple recording sessions and places. The compositional approach and level of processing among the pieces vary dramatically. As a research on the boundary between the listener and the acoustic environment, I believe such a diversity is both merited and necessary. The compositions thus vary from approaching sonification, on the one end of the spectrum, to acousmatic, on the other. The exploration of macro- and micro-compositional approaches within each piece, as discussed in chapter one, are thus mirrored in the structure and diversity of the portfolio itself. In other words, it is perhaps useful to think of this collection as a mesh of interconnected processes, some moving ‘horizontally’ within pieces, and some ‘orthogonally’ within the larger process of distilling and expanding the *Soundcastles* project.

I’ve implemented an indexing system for generating composition titles which consists of the place [name] and date [yymmdd] of the recording, separated by a tilde (~) symbol. I opted for not using uppercase letters when spelling the name of the place in order to emphasise the non-representative nature of the compositions. Using a capital letter seemed to run a risk of being perceived as ‘how a place sounds.’ In contrast, lowercase letters seem to suggest more of a reference to a place, as in ‘how a place could sound.’ As I mentioned earlier, I see the relationship between the environment and the field recording as inherently incidental. Recordings are special case conjunctures of sorts, within serendipitous standpoints and events, imperfectly mediated through technology and memory. Hence the tilde symbol in the middle, widely used to denote approximation.

Here is a chronological list of the compositions, from first to last:

1. razhdavitsa ~ 140827
2. mauerpark ~ 150510
3. neukölln ~ 150816
4. terreiro do paço ~ 160222
5. mälärhöjden\_tbaná ~ 160311
6. arkutino ~ 160906

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<sup>239</sup> I sometimes make vocal and written notes during recording to point attention to something I hear in the soundscape which I would like to return to in post production.

7. Rua da Paz<sup>240</sup>
  8. hissar ~ 170104 (knowledge is better than ignorance)
- Extra track:
9. Fields of Resonance<sup>241</sup>

### **razhdavitsa ~ 140827**

This is the first soundcastle I made. It is composed of a field recording I did at the countryside outside my grandmother's house one late August night in 2014. The recording setup was an AB stereo microphone configuration, straight into the audio interface and tracking onto a laptop. Everything was stationary and placed on a terrace. The whole recording, therefore, is made with a fixed spatial perspective, as I wanted to capture my subjective experience of staying in a room with a window open to the nocturnal sonic environment. The hot Bulgarian summer spawns thriving cricket populations, whose piercing song saturates the air from early evening to early morning. I've spent countless summers at this place, night after night lulled to sleep as the vibrant soundscape spills in through my open window. Of all the pieces in the portfolio, this is the only one where my knowledge and connection with the sonic environment have been growing for as long as I can remember. From 'background listening' in my childhood, to use Truax's terms, to 'listening in readiness,' and eventually to recording. In the absence of dense urban architecture, the open expanses envelop the cricket symphony, thus preserving the hi-fi depth of the acoustic horizon. Falling asleep amid relentless sound, albeit soothing, can often be a rather bizarre experience. As the brain transitions from alpha waves to theta waves towards REM sleep, reality begins to warp embroidered with hypnagogic hallucinations: phantom sounds, sights, and haptics. The cricket song tangles up with weaving dreams, rendering an amorphous amalgam set somewhere in-between reality and fantasy. In brief awakenings, I even remember 'hearing' reverberations of sounds and music that could only have been dreamed. Soon enough it all disappears in deep sleep where no content or passage of time is consciously perceived. Waking up in the morning, I find myself in a brand new sonic environment: birds, roosters, people.

With this piece, I wanted to try and merge this subjective experience with the nocturnal soundscape of the recording. As I argued in chapter one, in order to integrate the listener with the environment I had to try and share my listener's listening. All the peculiar nocturnal experiences, to which the microphone is deaf, had to somehow be introduced back into the soundscape. The composition starts with the unedited field recording, fading in and expanding, with the gradual widening of the stereo image. About a minute in, I begin to destabilise the realism of the soundscape to harbingers of the imminent drowse. To do that, I first experimented with singling out specific sounds in post

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<sup>240</sup> *Rua Da Paz* is one of two pieces in the portfolio (along with *Fields of Resonance*) which doesn't follow the indexing pattern of '[place] ~ [date]'. In the case of *Rua da Paz* the field recording for this piece was not made by me. As I describe in the text, it was made for a competition out of a dedicated field-recording database.

<sup>241</sup> This extra composition is the second, besides *Rua da Paz*, which does not follow the title pattern. As will become clear in the commentary to the piece below, this one came of a totally different approach to field recordings compared to the other pieces, and therefore I felt it needed to be separated from the rest.

production, in order to be able to recreate the sonic hallucinations described above by glitching only certain sounds while everything else stays organic. For example, through subtractive equalisation, I managed to extract a peculiar phrase from a dog bark (~ 1'05''), with which to create sonic déjà vu's. With the rest of the soundscape intact, I begin to repeat this phrase identically at regular intervals. Since exact repetitions do not happen in reality, hearing them in an otherwise natural soundscape aims to create certain cognitive dissonance in the listener, suggesting abnormality. Further on, I gradually augment this effect by saturating the stereo field, as well as adding echoes to the bark phrase with increasing modulation. Due to the hills surrounding the village, echoes of transient sounds are not unusual in the quiet of night. But the variable transfigured repetitions add a surreal dimension to the composition.

To signify the onset of REM sleep, I use ring modulation and side-chain compression to mould the soundscape into a pulse (~ 2'30''). The side-chain compression is triggered by a kick-like sound I created from a transient (possibly an insect landing on one of the microphones) in the field recording. The kick-sound itself, however, is muted and is therefore just used for the side-chain. I further create organic movement by using larger patterns and random processing over continuous field recording, so that the sound lives and evolves rather than simply loop. In this way, while rhythmical, the sonic patterns vary and morph as they go along. As the illusion deepens, I introduce individually extracted cricket sounds, both in their original pitch as melodic phrases, and pitched down to create a low frequency drone. Slowly, I lead the piece towards my interpretation of deep sleep. As I gradually release the modulation delay and parallel compression (~ 7'20''), the soundscape returns to its initial form, while the drone forebodes the looming fall into the void of deep sleep. The artistic interpretation of the latter, I've tried to achieve by using a short sample of cricket song, and severely time-stretching it while preserving its pitch (~ 8'30''). For this I used the great *PaulXStretch* algorithm, developed by Paul Nasca.<sup>242</sup> The prosody of the oscillating sonic pattern is thus extended from a few seconds to few minutes. The software also allows for the emphasising of certain frequency bands and the attenuating of others. All in all, this makes for the uncanny swells and ebbs, which, at least to my ear, invoke the sense of otherworldly timelessness I associate with deep sleep. The piece ends with a rupture of the stretched sound, spilling over a morning soundscape of birds and roosters. The awaking.

In this first effort in field recording composition, I thus tried to imbue the recorded sound with a particular subjective relationship to it. One could argue, that had it not been for the peculiar nocturnal experiences I had while sleeping submersed in cricket song, I would perhaps never chosen to record and compose with it. Attentively listening to the crickets as I lay at night, as well as to the warping of sounds as I drifted off, was a conscious practice largely informing the postproduction and the narrative structure of the piece. With the cricket-dominated soundscape providing the sonic input, the hypnagogic hallucinations and aural distortion influenced the

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<sup>242</sup> Paul Nasca, *Paul's Extreme Sound Stretch* <<http://hypermammut.sourceforge.net/paulstretch/>> [accessed 26 September 2019].

subjective perception of this nocturnal soundscape. In this way, both the acoustic environment and the listener, are integrated as parts of a holistic event, as experienced from a peculiar standpoint. In postproduction, therefore, I have tried to merge these two horizons into this first soundcastle. Conceptually reminiscent of *Pendlerdrøm* by Truax I mentioned in chapter one, *razhdavitsa ~ 140827* aims to emulate a subjective, real life experience, in postproduction due to the impossibility to capture it using recording equipment. The level of abstraction at times gets quite high, as sounds are modulated and structured rhythmically, and yet they all remain directly connected to their field of origin, both sonically and in the way they were perceived.

### **mauerpark ~ 150510**

This is one of two pieces in the portfolio (the other being *neukölln ~ 150510*) where I've taken signal processing further than in any of the others. Mauerpark is a popular recreation ground in Berlin, where every day people come to relax, play music, and interact. Every Sunday, however, a large flea-market takes place, and along with it, the place bursts with life and activity. Countless street musicians, dancers, artists perform among droves of people. The flea-market area, where I recorded, is an own place within the park, teeming with life, where vendors display everything from vintage clothes, accessories, and furniture, to art- and craft-work, record collections, hand-made fashion and cosmetics, and much more. Huge crowds of visitors squeeze in through the narrow alleys in a steady, yet relaxed pace. The sonic environment shifts constantly, as one moves, along with the sights, smells, and atmosphere.

Unlike most pieces, again with the exception of *neukölln ~ 150510*, the structural approach for the field recording was through a moving spatial perspective, as I joined the flow of people through the market while recording. This was a choice I made based on the way one normally experiences the place. Markets are dynamic, not static places, where most people move about in a sort of a crowd-paced dance. Sonic scenes shift, as gravel turns to asphalt, vinyl stalls blasting soul and techno follow soul-spilling street musicians, and open spaces bottleneck into incense-infused confined dead-ends. Therefore, it felt unnatural (and unpractical) to try to lock on a spot amid the sea of people strolling about. Thus, I put on the XY stereo microphone capsule on my handheld recorder and joined the flow. The lo-fi acoustic horizon here was much shallower and denser than in the previous piece. While all sounds in the composition are once again harvested from one single field recording, the postproduction is (in hindsight) rather heavy-handed and the level of abstraction approaches a sort of an acousmatic rave. The reason for that is twofold. First, it being the second piece I worked on, I wanted to explore the range of possibility and learn more about my aesthetic boundaries. Due to the density of sonic information in the original recording, I felt like it can be taken far beyond its original sound. If leaving a recording raw and unprocessed is one end of the spectrum (phonography), I wanted to find out where the other end lies for me (abstraction/virtual soundscapes). By finding a broad range, I felt I would be better able to narrow down and define the set of limitations necessary in order to produce good work. Also, around that time I had listened to

Matthew Herbert's records *One Pig* (2011) and *One Club* (2010), and wondered what I would be able to do with the sounds of a busy park.<sup>243</sup> So I took transients and processed them heavily into a beat and effects, while tonal and vocal bits I transformed into melodic elements. In this sense, I used sounds much more as *objet sonore* than soundmarks and keynotes. Yet, while I was inspired by Herbert's work, I nevertheless wanted to try and feature the contextual sonic environment in a way that grounded the composition and maintained listener recognisability of the field, as Truax had suggested, as well as maintain a robust connection between the sounds and the market. I intended to try and tether abstraction to phonography by both transforming the sounds and using them as sound objects, while at the same time having them live in the acoustic environment where they were recorded.

The second influencing factor was my recent moving to Berlin in order to continue my research. Arguably the electronic music capital of the world, Berlin's vibrant industrial-techno scene instantly fascinated me. This was the first time I was experiencing this music in its natural element and I felt enthralled by it. The ubiquity of its relentless, yet exquisitely crafted, four-on-the-floor follows you everywhere in the city. The Mauerpark was no exception. Stalls, street musicians, cars, even bluetooth speakers from people on bikes, blasted pulsating tracks that pulled me as if with hooks on a string. Unlike any other places where I've lived, Berlin seemed infused in electronic music. For me it was a lingering vacillation between listening-in-readiness and background listening, to use Truax's terms. Thus, by the time I made the field recording, I was drenched in this sound and it felt as if the whole city somehow pulsated—subdued by this subterranean beat—whether you heard it or not.

I thought that if this strong sense haunted me anywhere I go, it should as well spill over into my work. Thus, I used the sounds I extracted from the field recording to create a palette which, arranged together, references this permeating beat culture. I also inverted the structure when it comes to form. Namely, in my previous piece (and in the subsequent one) I start with the natural soundscape of the raw field recording, and gradually transform it towards a subjective perception of the place. Here, I decided to do the opposite. Namely, to almost instantly introduce the pounding groove, which bears little resemblance to the field recording, and let it run its course. Then, about one-third into the piece (~ 5'), the beat disintegrates into the original field recording. In that middle part, the field recording is left largely natural and all key sounds of the groove palette appear one by one in their natural context. This technique mimics what is known as the 'waterfall effect,' signifying the repetition of episodes in one's memory soon after an event has occurred.<sup>244</sup> Then, after a few-minute walk on gravel among vendors, musicians, craftsmen, slowly but surely the groove takes over again (~ 9'15'') and remains till the end. In this way the end connects with the

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<sup>243</sup> In these records Matthew Herbert uses field recordings from, respectively, a pig farm and a night club before opening hours to produce records which bare little sonic resemblance to the original field recording. While I wasn't quite sure where my aesthetic sensibilities stood in relation to this acousmatic approach, I felt I needed to know how to do it.

<sup>244</sup> Barry Truax, 'Genres and techniques of soundscape composition as developed at Simon Fraser University', *Organised Sound*, 7(1) (2002), 5–13 (p. 11).

beginning to create a cyclical shape. In fact, the raw field recording track underlies the whole piece, while the beat-heavy part comes in and out of it. This was a way for me to explore the connection between direct perception and aural imagination. In direct experience it is not always clear when one informs the other and to what extent they mutually influence each other. Sometimes perception is overlaid and affected by imagination, and sometimes it is imagination that collapses into phenomenological perception. Thus, with the structure of the piece, I wanted to probe how it'll sound if these two are made to flow in-and-out of each other, as in the Taoist yin-yang symbol. In the original liner notes to this piece I wrote:

Conceptually, this was an attempt to represent the inseparability of inner impression/ interpretation of (sonic) experience, from the impersonal 'outer' soundscape. It is an acknowledgement of the fact that a soundscape is never heard from everywhere, but always transformed through the prism of a particular personality, culture, expectation, etc. The interpretation and the soundscape, therefore, arise together in a unique inseparable whole for everyone present. The boundary between what is 'out there' and what is 'in here' thus becomes rather problematic and amorphous.

When I first thought of creating soundcastles from urban field recordings, markets were one of the first places I thought worth exploring. Having spent few months in Berlin prior to starting on this research, I'd seen how popular and dissimilar the various flea markets in the city were. I thought of them as nodes of social activity, bringing together a disparate, yet cohesive, community. Always crowded, to me they presented a self-organised multicultural space where people came to exhibit and purchase pieces of art and handicraft, fashion, music, etc. Most of all, I felt, people came to be together, exchange ideas and objects, and nurture the senses. In the case of the Mauerpark in particular, which is located squarely on the border where the wall separated former East and West Berlin, I also had a sense of historical significance of this communal gathering. The free-spirited nonchalant atmosphere felt to be in such stark contrast to the not-so-distant past when such an assembly would have been utterly unthinkable. There is barely a trace of the impenetrable wall between, what essentially were, two different worlds. Thus, in this case, exploring the boundary between the listener and the environment took a literal turn, as I would traverse back and forth over the markings of where the wall once stood. A lot has been overcome and transcended. Yet not only in politico-economic terms, but also in the cognitive-emotional disposition of the individual. And just as the world is changing as much from within, as from without, I too wanted to find a way to work with environmental sound in a similar fashion. These reflections were part of the inner-scape which contextualised the field-recordings. Becoming aware of them and using them to inform the process was a deliberate effort to try and integrate my subjectivity as a listener into the fabric of the soundscape. It was the fusion of listening and imagination discussed in chapter one.

Having said this, *mauerpark ~ 150510*, being an early soundcastle, is on the heavy-handed side when it comes to processing. In hindsight I notice that with each successive composition, my post-production invasiveness has been steadily decreasing. Someone had prophetically told me at the very start of this research, that I will only learn to work subtly after I've worked crudely. While I

obviously fulfilled the prophecy, the early pieces nevertheless share a common goal with the overall soundcastle project. Albeit somewhat excessive, they aim at accomplishing the same aesthetic/conceptual end and they never lose the connection to the field. In this way, *mauerpark ~ 150510* is a moving-spatial-perspective, highly abstracted, study on the boundary between a colourful, noisy, flea-market in Berlin, and a trigger-happy newcomer to soundscape composition, enchanted by the city, its history, and its vibrant music culture.

## **neukölln ~ 150816**

This is the second Berlin flea-market piece in the portfolio. This time, the field recording was made at a very different place on the other side of town. The spatial perspective of the recording was identical to the Mauerpark one: carrying a handheld recorder with an XY stereo capsule, moving freely through the market. At few spots I close-miked some sounds I knew I wanted to be able to isolate as sound objects and use later in postproduction. Namely, the loud power generators at the edge of the market, and the toy-dogs jumping and ‘barking’ on their linoleum sheet placed on the hot asphalt. If the Mauerpark market is a hip, bohemian, event populated with artists and young professionals, this one at Lahnstraße, Neukölln, is a bustling, oriental, frenzy happening every Sunday on the vacant parking lot of a closed shopping centre. Heaps of clothes, plastic electronics, and home appliances are often displayed straight onto the tarmac. Neukölln has historically been a multicultural district with large Turkish, Arabic, and Balkan communities. The availability of apartments and low rents of the 1990s and 2000s had transformed the area into a bohemian and artistic hotspot. While prices have since soared, Neukölln is still one of the most colourful and sought-after parts of Berlin. The oriental and the bohemian communities tessellate, rendering the district an unlikely cultural blend of people in burqa and in drag living side by side.

Having grown up in Bulgaria, the Lahnstraße flea market instantly reminds me of the atmosphere and sound of markets in Eastern Europe. The loud voices, the scattered oriental music, the orderly disorder, all seem too familiar. This peculiar entanglement of my Balkan-influenced habitus and this West European oriental market has clearly played a decisive role in the way I perceived the place. The subjective form of the piece thus comes out of the ambiguous sense of place I felt, and the cultural dis/connection between two quite distant geographic locales. Odd-meter rhythmic patterns and jubilant melodies are the first association I get when I think of the sound of the Balkans, and so I started working on the piece by experimenting with that. As Barry Truax argues in *Acoustic Communication*, the material in environmental field recordings is not only rich in sonic complexity, but also carries a variety of personal, cultural, and sometimes cross-cultural levels of meaning.<sup>245</sup> He further points out that:

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<sup>245</sup> Barry Truax, ‘Soundscape, Acoustic Communication and Environmental Sound Composition’, *Contemporary Music Review*, (15)1 (1996), 49–65 (p. 60).

These sounds connect listeners to a web of social and other relationships. Instead of ignoring all of those levels of contextual meaning, which are largely lost through treating the sound abstractly, the composer may use the artificiality of electroacoustic techniques to amplify those relationships and bring them into the compositional process.<sup>246</sup>

As discussed in chapter one, listening is never done from nowhere or everywhere, but always from a situated standpoint. Being there, it was impossible for me not to imagine the Balkan markets and atmosphere, and to hear the ambience through that filter. I am very aware that for a local Berliner walking right next to me, the market would sound and feel totally differently. In order to be able to share my ‘listener’s listening,’ I therefore sought to somehow integrate the subjective context of my standpoint perception back into the field recording of the market. Using transients I had extracted from the field-recording, I thus constructed a fluid 7/8 beat which eventually became the pivot of the piece. I later layered it with a flute-like melodic phrase that came from one of the market stalls to create a polyrhythmic 9/8 over 7/8 composite groove.<sup>247</sup> While the whole piece is based on this grid, the composition structure takes an opposite—and perhaps more logical—approach compared to *mauerpark ~ 150510*. Namely, it starts with the unprocessed sound of the field recording and gets increasingly transfigured as the piece progresses. The raw market soundscape opens the piece and after a while (~ 1’13’’) starts to whimsically arrange in subtle patterns; then it suddenly bursts open (3’16’’) and the sound is submerged as if underground. As we emerge towards the surface, the beat grows stronger and more complex, until it reaches boiling point (7’28’’). Lastly, a completely transformed soundscape of euphoric chant and relentless beat marks the most intense part before being suddenly taken back to the original field recording.

This narrative curve was also precipitated by a fascination I had at the time with Mikhail Bulgakov’s *The Master and Margarita*.<sup>248</sup> In it, quotidian life in Moscow, and the elites’ in particular, is slowly but surely turned upside-down and inside-out (often literally) with the arrival of a mystical Professor Woland, who is in fact Satan. This phantasmagorical obliteration of the smug status quo, by a sequence of interventions that go from the subtly naughty to the grotesquely diabolical, had subdued my imagination. When composing this soundcastle, I wanted to see how I could mould and transform the field recording through creative processing, and wreak havoc constructing whimsical forms within its sound. Thus, in terms of process, there were already multiple subjective influences. This again refers to the earlier discussion on what it means to be somewhere and to listen. Where is the subject with respect to the object, and where lies the distinction between the two? As demonstrated with this piece, I have argued that listening and composing are processes of integrating the subjective perspective into the sonic environment. A reflexive approach, which seeks awareness of biases and influences, opens up a level of agency in

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<sup>246</sup> *Ibid.*

<sup>247</sup> While the beat builds very gradually, it can be heard as fully developed around the six minute mark. I also attach a short sample of the 7/8 part as an extra track.

<sup>248</sup> Mikhail Bulgakov, *The Master and Margarita* (Richmond: Alma Classics, 2013).

listening and composition, that facilitates the consolidation of the two horizons. As psychiatrist and neuroscience researcher McGilchrist argues:

One way of putting this is to say that we neither discover an objective reality nor invent a subjective reality, but that there is a process of responsive evocation, the world ‘calling forth’ something in me that in turn ‘calls forth’ something in the world ... as music arises from neither the piano nor the pianist’s hands, the sculpture neither from hand nor stone, but from their coming together.<sup>249</sup>

As mentioned above, there are three distinct parts that make up the structure of the piece. The opening part utilises a technique I’d been trying to refine. Namely, to seamlessly fish out individual sounds from the field-recording in order to then subtly organise them into patterns within the otherwise intact soundscape. I take clinks and clanks from dropped objects, bicycle rattles, clicks and other sounds heard. My effort here was to come up with techniques which make the intensity and phantasm of the transformation as inconspicuous as possible. After a minute or so of unprocessed sound of the eclectic market, I begin to delicately reiterate the extracted transients within the recorded soundscape. Having set my grid to a 7/8 meter at 90 BPM, I begin experimenting with organising them in complex, yet subtle, patterns. Thus, already early on, I start introducing accents and pulse which will ultimately develop into the polyrhythmic beat I mentioned earlier. Thus, through an arranged repetition of already-occurred sounds, the opening soundscape is gently transformed into an abstract groove of pulsating tapestry.

The second part of the piece (~ 3’16”) comes abruptly after the swish of a passing car culminates in a burst that throws the soundscape in a surrealistic ‘sub’ dimension. The low frequency rumble is a filtered sound from the above-mentioned diesel power generators placed around the perimeter of the market to supply electricity to the stalls. As the part progresses, the filtered soundscape returns to a full-spectrum frequency range, as the percussive rhythmical pattern increases in complexity and intensity. The ardent flare of the market is once again presented with its eclectic mix of languages and sounds, this time cast within an abstract groove which itself is made of these sounds. Lastly, the third part of the piece comes after yet another escalation, where the soundscape enters its most sublime form. High-pitch incantations alternate with staccato sounds in a seeming call-and-response, all underlined by a relentless beat. The high-pitch sounds in fact appear throughout the piece and are the extracted ‘barks’ of those tiny battery-powered plush dogs I mentioned above. Processed in this way, these sounds remind me of the falsetto rolls vocalised by women in oriental cultures during moments of joyful celebration. The mid-range staccato sounds, which respond to the ‘rolls,’ also appear consistently throughout the piece and are made of short car-horn bursts fished out of the field recording. The beat is the same as in the second part, yet now further compressed and accentuated. With this third part I wanted to re-territorialise the piece by referencing the symbiotic amalgam of the oriental and the hedonistic cultures that co-inhabit multicultural Neukölln

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<sup>249</sup> Iain McGilchrist, *The Master and his Emissary: the divided brain and the making of the Western world* (New Haven: Yale University Press 2010), pp. 133–4.

within techno-mecca Berlin. Finally, another car swish wipes out the surreal soundscape and leaves us back on the parking lot. The market now closing; vendors and vans departing; a place of throbbing vibrance once again rendered vacant and still.

### **terreiro do paço ~ 160222**

This soundcastle was in many ways a turning point in my composition practice. For the first time, I found myself at the centre of a spontaneous sonic ‘performance,’ which dynamically presented itself in an already beautiful and almost complete form. Unlike my previous field recordings where the recording was planned and deliberate, this time it was the sound of the place where I happened to be by chance, that beguiled and subdued me. Luckily, I carried my recording equipment with me, so I simply took it out and started recording. I used my handheld recorder with an XY capsule on, statically at a spot, for the duration of the recording session. It took place at an empty-at-the-time ferry terminal called *Terreiro do Paço* in central Lisbon. Since the city is divided by the river *Tejo*, commuting by boat between different parts of town is part of the regular public transportation. During an afternoon hiatus in water traffic, the space was free of passengers and so the sounds of the terminal building came to the fore. The latter comprises a large hall, similar to any bus/train station, from which protrude two steel bridges for embarking and disembarking the boats. On their shore side, these bridges pivot fixed to the main hall’s floor, while by their water side they float on buoyant barrels over the river. The oscillation of the water is thus transmuted onto the seesawing bridges, their heavy steel structures whimpering and squealing as they twist and rub against each other. As I start the recording, the water is relatively calm and so the ‘moaning’ of the bridges is even and without agitation. Due to the relative regularity of the perturbations, as well as the restricted movement of the structures, the melodic phrases produced by the steel seem to repeat with variation, reminiscent of composed music. Then, with the passing of a ship in the distance, the incoming concentric waves ruffle the water causing the bridges to twist ever more violently. The now stormy waters and the bouncing structures gradually gain in amplitude and turbulence, overpowering the soundscape. The collision of waves and steel cause sporadic clashing of the bridges, producing a deafening thunder. This goes on for some time, until soon enough the water begins to calm down and the sounds gradually grow less aggressive and tumultuous. Until finally the field recording ends with a once again peaceful terminal. This dynamic unfolding of events reminded me of Tim Ingold’s point about sound pervading the world more like light and weather, than surfaces and landscapes (Page 25). Now, the passing of a ship in the distance not only sends out sound waves, but also waves in the water, which then themselves transform into sound waves as they reach the shore. The recording was thus a direct illustration of the correlation between the movement of physical objects through space, and the transformation of part of the energy that propels them into sound. For the first time in my work, the soundcastle I composed of this field recording temporally traces the natural course of physical events. Rather than being composed of multiple sonic chunks through editing, this soundscape documents a time-consistent sonic dimension of a physical situation. The whole piece is largely made of one continuous field-recorded

track.<sup>250</sup> The narrative curve and structure of the composition, therefore, is identical to the way sounds dynamically occurred in time. The duration of the field recording and the duration of the soundcastle are more or less the same.

In postproduction, I stratified the stereo track using band-pass filters into three frequency bands (low, mid, and high) and worked on adjusting the crossovers and relative amplitudes to avoid audible phasing. The technique of splitting a recording into copies in order to process each separately is known in signal processing as ‘parallel circuit,’ and has often been utilised in soundscape composition.<sup>251</sup> The separation into frequency bands was something I decided to experiment with in order to be able to create different levels of abstraction through the ratio in which each band is mixed with respect to the others. By putting them on three different tracks, I could process each separately, and/or in pairs, to achieve the desired result. By accentuating or attenuating frequency bandwidths I could dynamically shape the soundscape through automation so as to better serve the sonic situation. The subjective impact of listening to this ‘found soundscape’ in situ was uncanny and overwhelming in a way that the raw field recording did not quite give justice. I set about to reproduce the intensity of the scene by trying to approximate its dynamic range and energy. Further, by applying dynamic filters, tape saturation, and modulated delay, I could create subtle layers of complexity in the composition to augment the acoustic tapestry and enhance the listening experience. When deeply listening, I’ve noticed that the selective ‘mix’ my ears produce by favouring some sounds over others often renders phantom sonic artefacts (or patterns) which I am never quite sure if only I hear or are really ‘out there.’ The microphones, having a different ‘ear,’ capture sounds and sonic relationships indifferently. Therefore, in postproduction I try to make up for this by re-creating such subtle patterns through shaping the sonic information available. In this way, the ‘prosthetic ear’ of the microphone and the ‘organic ear’ of the body could be brought closer together through imagination and the means of postproduction. Perhaps someone, with a more minimalist inclination than I had at the time, could argue that the material is strong enough as it is, and doesn’t require this amount of processing. Perhaps even, this someone could be me at a later point in my practice. Yet it often proves difficult to analyse choices in hindsight, as they are of their time and it is problematic, if not impossible, to take into consideration the context in which they were made. Yet, what is certainly true is that compared to my earlier pieces, my intervention here was much more restrained. As I wrote earlier, this soundcastle proved to be a pivotal one for me, not least because for the first time I had a taste of what it was like to stumble upon an acoustic event which was uncannily musical and diverse in its natural occurrence. A composition composed by no one. It was as if the two steel bridges were the musicians, unwittingly entangled in some mesmerising instrumental dialogue. All I had to do is be there, press record, and listen. Thus, compared to the first pieces discussed above, composing this soundcastle felt like my job was to stay out of the way as much as possible. It is clear, nevertheless, that this was but a first step towards a more minimalist approach to my work with field recordings.

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<sup>250</sup> I’ve only applied minimal editing to clean out extraneous artefacts, such as handling noises.

<sup>251</sup> Barry Truax, ‘Genres and techniques of soundscape composition as developed at Simon Fraser University’, *Organised Sound*, 7(1) (2002), 5–13 (p. 9).

It is interesting to question how this inclination of my aesthetic preference to gradually shift away from heavy editing and processing arose in the first place. By the time I worked on this soundcastle, I was already involved in the experimental music scene in Berlin, frequently attending concerts—often as a listener, sometimes as a performer. Thus, I’ve been exposed to pieces by, among others, the Wandelweiser composer group, Konzert Minimal, and the Sacred Realism label, most of which dedicated to exploring the exquisite fragility of silence, as nestled in subtle tones, pulses, harmonics, and textures. I was at once captivated and puzzled by the experience. Comfort and discomfort came hand-in-hand, raising disquieting questions while nurturing with peace and quiet. I had already felt the absorbing appreciation of delicate sounds wrapped in silence on that fateful soundwalk in Slovenia, but in Berlin it was taken much further and deeper. Here I found a robust scene, and a tradition of music composition and performance, that deals with the subtle-most sonic prosodies and interactions. Since appreciation and creation are two very different things, however, it took quite a while for my practice to reflect this aesthetic, despite my fascination with it. I somehow couldn’t seem to produce anything minimal, either in sound or in approach. In some ways, I still haven’t. But working on *terreiro do paço ~ 160222* certainly opened a door towards a less interventionist approach and the possibility to achieve more through less. Yet the seedlings for this had been sprouting long before they started to manifest in my work. And they had enchanted not only my taste in music, but also my interest in minimalist architecture, photography, design, etc. I was thus excited to find out that, as I mentioned earlier, the inception for Schafer’s WSP which had spawned the fields of acoustic ecology and soundscape composition, was itself inspired and modelled on Bauhaus—the German minimalist school of architecture and design. Still this approach was yet to find a way into my composition work. What working on *terreiro do paço ~ 160222* taught me was that it was possible to find situations where what I hear already sounds very close to what I imagine the composition will eventually sound like. The two horizons in some situations are closer to one another than in others. And from then on, having tasted it, I began to look for such sonic encounters. Since one can only stumble upon them, and not purposely go find them, looking for such found compositions simply meant to try to always have my equipment with me and to listen to the world as intently as possible.

### **mälarhöjden\_tbana ~ 160311**

Coming home one winter night in Stockholm, I was struck by the sound of the escalator hall at the metro station close to where I was staying. Due to the late hour, there were hardly any people at the station, and the mechanical march of the three neighbouring escalators filled the space. While still functioning well, they had seen many years of service, and so the times of smooth and even operation were over. Now they locomote with clack and quiver, in a nattering of constant flux with one another. As I approach them from the empty platform, two of the three stand idle and quiet. I set my foot on the aluminium landing and a somewhat unhurried, yet determined, trundle launches them in motion. As I am taken up, percussive patterns fill the space. The three machines, though physically disconnected, combine their beat into a complex rhythm that dynamically shifts. It further bounces off the tiled walls and flutters back to rejoin the whole. The three escalators, having similar speeds but dissimilar timing, beat in tempos which come in and out of phase, waxing

together and ebbing apart. I take out my equipment and sequentially record from everywhere I can as I move up and down the hall: close-mic the base downstairs, ambience from a few steps away, riding up and down, and standing up onto the base above. I record continuously as I move around, and up-and-down, the hall. As I leave the station, I hear a helicopter in the sky, and wait for it to disappear before I hit [stop] on the recorder.

In terms of compositional approach, this soundcastle is a small step further in the direction of minimal intervention and structuring. Its backbone is a stereo track of field recording that is as long as the duration of the piece, and was recorded both statically and in motion—riding on the escalator. Along with the main track, I have placed two different long segments of percussive patterns, which I recorded closer to the base of the escalator. These segments I've panned hard left and right, and looped, to create a dynamic stereo effect. As the piece progresses, all three combine to create constantly shifting rhythmic structures, as did the three escalators themselves. There is no quantising or other manipulation of the patterns. I measured the tempo averaging around 106 bpm, and set my grid accordingly, before placing the three tracks and letting them run their course. I've left irregularities, fluctuations, and wobbling as they occurred. Finally, I've used some resonant filters, subtle modulation, and tape saturation, to introduce harmonics and additional sonic movement to the sides, while the mid ploughs through. These layers give added complexity to the acoustic field, while being made of the same recording as everything else. As I've argued earlier, to me these mimic the phantom sonic artefacts, which the ear picks up (or makes up) in complex acoustic environments. All these elements combined give this piece its core industrial sound and layered texture.

One thing I've always found fascinating with escalators is their relentless directionality. Once you step on, there is no going back: you will be locomoted to the other end regardless. One often sees the alarm on faces looking back, just realising they're riding in the wrong direction. At any given moment on a crowded escalator, there are those who belong, and some who want to turn back but can't. Further, if one wants to move faster ahead, the path is often obstructed by others who don't. So differences average out, the pace is steady, and the direction—fixed. In this way, escalators are at once democratic and deterministic contraptions. While I'd made the field recording months earlier, I was working on this soundcastle around mid November 2016. The shocking result of the recent US presidential election, following that of the UK referendum, had caused me considerable emotional and psychological distress. My outlook on the future was grim. It felt like all of us, dissidents and conformists alike, were all trumping each other toward a mechanistically determined catastrophe. And the respective elections have taken us all on this one-way escalator ride with no recourse. Powerless, all we could do is brace and wait for the conveyer-belt to run its course. This sense of anxiety and doom certainly influenced the sound of the soundcastle and informed its monotonous dystopian atmosphere. Postproduction had enhanced the original field recording, but the heightened emotions of that period had also enhanced my senses. As discussed in chapter one, it is such subjective reflections that contextualise a listening within a particular standpoint, and it is these that a composer must be cognisant of and try to incorporate somehow into the sound if they are to try and share a listener's listening. The way I was hearing and relating to the field recording at the time carried that ingressing angst and shaped the composition process. As I wrote in the early liner notes to the piece:

The overall industrial sound and mechanistic structure of the piece are pinned against notions of free-will and choice, as escalators stand in relation to the humans they are designed to serve. Perhaps the social forces that drive humanity are comparable to the greater physical forces that drive the escalators: impersonal, impartial, and beyond our control.

The idea of free-will is one of those byproducts of our shared cultural convention, that are quite difficult to reconcile with the haphazardness of both external and internal phenomena. As philosopher Arthur Schopenhauer so succinctly put it, [*d*]er Mensch kann tun was er will; der kann aber nicht wollen was er will.<sup>252</sup> Agency in this sense, while real, is beyond the control and navigation of the individual. The will has a will of its own, to paraphrase Morrissey. One simply ends up having certain dispositions and preferences, favouring certain aesthetics, hearing in a certain fashion, and all those make up the subjective form of one's agency. But that these appear exactly in the way they do, and not slightly (or significantly) differently, I would argue is beyond the reach of one's will. In the case of *mälarhöjden\_tšana ~ 160311*, the cold, machine-like, sound of the field recording seemed to resonate well with the gloomy state I was in. In a positive feedback loop, my dim disposition was affecting the way I processed the sound, while itself being amplified by it. Would I have heard it differently, had my mood been different? Quite possibly. Did I choose my mood? Hardly. My point here is that perhaps we must view the process of soundscape composition as the elemental coalescence of external and internal processes, both of which lie beyond the control of the listener/composer. If, as Truax has suggested, 'one is both composing and being composed through the sound,' then it follows that neither exists prior to this process, or at least not quite in the form they do afterward.<sup>253</sup> In other words, as a composition becomes, so becomes a composer. This seemed to be my impression as well, for with each soundcastle I explored a different way of working with the sonic environment, and a different way of hearing it. Thus, each sonic engagement was a new way of being in the world and listening; a new I.

## arkutino ~ 160906

Arkutino is a beach on the southern Black Sea coast in Bulgaria. I happened to be there on a warm, yet very windy, day in September 2016. Apart from my friends, people on the beach were few. As we savoured the receding summer sun, we lay on the sand in silence. One of us was sitting with a nylon-string guitar in his lap without playing it. All of a sudden, he called me up to share his astonishment with the bewildering sounds he heard coming out of the instrument. As I went up to him, I was transfixed by beautiful harmonics, fortuitously weaving out of the sound hole. We soon realised that as the wind filled the guitar's body, it agitated the wood and the strings, causing them to resonate and sing. Untouched by hand, the instrument responsively followed the vacillating gusts, as single tones, intervals, and triads filled the air about. On Truax's continuum, one could argue this recording would be one of only two pieces in this portfolio (along with the extra track *Fields of Resonance*) which lies to the left of phonography and towards sonification. It is essentially

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<sup>252</sup> 'A man can do what he wills; but cannot will what he wills.' (my translation); Arthur Schopenhauer, *Aphorismen zur Lebensweisheit* (Wiesbaden: Marix, 2010), p. 53.

<sup>253</sup> Barry Truax, 'Soundscape, Acoustic Communication and Environmental Sound Composition', *Contemporary Music Review*, (15)1 (1996), 49–65 (p. 60).

wind intensity sonified by a resonant acoustic instrument. So if the first pieces approached the right end of the spectrum—abstraction in direction of acousmatic sound—this piece is a step this research takes towards the opposite end. By that time I had made a point to always carry my recording equipment anywhere I went, but this day I had luckily also brought a DIY windjammer, which I had made about a week earlier. I immediately ran to my bag, set up the microphones and started recording. For about 20 minutes we stood still. When my friend ran out of patience, I went up closer to the sea and continued recording the ambience of the beach for a few more minutes.

Despite the windjammer, the field recording was interspersed with unusable bits due to the wind overwhelming the microphone capsules and preamps. It took painstaking editing and audio repair, but I eventually managed to get enough of a continuous signal from the field recording to make the soundcastle. Apart from cleaning out the hisses and plosives, however, I've preserved the temporal integrity of the recording. I strived to keep the tones continuous and follow their natural wavering and transformation. The whole soundcastle is therefore the original stereo track from the field recording, minus the bits that had to be cut. As far as composition and processing, this piece is perhaps one of the most minimalistic ones in the portfolio. My interventions have been as subtle as possible, trying to serve the aesthetic qualities of the recording. One thing I did was necessitated by the editing work. Namely, the ambient sound of the beach around the harmonics was unevenly punctuated by the cut-outs and subsequent stitching, in a way that didn't sound consistent and natural. I tried to minimise the jaggedness using high pass filters, fades and curve adjustment, etc., but it remained a problem. To remedy it, I used the ambient beach recording I did after we lay down the guitar, made a continuous track of the same length as the main one, and set it to carpet the piece. As I recorded this ambience closer to the sea, the sound of the water masks the unevenness of the background ambience of the guitar harmonics. This also contextualised the piece better and gave consistency to the overall sound, allowing for an uninterrupted immersion in the composition. Finally, using tape wobble and flutter, I've introduced very subtle artefacts in the panoramas in order to further 'glue' the piece together by masking any remaining irregularities from the audio repair process. Barely audible, these also complement the eerie feel of the soundcastle, contributing to its hypnotic sway. Following the direction set by *terreiro do paço ~ 160222*, this piece is few steps further into an ethos of leaning into the natural process and trying to stay out of the way, letting sounds be themselves. Yet this only seems effective when accident and fortune align in such a way, that recording and composing largely overlap. To once again use an analogy from photography: a photograph taken in the decisive moment, in perfect light conditions, and from the right vantage point, does not require extensive postproduction. Yet it requires mindfulness and preparation, as well as luck, in order to be made possible. Mastering this is an art in itself, and—after waking up to the possibility of it—one I set out to pursue.

This also resonated with my fascination with self-organisation and self-similarity within the free play of nature, as well as the philosophy of process whereby the universe is always moving towards the creation of novelty. By relaxing the dominant agency of the composer, the world astonishes with emergent textures and beauty, created by no one and to no end. The listener's standpoint is only a node within a dislocated network; but still a node for which 'it is like something' to be listening from. As philosopher and literary critic George Steiner argues about Heidegger's phenomenology:

Man is only a privileged listener and respondent to existence ... It is a relation of audition. We are trying 'to listen to the voice of Being.' It is, or ought to be, a relation of extreme responsibility, custodianship, answerability to and for.<sup>254</sup>

It takes a certain way of being for a certain way of listening to emerge. One cannot rush around and 'grab' sounds, as if they are bounties to be had. It is more a process of pausing thought, quieting down, and merging with the space in which sounds occur. In my view, deep listening, as coined by Pauline Oliveros, is the remedy for hastiness, carelessness, and imposition. There is indeed a certain sense of intrusion, or a feeling of 'being a guest,' as one sets about capturing a sounds in the field. One has to be quiet, as though not to disturb. And also, there is a sense of urgency related to the ephemeral nature of sounds and the fleeting beauty of a sonic moment in 'perpetual perishing,' to borrow Locke's expression. What is needed, therefore, is a way of connecting our Being with that of our environment; a 'tuning of the soul' as it were.<sup>255</sup> 'The common bond is astonishment,' Steiner argues, 'in astonishment we restrain ourselves (*être en arrêt*).'<sup>256</sup> Sounds are not just 'there' as fruits to be picked from a tree. Sounds live. And the only way to approach them is to live with them; to establish a relationship; to give attention, care, and value. The world appears and presents itself ever new, and ever incomplete, to each particular standpoint. The more one rushes to capture all, the more one misses all. This is beautifully illustrated by the zen garden of Ryōanji, which inspired John Cage to write a series of compositions based on the garden's design.<sup>257</sup> It is a Japanese rock garden (*karesansui*) consisting of fifteen boulders placed in small formations within a large sweep of carefully raked small pebbles. The boulders are placed in such a way, however, that one can never see all of them at once. One or more of them always remain hidden, as eclipsed by others, and the particular distribution of boulders in space is always contingent upon the particular vantage point. One has therefore always a limited perspective over the garden, despite the fact that it is mostly empty space. As McGilchrist comments on the subject, '[t]here is no single privileged viewpoint from which every aspect can be seen.'<sup>258</sup> Only after one accepts this fact, does the possibility for a cessation in seeking arise, and the astonishment that may come with that.

Recording *arkutino ~ 160906* was such a moment of astonishment and *être en arrêt*. My friend and I both stood still and lived each tone as it funnelled out of the sound hole and eddied the air about. The wind played the guitar. The guitar played the wind.

## Rua da Paz

This piece is the odd one in the bunch, as indicated by the different title format. I composed it in September 2016, for an international competition for soundscape composers, called *Viseu Rural 2.0*,

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<sup>254</sup> George Steiner, *Martin Heidegger* (Chicago: The University of Chicago Press, 1978), p. 32.

<sup>255</sup> George Steiner, *Martin Heidegger* (Chicago: The University of Chicago Press, 1978), p. 31.

<sup>256</sup> *Ibid.*

<sup>257</sup> Stephen Whittington, *Digging in John Cage's Garden; Cage and Ryōanji* (Adelaide: Penerbit Universiti Pendidikan Sultan Idris, 2013).

<sup>258</sup> Iain McGilchrist, *The Master and his Emissary: the divided brain and the making of the Western world* (New Haven: Yale University Press 2010), p. 151.

where it made the official selection list.<sup>259</sup> Based in the Portuguese town of Viseu, it is a competition for pieces made from field recordings of rural Portugal. Each participant must select one or more tracks from a large database of high-fidelity recordings compiled by *Binaural Nodar*, and use those exclusively to create a piece of a fixed ten-minute length.<sup>260</sup> In line with my practice, I decided to choose only one track, and use that to make the whole piece. The recording I selected was named after the place where it was made: a bus stop on *Rua da Paz* street in the small settlement of *Barreiros*. The track features no audible voices or other anthropogenic sounds, except a brief passing of a vehicle. Pouring rain inundates the soundscape, intermittently bejewelled with birdsong. Occasionally, heavy raindrops hit a sonorous metal object (perhaps a trash bin, or a tin drain), producing sharp, bullet-like, transients.

Since I hadn't made the recording myself, I had no direct subjective experience of the place. As discussed in chapter one, the connection between the composer and the environment is essential, and in this case it was exclusively aural. As Hildegard Westerkamp argues, in cases of using recordings made by someone else, the composer 'is working within a schizophrenic stance, and creating a new schizophrenic experience.'<sup>261</sup> The physical space suggested by such recordings, as far as the composer is concerned, originates in the speakers.<sup>262</sup> All contextualisation and connection of the composition to the field of origin then can only happen in the composer's imagination. An entirely fictional place must be created, and nevertheless one that has its roots in the physical world.<sup>263</sup> I had to foster this connection and try to situate it via as many reference points as possible. Therefore, I immersed myself in the recording and let an approach, or a course for composition, emerge freely from that. I also had the piece of information about the name of the street and place of recording from the filename. From that I found the geographical spot using Google Maps and used the street view mode to have a virtual walk around. It looked like a peaceful rural settlement with small houses around a main road where the recording was ostensibly made. The name *Rua da Paz*, translates from Portuguese as 'Road of Peace,' or 'Peace Road.' This information, together with the soothing sound of rain, resonated. About one minute in the recording however, the above-mentioned bullet-like transients become prominent in the sound, and give a certain sense of discomfort or unease, which acts as a counterpoint to the otherwise serene scene. Around the time I worked on this composition, I was experimenting with a piece of software by *Sinevibes* which randomises panning to create a surprisingly organic-sounding lateral sonic movement. The software utilises Lorenz's strange attractor equations to emulate the naturally arising complex patterns within dynamic systems of chaos. When gently applied over the sound of rain, I noticed it gave the rain motion and unity, which was strongly reminiscent of ocean waves. The swells and ebbs of amplitude and panning convincingly formed pictures of a sea shore in my imagination. Going back to the name of the street where the recording was made—Peace Road—I thought I can use all these sounds to form the structure of the piece. At a time in history when immigration and cultural rifts

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<sup>259</sup> *Viseu Rural 2.0 International Competition*, <<https://www.viseururalmedia.org/concurso-internacional/>>, [accessed 26 September 2019].

<sup>260</sup> *Binaural Nodar*, <<https://binauralmedia.org/news/en/>> [accessed 26 September 2019].

<sup>261</sup> Hildegard Westerkamp, 'Linking soundscape composition and acoustic ecology', *Organised Sound* 7(1) (2002), pp. 51–6, p. 55

<sup>262</sup> *Ibid.*

<sup>263</sup> *Ibid.*

are a major source of violence and widespread socio-political turmoil, making a piece based on the idea of correlating peace with unity and integration, rather than alienation and isolation, seemed poignantly relevant. Namely, if the road to peace can be conceptualised as an evolutionary movement from alienation and tribalism to unity and togetherness, then I could use the field recording to present this idea. In that way, the sound of the recording, together with the technology and the information at my disposal, could all converge on the piece and form its unique sound and structure.

The piece has three interconnected parts that form its sonic structure. The first part prominently features the ‘heavy’ raindrop transients I mentioned earlier. By using a gate, I’ve singled them out and placed them loud and bare above a quiet ambience. The resulting bullet-like sounds thus aim to maximise the sense of discomfort and angst, as set in stark contrast to a subdued background. Through its punctuated sonic execution, the opening part references the idea of belligerence born out of alienation. When isolated from the whole, the raindrops lose their integral part in the rain and become hostile- and harsh-sounding. As the piece progresses, however, I automate the gate threshold to gradually open and let more and more drops in. The more the drops, the less the discomfort. The sound—now approximating a drum roll—thus gradually transforms from individual ‘shots’ to a soaking rain. The second part of the piece has commenced, and in it, the gate is fully open and the rain is featured as originally recorded. The soothing quality that many people associate with the sound of rain is further enhanced by birdsong. To me, the sound is at once ordinary and beautiful. With regard to the conceptual idea, this references the safety and calm found in integration and unity. Thus, as we move from part one to part two, a certain sense of relief and relaxation can take place. Finally, part three slowly transforms the rain into an ocean. Using the above-mentioned *Sinevibes* algorithm, I gave the rain a unified pan-amplitude motion. As the rain starts oscillating, as if moved by a common force, it starts to naturally resemble the sound of a sea shore. Conceptually, this completes the *Rua da Paz*, by following its evolution from individual raindrops of alienation and isolation, to the pouring rain of unity and integration. And finally, as I’d written in the original liner notes to the piece: beyond is the ocean. Beyond is peace.

### **hissar ~ 170104 (knowledge is better than ignorance)**

Hissar is a small town in central Bulgaria built on the ruins of the ancient Roman city of Diocletianopolis. Strolling on the outskirts of town, I stumbled upon a power plant, which saturated the unpopulated area around it with extraordinary sounds. A mains electricity drone (50 Hz), apparently coming from two huge generators, carpets the soundscape. High on top of it, high-frequency tones, between ca. 8kHz and 20kHz, comb the air. A picture of the spectrogram of the field recording below (Fig. 1.) shows the peculiar frequency distribution and pattern. In the middle of it all, the sound of ordinary life flows through: human voices, dogs barking, woodwork, cars passing by. One aspect I found especially interesting was that, unlike most of my other field recordings where musical events happen against the backdrop of an ordinary environment, here it was the other way around. Namely, it is the constant musical event that provides the backdrop, over

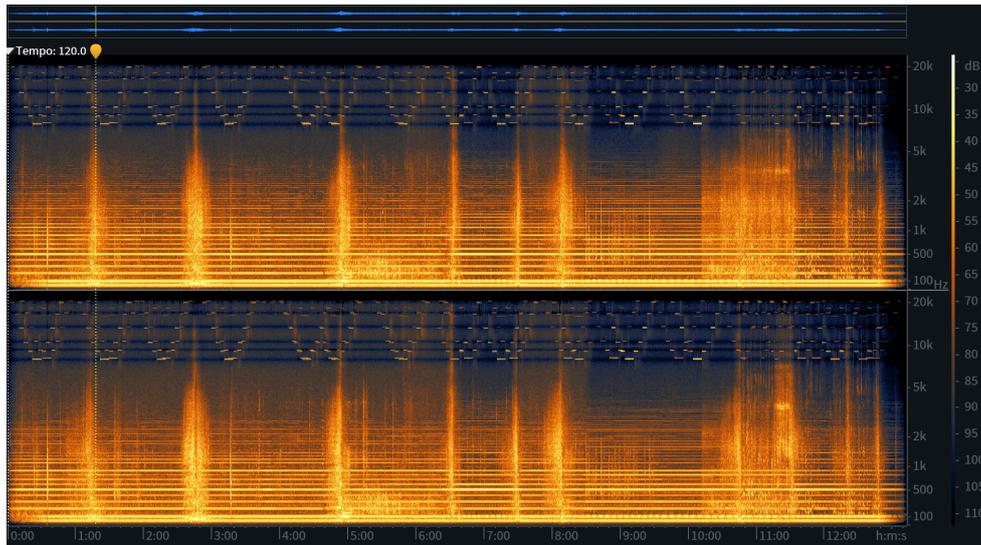


Fig. 1. Spectrogram of *hissar* ~ 1701014

which ordinary affairs come and go. This also makes for the fixed-spatial perspective of the composition.

This piece is perhaps the closest to the original field recording of all in the portfolio. The tendency in my composition practice towards an increasingly minimalistic approach is thus most pronounced in this last composition. For the first time I recorded two stereo tracks simultaneously: an XY stereo and a binaural stereo. In postproduction I used both in order to create a sonic image which had an enhanced spatial resolution, which doesn't collapse on speakers. Tweaking levels and stereo-width, I managed to combine the two signals in a way that didn't produce significant phasing or sonic image issues. Due to the sensitivity of the binaural mikes, a cable rub on my jacket or any other noise I made was instantly recorded interrupting the continuity of the soundscape. For this reason, I had to stand completely still for the duration of the recording session. While a nerve-wrecking challenge in its own right, it also raised some eyebrows when cars driving back and forth on this empty road, pass by a dark 'silhouette of a man,' fixated on a powerplant as if frozen in time. Hence the perplexed shout from a man in a passing car midway in the recording (~ 8"), asking what the hell I am doing, yet disinclined to wait for an answer. There is very little signal processing, and the editing work was mostly focused on cleaning up handling noises and cutting the recorded material to a suitable length.<sup>264</sup> One of the editing challenges was due to the constant mains drone, which makes the seamless crossfading of parts a phasing nightmare. After trying to surgically match, mismatch, serially align, and offset the peaks and troughs without satisfying results, I ended up 'hiding' the seams behind passing vehicles. I've also intentionally left in some mild handling noises so as not to erase the presence of the recordist completely. Being there and listening felt so bizarre, that leaving few traces of someone present, I felt will enhance the way a listener engages with the piece, and more importantly, will connect it to its ending which I describe below. But despite the editing work, a short comparison between the original field recording and the final composition is

<sup>264</sup> While composition length is largely arbitrary, I've found that in my practice an average reference of ten minutes usually provides enough time to allow for the immersive experience I aim for without asking too much of the listener's attention. This is admittedly a subjective approach, which however has so far worked well both in live performances and in private listening settings.

unlikely to yield a huge difference. I found the sounds naturally immersive and uncanny, and so any heavy-handed processing was presumably going to eat away from that. In terms of processing, I've attenuated the high frequencies somewhat, using very narrow Q in order to mitigate ear fatigue, as well as lightly boosted the mid-frequencies with a wide Q to enhance the depth of the ambience. The only 'creative' processing I've done in this piece was prompted by the clearly top-heavy frequency spectrum of the field recording. So in the service of a more balanced sound, I introduced two slightly detuned, very subtle, sine tones to emphasise the first two partials of the mains drone (50Hz). Namely, one sine at 48Hz and one at 98Hz constantly support the low end, adding a bit of weight to counterbalance the highs, as well as giving it a slight beating due to the detuning. While barely noticeable, I think the sines contribute positively to the symmetry of the frequency span and give the piece a more stable footing.

The most startling and thought-provoking aspect of this piece however, which sets it apart from the others and calls for some analysis, is the way the scene played out in my imagination during recording. When I first stumbled upon these sounds, I tacitly assumed that both the mains drone and the high-frequency tones were sonic byproducts, so to speak, in a process for generating and/or distributing electricity. I looked at the two massive generators and listened to the tingling highs and the electric buzz, intoxicated by the fact that they were unintended and perhaps even unwanted companions to a necessary operation. So I idealistically saw my listening and fascination with them as a discovery of a beautiful—yet neglected—sonic event, emanating randomly and purposelessly. I was capturing exquisite chance operations! I did three recording sessions that day: one in the morning, one in the late afternoon, and one in the evening. Thus I would record for a while, then go away for a few hours, only to return and find the tones still there, tweeting and buzzing away. During the last session, which eventually formed the piece, I recorded through the sunset and twilight, until the dark of night set in.

I was just preparing to stop recording, pack up and go, when a person appeared in the powerplant's courtyard, got into a car, and drove out only to stop near me and come out. Amicably, he asked me what it was that I was doing, and I explained while still recording. I said I was fascinated with the sounds about and that I was recording them for a research art project in which I make music compositions from these recordings. He was fascinated, said he had a friend who also works with sound, and was happy to answer on record any questions I may have. He introduced himself and said he works at the powerplant. I asked him about the sounds and the generators (which turned out to be transformers), and his answer dumbfounded me. The mains drone was indeed what I thought it was—a 'natural' buzz from the transformers. The high-pitched tones, however, were coming from special devices, which were put there to keep wild animals away from the plant. He explained that very often, small rodents such as weasels and ferrets would go in and bite through cables, which both gets them electrocuted and causes power outages in town. To prevent this, they had to install the sonic pest-control devices to keep them away. This information caught me totally unprepared and instantly destroyed the whole romantic idea I had about what it was that I was doing. Suddenly, the random and purposeless sounds I had discovered turned out to be quite intentional and purposeful. My beloved chance operations were in fact functional contraptions. For a while I wished I'd left earlier and kept my blissful ignorance, but alas it was already in the open and couldn't be unlearned. That had me thinking: what changed?

The recordings did not change; the sounds did not change; the impact those would have on an unaware listener did not change. So it was only the idea in my head, about what gave the sounds their significance, that had changed. But why? Is it the interpretation that makes them beautiful to me, or their sonic qualities? It almost felt like I was disappointed by the revelation that they were not as ‘virginal’ and ‘innocent’ as I had initially assumed them to be. Did this reveal something more about them, or something more about me? Or about the significance of interpretation? The new information had destabilised something fundamental in the relationship between the sonic environment and me, as the listener. It seemed to put in question the aesthetic sonic beauty of the scene, in that it was functional utility, rather than random chance, that was driving its immanence. As my mind reeled, I somehow turned my attention towards it and looked at the confusion I was going through. I found it fascinating. As my mind struggled to remap and reconstruct the situation, the very fact that this was happening suddenly became the point. In interpretation and understanding, minds create the world they live in. When a false paradigm is destroyed by a better one, a world crumbles and a new one fills its place. Yet all the while this soul-searching is happening, the buzz is still buzzing and the tweets are tweeting away.

If this event had such an unsettling effect on me, I wondered for how many others that will be the case. Thus I decided to feature the conversation as the ending of the piece. Thankfully, on this last recording session I had taken a companion with me—my wife—who doesn’t speak Bulgarian. So as soon as the conversation with the powerplant worker was over, with the recorder still running, I explain to her in English what he said. I also describe the effect this information had on me immediately after talking to him. By eventually including all this in the final version of the composition, I thought I’d offer any English- or Bulgarian-speaking listener a chance to experience the sounds and the revelation in a way similar to how I did. I wanted to start this conversation and see how many would have preferred to stay ignorant of the reality of the sound-sources, and for how many it changed nothing in their relationship to the sounds. The last thing I say on the recording is that ‘knowledge is always better than ignorance, even if it spoils your romantic ideas.’ This still rings true to me, and the sounds are still as fascinating as they ever were. So, if interpretation naturally emerges at the encounter with the unknown, on the one hand, and if it is always creative and formative, on the other, then this dynamic perhaps is the aim of this piece. Namely, to give the listener both the immersive encounter with an unfamiliar soundscape, and the eventual exposing of its unlikely makeup. Thus, from the leaving in a few handling noises that betray the presence of the recordist, to this final resolution, I felt the piece operates in that in-between space which I aim to engage in my work: the tension between the subjective and the objective, the cognitive and the emotional, the inner-scape and the outer-scape. In terms of macro compositional structure, in Truax’s terms, I feel this piece lies squarely between text and context, inner and outer complexity. As discussed in chapter one (see pages 32—3), both aspects have an own significance and place, and are therefore utilised in varying degrees depending on the particular recording. Here, the inner complexity of the sound, and the way it propagates amid this unlikely terrain, was astonishing. Standing there recording, I was continuously taken aback by the peculiarity of the situation, not least because of the perplexed reactions of passers by. At the same time, the way all this was contextualised within this situation, and especially the way it ended up in a twist, I found just as significant and central to the piece. Thus, this is a special soundcastle for me in that,

along with *arkutino ~ 160906*, the field recording itself is so unconventionally sounding and structurally pre-composed, that my work was largely cosmetic. At the same time, to my ears, the soundscape carries such a high level of abstraction, so as to remain ambiguous and puzzling enough, to provoke the listener imagination and subjective contextualisation. These two compositions, and to a certain degree *terreiro do paço ~ 160222*, are the ones which get closest to what I will refer to as the ‘euphonic horizon’ in chapter three (page 71), or the singularity where the subjective perception of the acoustic environment (organic ear) approaches its electromagnetic rendering (prosthetic ear).

We hear things by hearing them as something.<sup>265</sup> In this way we create the world we hear. And any truth about things, as Heidegger argues, is at once a process of unconcealing and concealing, ‘since opening one horizon inevitably involves the closing of others.’<sup>266</sup> I’ve argued throughout this text, that there isn’t a single ‘god perspective’ from which all is revealed. Just like the Japanese garden mentioned earlier, some boulders will always conceal others. Thus, no truth should be allowed to fully replace the sensory-emotional response to stimuli. A truth should only add, not subtract, as it is always only an approximation, while things in themselves remain ever ineffable and ungraspable. McGilchrist expresses this idea beautifully, saying that ‘[t]o have the impression that one sees things as they truly are, is not to permit them to ‘presence’ to us, but to substitute something else for them, something comfortable, familiar and graspable.’<sup>267</sup> Thus, when the powerplant worker reveals the truth about the origin of the sounds, the new horizon somewhat concealed the old one. Knowing what they were made it more difficult to ‘permit them to presence to me.’ But in fact, it is only my imperfect concepts and re-presentations that are in conflict, not the sounds. And if this conflict eventually led to this realisation, while sounds remain unscathed, this piece has done more for my relationship with the sonic environment than I could have hoped for. Knowledge is better than ignorance.

## Fields of Resonance (extra track)

This piece is in fact the very first one I made at the start of this research. It is based on an idea and method, which spun off a short collaboration project with a fellow Ph.D. student. He and I had decided to make a new version of Michael Pisaro’s *Fields Have Ears*, which is a piece for piano and field recordings. Unlike Pisaro’s original version which is set in nature, we wanted to use urban field recordings instead. So we did few recording sessions at various places in downtown Leeds, over which we subsequently recorded the piano parts. When listening to the finished piece, I was fascinated how alien the piano tones sounded within an open urban soundscape. Despite the instrument being much more ‘at home’ in cities than in forests, the piano nevertheless sits more naturally in Pisaro’s original piece, than on a city square. I liked this paradox, and discovering this tension was one of the reasons I thought our version was a fruitful effort.

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<sup>265</sup> Iain McGilchrist, *The Master and his Emissary: the divided brain and the making of the Western world* (New Haven: Yale University Press, 2010), p. 151.

<sup>266</sup> *Ibid.*

<sup>267</sup> *Ibid.*

I decided to include *Fields of Resonance* as an extra one in the portfolio, despite it being of a different approach to the others, as I believe there is nevertheless an interesting and valuable connection to my overall practice. After finishing *Fields Have Ears* I wondered: if a piano sounds so whimsical over an urban field recording, how would a city sound in a piano? Could I somehow invert the premise and have a piano sonically mediate an urban soundscape? At first I thought of physically transporting a piano on a city square, fixing the pedal pressed so the strings are free, and then miking it to record the resonance as agitated from the noise about. That seemed rather unfeasible in terms of logistics and necessary permits, so I decided instead to bring the city to the piano. Namely, I took the field recordings from around Leeds which I already had, and played them back at very high amplitude over the strings of the piano. To do that, I placed large speakers facing down the cavern of a grand piano and fixed the pedal pressed to free the strings. I placed two AKG 414 microphones in a spaced AB stereo configuration over the piano strings. I would then play the recording for one minute to sufficiently agitate the strings, and then pause playback and record the resonance for one minute. Since I had edited twenty minutes of the original recording together for Pisaro's piece, I used that and repeated this sequence twenty times. I then took the recorded resonances and stitched them together in various ways (crossfading, overlapping, fading in and out, etc.) to produce the piece. Due to the high intensity of the energy at the start of each recording, when the resonance is at its strongest, each one minute recording started with a powerful boom. I cut most of those out, but left a few of them to form the pillars of the composition. Thus, the piece starts with a transient boom, then builds up to two more, before subsiding and resonating its way out to ambience.

The way that this piece relates to the others in the portfolio is in that it is still based on, and made out of, a field recording of environmental sound. Through a meta-process, the energy of the field recording is transferred onto an acoustic piano. As mentioned earlier, along with *arkutino ~ 160906*, these are the two pieces in this portfolio that utilise sonification approaches in composition. The original sound has been transfigured by the transmutation of its energy through another medium. In this way, the piano here acts as an analog filter bank of sorts: its body as a reverberation chamber, and its strings as sympathetic cutoff and resonance filters. One thing I find exciting about this composition is that it is only the raw sonic energy of the field recording that generates the sound in the piece, without any of the original material being featured in any way. In this way it is like a distillate of the recorded soundscape: carrying all of its zest and none of its body. This meta-approach expanded the way I think of field recordings and presented an innovative addition to my methodology.

## Chapter 3

### Conclusions and the way forward

This research has been a process. A process whose inception was set off by a single event, and one whose unfolding still evolves and moulds its form. That single event—the soundwalk—kindled what Heidegger has called a ‘radical astonishment’ in the rupture of habitual sonic perception and a reconnection with the unknowable. A reconnection with a world of sound veiled by familiarity. It has been a rather disorienting experience, not least because the kind of listening that reveals the astonishing does not seem to leave room for both the sounds and the listener thereof. It is a fusion of the listener and the acoustic environment into the soundscape. One cannot be conscious of both oneself and the sounds, and still be listening deeply. It seems to be in the merger of sound and listener that the astonishing can reveal itself fully. Thus, it is in the gap between thoughts, and in the arresting fascination with sounds unnamed, that deep listening may ensue. An amusing association that comes to mind is from Douglas Adams’ *Life, Universe and Everything*, where the art of flying is described as a trick whereby you have to ‘throw yourself forward with all your weight, and the willingness not to mind that it’s going to hurt,’ and then just miss the ground.<sup>268</sup> It is very important, he writes, to miss the ground accidentally by self-consciousness becoming suddenly distracted, ‘so that you are no longer thinking about falling, or about the ground, or how much it is going to hurt if you fail to miss it.’<sup>269</sup> ‘It is notoriously difficult to prise your attention away from these three things,’ he writes, ‘hence most people’s failure.’<sup>270</sup> Similarly, deep listening is elusive to thought and self-consciousness. This is probably why the case for reduced listening has been so strong: by suspending naming and thinking about their source, sounds reveal their properties in a direct and astonishing way. The acoustic horizon seems to expand with the deepening of pluralised attention. Falling becomes flying; being becomes listening. Just be wary when this happens, Adams cautions, and ‘do not wave at anybody,’ or you will ‘fail to miss the ground fairly hard.’<sup>271</sup>

The main question this research set out to address has tackled the relationship between the acoustic environment and the listener. The significance of this question for the practice of field-recording composition is multifaceted. In my view, all the what’s, how’s, and why’s of the practice are in some way or other predicated on the understanding of this relationship. The delineation of the composer and the field, therefore, seems crucial yet elusive. What does it mean to be in the field and to listen? How do we choose which field to record and which not to; how do we distinguish between wanted and unwanted sounds? How much intervention (editing/processing) in the recorded material is permissible? What is the relationship between the field and the recording thereof? What is the relationship between the field and its recording? These are all central questions in this practice, and, in my view, they are all contingent upon the main question of this research. The orientation of the composer toward the acoustic environment, and the quality of communication between the two, will determine how all these questions are understood and addressed.

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<sup>268</sup> Douglas Adams, *The Hitchhiker’s Guide to the Galaxy* (London: Picador, 2002), p. 460.

<sup>269</sup> *Ibid.*

<sup>270</sup> *Ibid.*

<sup>271</sup> *Ibid.*

Paradoxically, however, I believe the value of these inquiries lies more in their perpetual asking, rather than definitive answering. Reminiscent of M. C. Escher's drawings of hands, where one hand draws the other, while being simultaneously drawn by it, I've argued that the interrogation of the relationship between field and listener is a synthetic process facilitating the creation of novelty. As McGilchrist argues about perception in general: 'our attention is responsive to the world, but the world is responsive to our attention.'<sup>272</sup> In this creative dialectic, I believe, lies the value of the research question and its practical and theoretical exploration. In this text I have argued, therefore, that in field-recording composition, all its three attributes—listening, soundscape, and composer—are all created in its practice. Yet, not as atomic entities forming in separation from one another, but as entangled processes oriented towards a creative end.

In this field of commonality and difference, an understanding and engagement with the notion of context is significant. This is why, as I have discussed in this text, terms like schizophonia, reduced listening, and representation have continuously been pertinent. Today, schizophonia has lost its initial negative connotation, and has largely become the norm.<sup>273</sup> Sound lives in the context of its arising. Yet context is not an arbitrary, bound, perimeter around sounds (and things in general), but is boundless in both space and time. As it has been said, nothing can happen in the universe unless the entire universe makes it happen. The point is that in listening and recording, sounds do not lose, but expand their context. Listening is a complex process of contextualisation of sound into a listener. When listening, we are 'ensounded,' as Ingold has suggested.<sup>274</sup> The context of sounds thus expands to include that particular standpoint of audition in all its physiological, aesthetic, cultural, imaginative, dispositional, and psychological complexity. Recording is a similar process of contextualisation of sound into another medium—in this case through the process of electromagnetic induction. In it, the physical emanation of sound waves is converted into electromagnetic variations. Thus, the context in which these sound waves live is not reduced, but expanded to also encompass that medium. Just like the energy of waves in the ocean is split in their crashing on the shore, and while some goes back to the ocean and some erodes the sand and rocks of the shore, a part of it is converted to the sound waves we hear and record. When we listen, some of the energy behind the sound waves moves an ear drum. When we record, it moves a microphone diaphragm. In its reproduction through speakers and headphones, the path of this energy continues, and the sound waves once again move air, live, ensound new listeners, and are contextualised in new spaces. Therefore, I see listening and recording as means of expanding the context of sound and extending its emanation potentially indefinitely.

Considering the soundscape and the listener as independent entities, separate from each other, thus proves to be a futile endeavour. As philosopher Alfred North Whitehead has argued, 'you cannot abstract the universe from any entity, so as to consider that entity in complete isolation.'<sup>275</sup> What creates the sense of plurality is not the multiplicity of soundscapes, but that of standpoints of

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<sup>272</sup> Iain McGilchrist, *The Master and his Emissary: the divided brain and the making of the Western world* (New Haven: Yale University Press, 2010), p. 134.

<sup>273</sup> Barry Truax, 'Soundscape Composition as Global Music: Electroacoustic music as soundscape', *Organised Sound*, 13(2) (2008), 103–9 (p. 104).

<sup>274</sup> Tim Ingold, *Being Alive: Essays on movement, knowledge and description* (New York: Routledge, 2011), p. 135.

<sup>275</sup> Alfred North Whitehead, *Process and Reality* (New York: The Free Press, 1985), p. 28.

audition. I argue that it is strictly the standpoint that gives a soundscape its peculiar structurality and perimeter. What I find most interesting in composition with field recordings, as far as the Soundcastles project is concerned, is the idea of the soundscape as a particular sonic structure and texture, rather than an ideal and boundless Platonic form. Therefore, one must contend with the fact that any particular configuration of the soundscape is inseparable from the standpoint of its audition. Referring back to the research question, it seems reasonable to suggest that the boundary between the soundscape and the listener goes right through the midst of the latter. I have argued that the sonic form of a particular soundscape is the sonic form of a particular standpoint. And the standpoint is where the listener and the listened converge. The acoustic environment does not really sound like anything until anchored to a listening, to a standpoint. The acoustic perspective of the latter is what gives it its form. What makes a soundscape unique is therefore both the sonic content of an acoustic perspective, and the unique set of limitations and potentialities afforded by that peculiar standpoint. To paraphrase McGilchrist, the ear alters what it hears, and is altered by it.<sup>276</sup> When we are in the field and listen deeply, there is no place for a listener to be actively present apart from the listening. The energy and attention necessary to maintain self-consciousness negate true listening. The usual sonic discrimination, which takes place as the mind rushes to name the source of sounds and compartmentalise them, is relaxed, leaving room for sounds to intermingle freely before the ear, blend in textures, interact with each other, and expand into space. When this happens, the affect of the experience ‘reverberates’ long after the recording session is over. As mental activity resumes, there is a sense of a journey having taken place, not unlike the one after an orchestral piece has come to an end. Something has happened. It is not just the tones and timbres that have been received, but also the psycho-emotional impact those brought about. I have argued that it is this impact, this situated listening, with which the soundscape composer shall then strive to imbue the recording in post-production. In this sense, the art of soundscape composition becomes the art of mediation between the two horizons afforded by the ‘prosthetic ear’ of the microphone and the *Gestalt* listening of the recordist.

One last implication of this research is that it may be possible to imagine a line of convergence of the two horizons, where no alteration of the field-recording is necessary in order for the soundscape to sound as heard and inhabited by the composer. A place, or condition, where the boundary between the sonic environment and the listener vanishes. And perhaps even a line where the organic ear meets the prosthetic one, in an ideal soundscape circumstance where abstraction and reality are captured in perfect balance. Let me provisionally call this singularity a ‘euphonic horizon.’ Clearly a very conceptual notion, similar to a Platonic ideal form, it may nevertheless prove useful as a reference term of sorts. For instance, we may view the composition portfolio of this research as examples of soundcastles captured at various distance from the euphonic horizon: with those closer to it needing less processing than those further away. Yet it is not the level of processing per se that determines the distance, but rather the balance between concreteness and abstraction, listening and imagination, inner and outer complexity. The more the two horizons of audition overlap, the less a composer needs to do to merge them. Compared to the other compositions, in pieces like *arkutino ~ 160906* and *hissar ~ 170104*, the field-recordings themselves carry a kind of sonic conversation

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<sup>276</sup> Iain McGilchrist, *The Master and his Emissary: the divided brain and the making of the Western world* (New Haven: Yale University Press, 2010), p. 165.

between ambiguity and concreteness, text and context, that minimises the processing gestures needed for those to be highlighted by the composer. Certainly a very subjective term, the euphonic horizon can be facilitated by a development in artificial intelligence biotech devices in the future, or a development in mindfulness and listening, or a combination of the two. Or perhaps, it is only a mirage precipitated by our limited understanding of consciousness, perception, and the propagation of energy in the universe.

Finally, as a conclusion to this text, I will briefly refer to two ideas for expanding this research further, which I describe in the appendixes below. The first of those is a smartphone application, which will be designed in a way that presents in practice the idea of sonic entropy and disintegration. The idea of decomposing soundscape compositions has haunted me for a long time now, and finally, through available technology, it seems possible to do. Please refer to Appendix 1 (Page 79) for a more detailed account of its design and functionality. The second path forward is the incorporation of long-exposure analog photography in the processes of field-recording and composing. The temporal accumulation of light phenomena in long-exposure photography, I believe presents an exciting complementary approach to field-recording, which combines the capturing of sounds and sights in a unique way. The interplay between the two can, in my view, render compelling works juxtaposing the propagation of sound in linear time, with the accumulation of light for that duration onto still images. For a further description of this methodology, please refer to Appendix 2 (Page 82).

## Works Cited

Adams, Douglas, *The Hitchhiker's Guide to the Galaxy* (London: Picador, 2002)

Attali, Jacques, *Noise: The Political Economy of Music*, trans. by Brian Massumi (Manchester: Manchester University Press, 1985)

Aull Davis, Charlotte, *Reflexive Ethnography: A guide to Researching Selves and Others* (London: Routledge, 1999)

Blessner, Barry and Salter, Linda-Ruth. *Spaces Speak, Are You Listening?: Experiencing Aural Architecture*, (Cambridge: Massachusetts Institute of Technology, 2007).

Branchi, Walter, 'The State of Anxiety', *Computer Music Journal*, 7(1) (1983), 8–10

Bulgakov, Mikhail, *The Master and Margarita* (Surrey: Alma Classics 2013)

Cage, John. 'The Future of Music: Credo', in *Silence: Lectures and Writings* (London: Marion Boyars, 2011), 3–7

Cage, John. 'Composition as Process', in *Silence: Lectures and Writings* (London: Marion Boyars, 2011), 18–57

Chion, Michael, *Audio-Vision: Sound on Screen* (New York: Columbia University Press, 1994)

Clifford, James and Marcus, George E. (eds), *Writing Culture: The Poetics and Politics of Ethnography* (Los Angeles: University of California Press, 1986)

Conquergood, Dwight, 'Rethinking ethnography: towards critical cultural politics', *Communication Monographs*, 56 (1991), 179–94

Darò, Carlotta, *Avant-gardes Sonores En Architecture* (Dijon: Réel, 2013)

Demers, Joanna, *Listening Through the Noise: The Aesthetics of Experimental Electronic Music* (New York: Oxford University Press, 2010)

English, Lawrence, 'Relational Listening: A politics of Perception', *Contemporary Music Review*, 36(3) (2017), 127–42

Ferrari, Luc, *Presque Rien* (INA, 2004) [liner notes]

- Ford, Felicity, 'Felicity Ford', in Cathy Lane and Angus Carlyle, *In the Field: The Art of Field Recording* (Axminster: Uniform, 2013), 85—98
- Heidegger, Martin, *Der Ursprung des Kunstwerkes* (Frankfurt: Klostermann, 2012)
- Herz, Rosanna (ed.), *Reflexivity and Voice* (London: Sage, 1997).
- Hulme, Thomas Ernest, *Speculations: Essays on humanism and the philosophy of art* (London: Routledge & Kegan Paul, 1960)
- Husserl, Edmund, *Ideas Pertaining to a Pure Phenomenology and to a Phenomenological Philosophy*, trans. by R. Rojcewicz and A. Schuwer (Amsterdam: Kluwer Academic, 1990)
- Ingold, Tim, *Being Alive: Essays on movement, knowledge and description* (New York: Routledge, 2011)
- Kahn, Douglas, *Noise, Water, Meat: A History of Sound in the Arts* (Cambridge: MIT Press, 1999)
- Levack Drever, John, 'Soundscape composition: the convergence of ethnography and acousmatic music', *Organised Sound*, 7(1) (2002), 21—7
- Levack Drever, John, 'Soundwalking: Aural Excursions of the Everyday', in *The Ashgate Research Companion to Experimental Music*, ed. by James Saunders (Farnham: Ashgate, 2009), 163—92
- Lockwood, Annea, 'Annea Lockwood', in *In the Field: The Art of Field Recording*, ed. by Lane, Cathy and Carlyle, Angus. (Devon: Uniform, 2013), 27—38
- López, Francisco, 'Blind Listening', in *The Book of Music and Nature*, ed. by David Rothenberg and Marta Ulvaeus (Middletown: Wesleyan University Press, 2001), 163—8
- López, Francisco, 'Francisco López', in Cathy Lane and Angus Carlyle, *In the Field: The Art of Field Recording* (Axminster: Uniform, 2013), 99—108
- López, Francisco, 'Profound Listening and Environmental Sound Matter' in *Audio culture: readings in modern music*, ed. by Christoph Cox and Daniel Warner (New York: Continuum, 2006), 82—7
- McCartney, Andra, 'Ethical questions about working with soundscapes', *Organised Sound* 21(2) (2016), 160—5

- McGilchrist, Iain. *The Master and his Emissary: the divided brain and the making of the Western world* (New Haven: Yale University Press 2010)
- Merleau-Ponty, Maurice, *Phenomenology of Perception* (New York: Routledge, 2012)
- Norman, Katharine, 'Real-World Music as Composed Listening', *Contemporary Music Review*, 15 (1996), 1—28
- Oliveros, Pauline, *Deep Listening: A Composer's Sound Practice* (Lincoln: iUniverse, 2005)
- Schafer, R. Murray (ed.), *The Vancouver Soundscape*, (Vancouver: Simon Fraser University, 1978)
- Schafer, R. Murray, *The New Soundscape: A Handbook for the Modern Music Teacher* (New York: Associated Music, 1969)
- Schafer, R. Murray, *The Soundscape: Our Sonic Environment and the Tuning of the World* (Rochester: Destiny, 1994)
- Schopenhauer, Arthur, *Aphorismen zur Lebensweisheit* (Wiesbaden: Marix, 2010)
- Southworth, Michael, 'The Sonic Environment of Cities', *Environment and Behavior*, 1(1) (1969), 49—70
- Steiner, George, *Martin Heidegger* (Chicago: The University of Chicago Press, 1978)
- Sterne, Jonathan, 'Soundscape, Landscape, Escape', in *The Soundscapes of the Urban Past: Staged Sound as Mediated Cultural Heritage*, ed. by Karin Bijsterveld (Bielefeld: Transcript, 2013), 181—94
- Szendy, Peter, *Listen: a history of our ears* (New York: Fordham University Press, 2008)
- Tidoni, Davide, 'Davide Tidoni' in Cathy Lane and Angus Carlyle, *In the Field: The Art of Field Recording* (Axminster: Uniform, 2013), 73—87
- Truax, Barry, 'Electroacoustic Music and the Soundscape: The Inner and Outer World' in *Companion to Contemporary Musical Thought Vol. 2* ed. by John Paynter et al (London: Routledge, 1992), 374—9.
- Truax, Barry, 'Genres and techniques of soundscape composition as developed at Simon Fraser University', *Organised Sound*, 7(1) (2002), 5—13

- Truax, Barry, 'Sound, Listening and Place: The aesthetic dilemma', *Organised Sound*, 17(3) (2011), 1—9
- Truax, Barry, 'Soundscape Composition as Global Music: Electroacoustic music as soundscape', *Organised Sound*, 13(2) (2008), 103—9
- Truax, Barry, 'Soundscape, Acoustic Communication and Environmental Sound Composition', *Contemporary Music Review*, 15(1) (1996), 49—65
- Truax, Barry, 'The Inner and Outer Complexity of Music', *Perspectives of New Music*, 32(1) (1994), 176—93
- Truax, Barry, *Acoustic Communication* (Norwood: Ablex, 1984)
- Voegelin, Salomé, *Listening to Noise and Silence: Towards a Philosophy of Sound Art* (New York: Continuum, 2010)
- Westerkamp, Hildegard, 'Hildegard Westerkamp', in Cathy Lane and Angus Carlyle, *In the Field: The Art of Field Recording* (Axminster: Uniform, 2013), 109—22
- Westerkamp, Hildegard, 'Linking soundscape composition and acoustic ecology', *Organised Sound*, 7(1) (2002), 51—6
- Westerkamp, Hildegard, 'Soundwalking', in *Autumn Leaves: Sound and the Environment in Artistic Practice*, ed. by Angus Carlyle (Paris: Double Entendre, 2007), 49—54
- Whitehead, Alfred North. *Process and Reality* (New York: The Free Press, 1985).
- Whittington, Stephen, *Digging in John Cage's Garden; Cage and Ryōanji* (Adelaide: Penerbit Universiti Pendidikan Sultan Idris 2013)
- Walt Whitman, 'Song of Myself', in *Leaves of Grass* (New York: Bantam, 2004), 23—76

## Web Resources

- Barry Truax, *Riverrun* (1986) <<https://www.sfu.ca/~truax/river.html>> [accessed 10 February 2020]
- Behrens, Marc, 'Sleppet', *Bandcamp* <<https://cronica.bandcamp.com/album/sleppet>> [accessed 14 March 2020]

Binaural Nodar, 'Viseu Rural 2.0', *Binauralmedia* <<https://binauralmedia.org/news/en/>> [accessed 26 September 2019]

Bora, *Encyclopedia Britannica* <<https://www.britannica.com/science/bora>> [accessed 14 March 2020]

Jenssen, Geir, 'Cho Oyu 8201 m - Field Recordings From Tibet', *Geir Jenssen* <<https://geirjenssen.bandcamp.com/album/cho-oyu-8201-m-field-recordings-from-tibet>> [accessed on 14 February 2020]

Jenssen, Geir, 'With Adventure Peaks to Cho Oyu', *Geir Jenssen* <[http://www.biosphere.no/cho\\_oyu/cho\\_oyu.html](http://www.biosphere.no/cho_oyu/cho_oyu.html)> [accessed on 14 February 2020]

Koutsomichalis, Marinos, 'On Soundscapes, Phonography, and Environmental Sound Art', *Journal of Sonic Studies*, 4 (2013) <<https://www.researchcatalogue.net/view/268080/268081>> [accessed 11 February 2020]

López, Francisco, 'Environmental Sound Matter', *Francisco López* <<http://www.franciscoLópez.net/env.html>> [accessed 10 February 2020]

López, Francisco, 'Schizophonia vs l'objet sonore: soundscapes and artistic freedom', *Francisco López* <<http://www.franciscoLópez.net/schizo.html>> [accessed 14 February 2020]

McCartney, Andra, 'Ethical Questions About Working With Soundscapes', *Soundwalking Interactions* <<https://soundwalkinginteractions.wordpress.com/2010/06/24/ethical-questions-about-working-with-soundscapes/>> [accessed 13 February 2020]

Nasca, Paul, 'Paul's Extreme Sound Stretch', *Paul Stretch* <<http://hypermammut.sourceforge.net/paulstretch/>> [accessed 26 September 2019]

Šerc, Simon, 'Bora Scura', *Bora Scura* <<https://music.pharmafabrik.com/album/bora-scura>> [accessed 14 March 2020]

Simon Fraser University, 'World Soundscape Project', *Simon Fraser University* <<https://www.sfu.ca/sonic-studio/worldsoundscapeproject.html>> [accessed 11 February 2020]

Truax, Barry, 'From Soundscape Documentation to Soundscape Composition', *Hal Archives-Ouvertes* <<https://hal.archives-ouvertes.fr/hal-00811391/document>> [accessed 18 February 2020]

Truax, Barry, 'Handbook For Acoustic Ecology', *Simon Fraser University* <<https://www.sfu.ca/sonic-studio-webdav/handbook/Soundwalk.html>> [accessed 11 February 2020]

Truax, Barry, 'Music, Soundscape, and Acoustic Sustainability', *Simon Fraser University* <<https://www.sfu.ca/~truax/Sustainability.pdf>> [accessed 10 February 2020]

Truax, Barry, 'From Soundscape Documentation to Soundscape Composition', *Hal Archives-Ouvertes* <<https://hal.archives-ouvertes.fr/hal-00811391/document>> [accessed 18 February 2020]

Vickers, Paul, 'Ways of Listening and Modes of Being: Electroacoustic Auditory Display', *Journal of Sonic Studies*, 2(1) (2012) <<https://www.researchcatalogue.net/view/263480/263481>> [accessed 18 March 2020]

Winderen, Jana, 'Out of Range', *Jana Winderen* <<https://janawinderen.bandcamp.com/album/out-of-range>> [accessed 14 March 2020]

## Compositions cited

Behrens, Marc, *Sleppet* (Crónica, 2009) [on CD]

Ferrari, Luc, *Presque Rien* (INA, 2004) [on CD]

Westerkamp, Hildegard, 'Kits Beach Soundwalk', *Transformations* (empreintes DIGITales, 1996) [on CD]

Jenssen, Geir, *Cho Oyu 8291m (Field Recordings from Tibet)* (Ash International, 2006) [on MP3]

Lockwood, Annea, *A Sound Map Of The Danube* (Lovely Music, 2008) [on CD]

López, Francisco, *Buildings (New York)* (V2\_Archief, 2001) [on CD]

López, Francisco, *La Selva* (V2\_Archief, 1998) [on CD]

López, Francisco, *Wind (Patagonia)* (and/OAR, 2007) [on CD]

Šerc, Simon, *Bora Scura* (Ambientfabrik, 2018) [on CD]

Simpson, Dallas, *Sonic Bathing 1* (Farfield Records, 2004) [on CD]

Truax, Barry, *Pacific Rim* (Cambridge Street Records, 1991) [on CD]

Watson, Chris, *A Journey South* (Touch, 2010) [on MP3]

Watson, Chris, *Alcedo Volcano* (Touch, 2006) [on MP3]

Watson, Chris, *El Tren Fantasma* (Touch, 2011) [on CD]

Westerkamp, Hildegard, *Transformations* (empreintes DIGITales, 1996) [on CD]

Winderen, Jana, *Out of Range* (Touch, 2014) [on CD]

# Appendix 1

## Soundcastles: a smartphone application

From the beginning of this research, when I first conceived of the sandcastle analogy, I started thinking about a way of developing a methodology for creating music that deteriorates over time. I imagined field-recording compositions—soundcastles—that gradually erode like their sand counterparts. After all, one of the most poetic features of sandcastles is that no matter how complex or beautiful, come nighttime and the tide, and they are razed to base material. The same process that put the sand, the stones, and the shells on the beach continuously devours and reconfigures any structurality those may assume. Simultaneous creation and destruction. Like shaken Etch A Sketch, every morning the beach is new and bare, and full of potential.

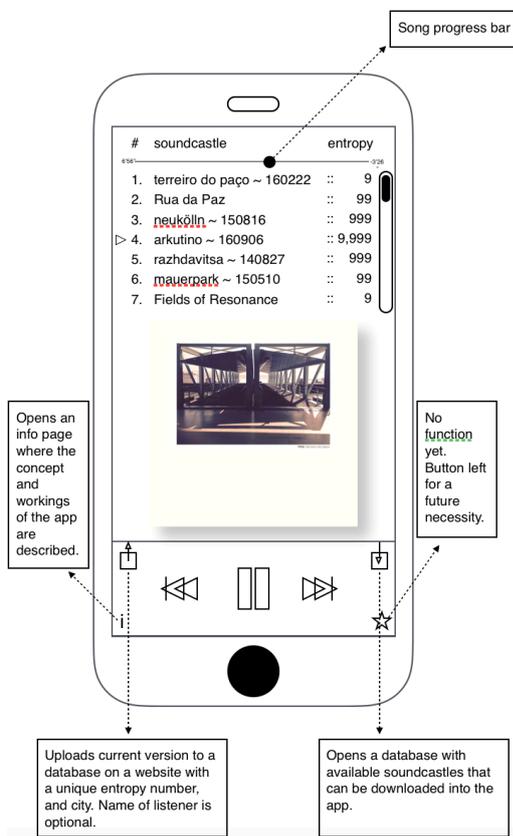


Fig. 2. Soundcastles application design



Fig. 3. Application

How to translate this to field-recording composition was by no means straight-forward. I found works where artists degrade the material of the medium (e.g. CDs), using heat and chemicals to turn what is essentially music containers into own pieces of art. Exciting as that can be, it was different from what I was looking for, as the music itself didn't deteriorate, only the medium did. I also thought about distributing cheap devices in city parks or street gardens (e.g. Walkmans or MP3

players) and letting them play continuously until they were taken, damaged, or their batteries died. Thus, the music would inevitably fade and disappear, one way or another. But that seemed like a rather crude and impractical solution, once again lacking the incremental erosion of sound I was looking for.

Finally, I conceived of a smartphone app that can achieve this result in the simplest and most elegant way I have yet managed to conjure up. What follows is a description of its functionality. The idea of the *Soundcastles* app is to function like a music player with a twist (Fig. 2). At the bottom of the screen there are the transport buttons (play/pause, skip forward and skip backward), upload and download buttons, as well as an info button and a special one, whose function is left open for subsequent necessity. At the very top of the screen, there are the composition number, name, and ‘entropy coefficient’ (which I will describe shortly), as well as a progress bar showing current place in the piece and duration. The middle part of the screen is taken by the list of compositions and the current album art. In case the latter is not available, the app logo (Fig. 3) is displayed.

Here is how it works. First, the user downloads one or more soundcastles into the app. A composition is then selected and played.<sup>277</sup> The first iteration of the soundcastle plays the original piece as composed. At this initial point the entropy coefficient I mentioned above shows nought. Here is the twist: as playback starts with the pressing of the play button, the headset microphone starts recording in the background the sounds surrounding the listener. In other words, as the user is listening to a composition, the app simultaneously makes a field-recording of the environment in which the listening takes place. Once the playback is stopped, this new field recording is automatically layered over the original composition at low amplitude. In this way, the second playback of the same soundcastle will be a composite of the original composition infused with the field recording (at low level) made during the first listening. With every following iteration, the piece will accumulate more and more environmental sounds, which will become increasingly prominent in the overall sound. This accumulation of overlaid iterations of ambient sounds is what the entropy coefficient shows: for instance, a ‘0’ entropy number means no overlay (first listening), a ‘10’ would mean that ten different instances of field recording have been added to the original composition.

In this way, with every new listening of the each piece, the latter will contain the ambient sound of the surroundings where all previous listenings have taken place. Gradually but surely, the layers of field-recordings will erode the original composition to a point when it will be completely

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<sup>277</sup> One important requirement is the app can only be used using the phone’s headset: earphones with a microphone.

overpowered by them. Within the app therefore, the compositions will live in a state of ‘perpetual perishing.’ To go back to the sandcastle analogy, like the tide at night, the soundcastles will thus be returned to their base material form by the very forces that gave rise to them in the first place. This will complete the whole cycle: from listening and recording of sonic material, through composition, and finally deterioration back into bare sonic material.

## Appendix 2

### Soundcastles + long exposure analogue photography

The other idea for future expansion of the Soundcastles project I would like to introduce has to do with the addition of long-exposure photography to the practice. A little over a year ago I started experimenting with medium format film photography (6x6cm analogue negative) to complement the field recordings. Photographing at night, or during the day with the use of neutral density (dark) filters, allows for arbitrarily long exposures, which can last from minutes to hours.

Methodologically, the idea is to combine sonic and visual field recording by capturing both simultaneously for the same duration. Having calculated light and film speed, the exposure can be timed to last for the same period of time that the field recording takes. For example, one could record for forty minutes, during which time the camera can be continuously exposing an image. In terms of workflow one presses [record], clicks-open the camera shutter—and once the desired duration has elapsed—releases the camera shutter, and presses [stop] on the recorder.



Fig. 4. A thirty-minute exposure, November 2018.

In this way, one recording yields two related, yet very different dimensions of the same place and time. One is dynamic and linear (sound), and the other is still and cumulative (photograph). During long exposure, all movement of light and shadow before the camera accrues on the film as it continuously burns its light sensitive surface. Thus, a still image comprises all events that happen

before the lens, as they occur during exposure. For example, the image above (Fig. 4) is a thirty-minute exposure I did in November 2018.<sup>278</sup> The swirly stars effect in the sky is the result of the rotation of the Earth during the exposure. Thus, each curved line seen above the house represents the path that the standpoint of the camera (fixed on a spinning planet) travelled relative to a star for thirty minutes. The temporal accumulation in this example is illustrated by a linear shift of stars in time-space: each line representing a thirty-minute displacement. To sum up, in long exposure photography, a moving object will appear as a blurry streak, while static objects will appear sharp. However, dynamic light conditions while exposing (e.g. fog, smoke, clouds) may affect the appearance of static objects as well, giving them a hazy, ambiguous, appearance. Since both the camera and the scene before it are subject to changing atmospheric conditions and movement, long exposure photographs are documents of a process having taken place for that duration, as marked by light on film.

This relates back to the idea I've discussed throughout this text, that the scene and the standpoint are in constant flux, both individually and relative to each other. Capturing their momentary alignment is a creative act, in that it frames a dynamic process, giving it apparent concreteness. The addition of a photographic image to a sound recording adds an exciting new dimension to the practice. The static quality of a photographic image, in my view, when juxtaposed to time-based sound, makes for a very interesting experience. The linearity of listening, whereby one cannot go back and forth in time during a piece, is complemented by a still image which the eye can traverse at its own pace and direction. Unlike audio-video productions, for instance, where two parallel linear processes constantly compete for one's (divided) attention, their audio-photographic counterpart would allow for a focused listening and a free-floating gaze over a still image. In this way, each such piece will be a composite of a sonic and a photographic interpretation of a field/standpoint captured at one place and time. Darkroom printing techniques can be used in a similar way to audio editing and processing for the making of the image. Just as with listening, the way the eye sees a scene is often very different from how the camera captures it. The horizons of the 'prosthetic eye' (camera) and the subjective organic eye (standpoint) should together produce the final image. Thus, the same principles described in this text in terms of postproduction of field-recordings apply for photography as well.

Lastly, for live performances and installations, the film-negative can be projected on a surface during the presentation of the sonic piece, using a medium format projector, such as the Leitz Prado 66 (Fig. 5). Being simply a light-source focused through a lens, with the film-negative placed in-between the two, the projection is at once dynamic and still. For the duration of the soundcastle, light flows through the film producing a negative image on the projection screen. As the composition ends, the light is cut, and the image disappears. The fact that a negative, instead of a positive, is being projected, adds yet another interesting dimension to the practice, as the highlights

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<sup>278</sup> Unfortunately, I don't have a sonic field recording to accompany it, but I use the image to illustrate the visual effect of long-exposure photography.



Fig. 5. Leitz Prado 66 medium-format projector

and shadows are inverted. This allows for experimentation with various projection surfaces, whose colour and material will absorb light differently, thus producing images of specific qualities. The transitory nature of projections also corresponds well with the temporality of sonic live performances, in that they both appear and disappear without leaving a material trace: light passing through film; sound-waves passing through speaker-cones. Finally, when a soundcastle is fixed on a medium, as on a CD or an LP, the printed positive image can accompany it.

## Appendix 3

### Selected performances during the course of this research

2017/04/27, 'mälarhöjden\_tbanas ~ 160311', *BEAST FEAST 2017*, Birmingham, UK, (<http://www.beast.bham.ac.uk/events/beast-feast-2017-figure-landscape-seascape-sky/>)

[accessed 20 February 2020]

2017/04/22, 'hissar ~ 170104 (knowledge is better than ignorance)', *Series Sacred Realism*, Berlin, Germany (<https://www.facebook.com/events/1484758924909513/>)

[accessed 20 February 2020]

2017/01/19, 'mälarhöjden\_tbanas ~ 16031', *INTER#8 Stereo*, Glasgow, UK (<https://www.facebook.com/events/449529035171274/>); (<http://www.stereocafebar.com/listings/events/19-jan-17-inter--8-sonic-spaces-in-between-stereo/>) [accessed 20 February 2020]

2016/11/20, 'terreiro do paço ~ 160222', 'Rua da Paz', 'arkutino ~ 160906', *Series Sacred Realism*, Berlin, Germany (<https://www.facebook.com/events/1726055124381430/>)

[accessed 20 February 2020]

2016/11/08, 'Rua da Paz', *WISEU RURAL 2.0 SONIC EXPLORATIONS OF A RURAL ARCHIVE*, Viseu, Portugal (<https://www.viseururalmedia.org>) [accessed 20 February 2020]

2016/10/15, 'Fields of Resonance', *LIGHTWORKS 2016 Festival*, Grimsby, UK ([https://www.facebook.com/events/316099575417101/?active\\_tab=discussion](https://www.facebook.com/events/316099575417101/?active_tab=discussion)) [accessed 20 February 2020]

2016/04/22, 'Van Riel Tunings for 15', comp. by Antoine Beuger, *Konzert Minimal*, Berlin Germany (<https://www.facebook.com/events/233481553669937/>) [accessed 20 February 2020]

2016/01/21, 'razhdavitsa ~ 140827', 'mauerpark ~ 150510', 'Fields of Resonance', *Series Sacred Realism*, Berlin, Germany (<https://www.facebook.com/events/1737906586431394/>) [accessed 20 February 2020]

2015/11/06—08, 'prinzessinengarten ~ 151025', *Errand Sounds*, Berlin, Germany (<https://www.facebook.com/events/1494094090919780/>) [accessed 20 February 2020]

2015/02/19, 'razhdavitsa ~ 140827', *Salford Sonic Fusion Festival (SSFF)*, Manchester, UK (<https://metanast.wordpress.com/salford-sonic-fusion-festival-2015/>) [accessed 20 February 2020]

# Appendix 4

## Selected discography

- Barrett, Natasha, *Microclimate*, Sleppet (+3dB Records, 2009)
- Behrens, Marc, *Apparatus* (Availabel, 2016)
- Behrens, Marc, *Architectural Commentaries* (Availabel, 2016)
- Behrens, Marc, *Mut Att Narc Imm* (Aufabwegen, 2018)
- Behrens, Marc, *Sleppet* (Crónica, 2009)
- Chattopadhyay, Budhaditya, *Benaras*, Audioart Compilation 03 (Gruenrekorder, 2009)
- Cusack, Peter, *Favourite Beijing Sounds* (Subjam, 2007)
- English, Lawrance, *Viento* (Room 40, 2015)
- English, Lawrence and López, Francisco, *HB* (Baskaru, 2009)
- English, Lawrence, *Approaching Nothing* (Baskaru, 2016)
- Fontana, Bill, *Primal Sonic Visions* (Fontana, 2018)
- Fontana, Bill, *Shadow Soundings* (Fontana, 2018)
- Fontana, Bill, *Desert Soundings* (Fontana, 2014)
- Fontana, Bill, *Harmonic Bridge* (Fontana, 2006)
- Ford Felicity, *Celebrations*, Framework250 (Framework Editions, 2009)
- French, Jez Riley, *Suketchi* (JrF, 2013)
- Herbert, Matthew, *One Pig* (Accidental Records, 2011)
- Holterbach, Emmanuel, *Deux Dames-Jeanne (Barcelone)* (Holterbach, 2008)
- Holterbach, Emmanuel, *Belem*, Carnet Sonore n°1 en 7 études : Lisbonne 2003 (Holterbach, 2003)
- Holterbach, Emmanuel, *Montagne Verte - Etang de pêche* (Holterbach, 2006)
- Jenssen, Geir, *Cho Oyu 8201m*, Field Recordings from Tibet (Ash International, 2006)
- Jenssen, Geir, *Stromboli* (Touch, 2013)
- Jenssen, Geir, *The Senja Recodings*, Biosphere (Biophon, 2019)
- Jerman, Jeph, *4 7 08*, Audible Geography (Room 40, 2008)

Jerman, Jeph, *Albuquerque Hotel Room*, On Isolation (Room 40, 2006)

Jerman, Jeph, *For Henry F. Farny 1904 34° 48'N / 111° 54' W 3308/4708* (After Music Recordings, 2013)

Jerman, Jeph, *Imbrication* (Unfathomless, 2018)

Kubisch, Christina, *Wien Landstraße* (Framework Editions, 2016)

Kvinnslund, Bjarne, *Bra Bre*, Sleppet (Musikkoperatørene, 2009)

Lockwood, Annea, *Housatonic River - Milford Point*, North American PhoNographic Mornings (Each Morning of the World, 2017)

López, Francisco and Garcia, Miguel, *Ekkert Nafn* (Cronica, 2019)

López, Francisco, *Anima Ardens* (Sub Rosa, 2016)

López, Francisco, *Belle Confusion 969*, Through the Looking Glass (Kairos, 2009)

López, Francisco, *Buildings (New York)*, Through the Looking Glass (Kairos, 2009)

López, Francisco, *Conops* (GD Stereo, 2008)

López, Francisco, *La Selva* (Sub Rosa, 2015)

López, Francisco, *Sonic Fields Vlieland* (López, 2018)

NO, Annan and Feld, Steven, *Bufo Variations*. (Voxlox, 2008).

Riek, Lasse-Marc, *Das Teilen Der Flügel* (and/OAR, 2009)

Roden, Steve, *Three Landscapes Part II A Waterfall For Bjornstjerne Bjornson*, Sleppet (+3dB Records, 2009)

Samartzis, Philip, *General Electric*, Audible Geography (Room 40, 2008)

Samartzis, Philip, *Peninsula*, Oceanian PhoNographic Mornings (Bogongsound, 2018)

Sasajima, Hiroki and Hakobune, *Taiga*, Aquarius (Dronarivm, 2013)

Scott, Simon, *Soundings* (Touch, 2018)

Šerc, Simon, *Bora Scura* (Sonospace, 2018)

Simpson, Dallas, *A Short Journey of Silica* (Plus Timbre, 2017)

Simpson, Dallas, *Fragmented Tracks* (LEA ediciones, 2012)

Simpson, Dallas, *Railway Footbridge Improvisation For One Adult and Two Children* (Plus Timbre, 2018)

Simpson, Dallas, *Sonic Bathing 1* (Farfield Records, 2004)

Simpson, Dallas, *The Shore of Stones Suite* (Phonographiq, 2015)

Simpson, Dallas, *The Stonevandal Suite* (LEA ediciones, 2013)

Simpson, Dallas, *World Listening Day - Vigil* (Phonographiq, 2013)

Tsunoda, Toshiya, *Extract From Field Recording Archive* (Erstwhile Records, 2019)

Tsunoda, Toshiya, *Kapotte Muziek* (Korm Plastics, 2009)

Tsunoda, Toshiya, *Scenery of Decalomania* (Naturestrip, 2004)

Tsunoda, Toshiya, *Small Sand-stream On Beach*, Audible Geography (Room 40, 2008)

Watson, Chris, *Clima Verde* (Fondazione Edmund Mach E Lol Productions, 2008)

Watson, Chris, *El Tren Fantasma* (Touch, 2011)

Watson, Chris, *Glastonbury Ocean Soundscape* (Touch, 2019)

Watson, Chris, *In St Cuthbert's Time* (Touch, 2013)

Watson, Chris, *Locations, Processed*, Blue TB7 Series (Moog Recordings Library, 2017)

Watson, Chris, *Sleppet*, Sleppet (+3dB Records, 2009)

Watson, Chris, *Stepping Into The Dark* (Touch, 2005)

Westerkamp, Hildegard, *Dhvani* (Kraak, 2004)

Westerkamp, Hildegard, *Into India* (Centrediscs, 2012)

Westerkamp, Hildegard, *Streetmusic*, From Pigeon Park to Wall Street (Vancouver Co-Op Radio, 2015)

Westerkamp, Hildegard, *Talking Rain*, Harangue I, (CMCDS, 2013)

Winderen, Jana, *+4°C*, Sleppet (+3dB Records, 2009)

Winderen, Jana, *Out of Range* (Winderen, 2014)

Winderen, Jana, *Spring Bloom in the Marginal Ice Zone* (Touch Music/Fairwood Music, 2018)

Winderen, Jana, *The Listener* (Touch Music/Fairwood Music, 2016)

Winderen, Jana, *The Wanderer* (Winderen, 2015)

# Appendix 5

## List of compositions and sound samples

### Compositions:

1. *razhdavitsa* ~ 140827
  2. *mauerpark* ~ 150510
  3. *neukölln* ~ 150816
  4. *terreiro do paço* ~ 160222
  5. *mälarhöjden\_tbana* ~ 160311
  6. *arkutino* ~ 160906
  7. *Rua Da Paz*
  8. *hissar* ~ 170104 (*knowledge is better than ignorance*)
- Extra track:
9. *Fields of Resonance*

### Sound samples

The sound samples listed below (and found in the composition portfolio) aim to highlight some of the audio processing and editing techniques I've applied in the composition portfolio on a piece-by-piece basis. To do this, I've compiled short audio excerpts (~ 30 seconds each) from each piece that first feature the unprocessed (raw) field recording and then the final processed version as is in the finished composition. The purpose of this is not to focus attention on specific processing techniques, but rather to simply shine more light on my composition process and the journey sound takes from a raw field recording to a soundcastle. Below is a list of the excerpts from each piece.

#### 1. *razhdavitsa* ~ 140827

- 1.1. Crickets (unprocessed)
- 1.2. Crickets processed (no side-chain compression)
- 1.3. Crickets processed (with side-chain compression)
- 1.4. Cricket (no LFO)
- 1.5. Cricket (with LFO)
- 1.6. Cricket (no modulation delay)
- 1.7. Cricket (with modulation delay)

#### 2. *mauerpark* ~ 150510

- 2.1. Stereo ambience (unprocessed)
- 2.2. Looped gravel step in 6/8 (unprocessed)
- 2.3. Looped gravel step in 6/8 (with filter modulation)
- 2.4. Beat without kick
- 2.5. Kick only
- 2.6. Beat with kick

#### 3. *neukölln* ~ 150816

- 3.1. Ambience 1 (unprocessed)
- 3.2. Constructed (edited) ambience slowly faded in on top
- 3.3. Power generator (unprocessed)
- 3.4. Power generator (filtered)
- 3.5. Field-recording sample used for making the beat (unprocessed)
- 3.6. Main beat compiled but unprocessed
- 3.7. Counter beat syncopated over main beat (processed)
- 3.8. Beat full; main plus counter (processed)
- 3.9. Toy dog recorded from a distance (unprocessed)
- 3.10. Toy dog loop (unprocessed)
- 3.11. Toy dog loop (processed)

- 3.12. Melodic loop (unprocessed)
- 3.13. Melodic loop (processed)
- 3.14. Ambience 2 (unprocessed)

#### **4. terreiro do paço ~ 160222**

- 4.1. Ambience (unprocessed)
- 4.2. Low-pass pad
- 4.3. Tape modulation, high-pass layer
- 4.4. Paul-Stretch pad
- 4.5. Ambience (processed/layered with the above)

#### **5. mälarhöjden\_tbaná ~ 160311**

- 5.1. Stereo ambience (edited, unprocessed) 5.2. Escalator layer 1 (unprocessed)
- 5.3. Escalator layer 2 (unprocessed)
- 5.4. Tape modulation 1
- 5.5. Tape modulation 2
- 5.6. Stereo ambience (processed/layered with the above)
- 6. arkutino ~ 160906
- 6.1. Sea ambience (unprocessed)
- 6.2. Stereo ambience (unprocessed)
- 6.3. Stereo ambience (with high-pass filter)
- 6.4. Stereo ambience (cleaned and edited)
- 6.5. Paul-Stretch pad
- 6.6. Stereo ambience (processed/layered with the above)

#### **7. Rua Da Paz**

- 7.1. Ambience (unprocessed, no noise-gate)
- 7.2. Ambience (processed with automated noise-gate)
- 7.3. Rain-into-sea ambience (unprocessed, without Lorenz chaos modulation) 7.4. Rain-into-sea ambience (processed, with Lorenz chaos modulation)

#### **8. hissar ~ 170104 (knowledge is better than ignorance)**

- 8.1. Ambience XY-stereo (unprocessed)
- 8.2. Ambience Binaural (unprocessed)
- 8.3. Ambience combined stereo (processed, no sine tones) 8.4. Sine-tones
- 8.5. Ambience combined stereo (processed, with sine tones)

#### **9. Fields of Resonance**

- 9.1. Full resonance recording #20 (start untrimmed) 9.2. Full resonance recording #20 (start trimmed)
- 9.3. Full resonance recording (processed and trimmed)